TELECOM SUPPLIER DIVERSITY TASK FORCE

Revitalizing the Supplier Diversity Value Proposition through Supply Chain Effectiveness

Telecom Supplier Diversity Task Force Report

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FOREWORD

The recent Telecom recession revealed an important lesson about supplier diversity programs in the industry: small minority-owned, woman-owned, or service-disabled-owned businesses ("Diversity Suppliers"), even well-developed ones, have a tough time operating successfully in a poorly functioning supply chain.

SBC sponsored a Telecom Supplier Diversity Task Force in 2002 when we saw that the Telecom downturn was resulting in declining participation from Diversity Suppliers, business failures, and numerous supply chain performance problems. Comprised of some of the best industry minds on the subject, the Task Force revalidated the Telecom supplier diversity value proposition: large companies can, indeed, leverage the small business attributes of Diversity Suppliers (responsiveness, low overhead, customized services) for their competitive advantage, provided these larger companies ensure that their supply chains perform well.

The Task Force offers the industry 21 supply chain recommendations to improve supplier diversity programs. These include activities such as better sourcing, risk mitigation, process quality and control, financial management, and industry collaboration. Based on what we've learned in the last 35 years of supplier diversity programs at SBC, if these activities are performed well, all firms in the supply chain and the supply chain itself will produce more effective outcomes. To help achieve this goal, the Task Force assembled a variety of supply chain management tools and best practices (included in the appendices of the Task Force report) to support the implementation of their recommendations.

Members of the Task Force feel a great deal of optimism and excitement about the future prospects for supplier diversity programs. We see a very tangible, practical path forward that can deliver the supplier diversity participation we require as an industry. If Telecom firms act on these Task Force recommendations, the resulting supply chain improvements will increase the opportunity for Diversity Suppliers to share in the success of our industry.

Steve Welch
Senior Vice President
SBC Communications

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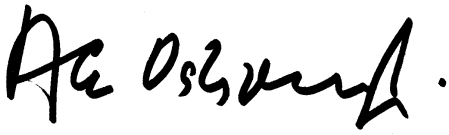
ACKNOWLEDGMENTS

The Telecom Supplier Diversity Task Force ("TSDTF" or "Task Force") would like to acknowledge the support from SBC and The Anderson Graduate School of Management at UCLA Harold Price Center for Entrepreneurial Studies in forming, directing the efforts of and making valuable contributions to the Task Force.

The Task Force expresses its deepest appreciation for the Telecommunications ("Telecom") industry professionals who participated in this project and assisted in completing the Task Force mission. These experts provided testimony about their recent industry experiences. The individuals are from companies representing different aspects of the Telecom supply chain, including Service Providers, Original Equipment Manufacturers ("OEMs"), Electronic Manufacturing Service providers ("EMSs") and Diversity Suppliers.

The Task Force is also grateful to the many experts from other industries that provided insight from their respective industries, including: financial professionals, supply chain experts and diversity program directors.

Finally, the efforts of many were required to complete the final product, and in recognition of those efforts, the Task Force thanks the staff members of SBC and the UCLA Price Center, as well as the support staff of the other organizations represented on the Task Force.



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Telecom Supplier Diversity Task Force Testimony

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Joseph Avery	LeeMAH Corporation, Vice President, Sales
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Paula Mann, President

Cynthia Morris, CFO

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Randall Morgan, Director Central Region

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World Wide Technologies

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Dennis Leonis, General Manager

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Sean Walkingstick, Vice President – Telecommunications

Dennis McLemore, Vice President – Administration

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Executive Summary

The Telecom industry has been in turmoil for the past several years. Following a period of major Telecom investment and growth in the late 1990s, several economic and regulatory factors converged to precipitously reverse that trajectory. Plunging orders and the flight of capital exacerbated a troubled Telecom supply chain that was soon choked with wildly inflated forecasts and $160B in excess inventory. In a scramble to survive, Service Providers that were sitting on unused capacity cut capital expense budgets in half. Suppliers were left with a trickle of orders and warehouses of unused products.

Smaller suppliers with minimal capital reserves were particularly hard pressed to carry large amounts of excess inventory and cover ongoing operating costs. Cash flow shortages, over-commitments on "perceived orders," channel stuffing, a narrow focus on one technology or one customer, along with some deficits in business management capability, all contributed to the crisis faced by smaller Telecom suppliers. Many Diversity Suppliers could not endure these challenges and were forced to shut their doors. Major Telecom players also declared bankruptcy, leaving suppliers and Service Providers alike with un-collectible debts.

The stresses in the supply chain and the unraveling of several long-term supplier diversity solutions led SBC to charter a task force of Telecom and supplier diversity experts to review the state of the industry and the established models of supplier diversity inclusion. Chaired by Dr. Alfred E. Osborne, Jr., Ph.D., Director of the Harold Price Center for Entrepreneurial Studies at The Anderson Graduate School of Management at UCLA, the Task Force sought to:

- Determine how Diversity Suppliers can continue to provide competitive advantage in the Telecom supply chain during stressful economic conditions
- Develop recommendations on how the Telecom industry can work collaboratively to revalidate and revitalize supplier diversity programs

In setting the context of their investigation, the Task Force noted that supplier diversity programs in the Telecom industry had gone through several stages of growth. Starting with awareness-building and outreach, many Telecom supplier diversity programs had graduated to proactive development of Diversity Suppliers and supplier diversity business opportunities. Some programs had also worked to leverage the competitive advantages of supplier diversity participation in the marketplace and had shown how supplier diversity delivers brand enhancement, public policy support and increased revenue generation. Overall, the Telecom industry was known for setting high supplier diversity standards, for successfully including Diversity Suppliers in the core of Telecom network business, and for working collaboratively to increase diversity participation.

However, recent and very significant changes in the Telecom environment have challenged the industry's supplier diversity success. The forces of change include: outsourcing to Electronic Manufacturing Service companies ("EMSs"), globalization of the supply chain, an increase in the number of competitors, a regulatory environment that discourages investment in the Telecom network, the flight of capital from the Telecom sector and slowed growth in the overall economy.

Telecom supply chains and procurement organizations have responded to these forces by intensifying their focus on leveraging scale and standardization to achieve lowest cost.

At the same time, differences in embedded network infrastructure, differences in the mix of competitors in local markets, differences in state regulation and differences in increasingly sophisticated customer requirements – all combined to require customized products and services.

The Task Force concluded that in its search for competitive advantage, the Telecom supply chain must find the right balance in this dynamic tension between the need for customization and the need for scale. This balance involves successfully integrating small businesses into the value-adding supply chains of the larger firms that dominate the industry in order to leverage the competitive advantage that those small businesses offer – responsiveness, customized services, and lower overhead costs.

In examining the recent performance of the Telecom supply chain, the Task Force found much room for improvement. At a time when fierce competition, lower revenues and reduced access to capital combine to put a premium on price and a seamless supply chain, supply chain disruptions have been commonplace. Some supply chain problems of a long-standing nature had been tolerated as a low priority nuisance during periods of economic growth. When the industry hit an economic trough, these disruptions became a crisis with top priority. Late payments, delayed delivery, order and invoice errors, poor project communication, and contract disputes can quickly wash out profitability when volumes are down. At a time when supply chain performance can separate the winners from the losers, a smoothly functioning supply chain becomes an imperative.

Through research, industry testimony, case studies and company site visits, the Task Force revalidated that Diversity Suppliers can play a critical role in optimizing the Telecom supply chain. They can help achieve competitive advantage with the right balance between customization and scale. Under tough economic conditions however, successful supplier diversity programs will need to be built around utilizing diversity firms to achieve supply chain effectiveness. Good outreach programs and generic supplier development initiatives will no longer be sufficient.

The Task Force reviewed five basic models of diversity participation in the Telecom supply chain: Subcontractor, Contract Manufacturer ("CM"), Prime

Supplier, Value Added Reseller ("VAR"), and Channel Partner. Each of these roles is a vital element in a successful Telecom supply chain and Diversity Suppliers can be positioned to be valuable contributors in each of these roles.

The Task Force conducted a detailed analysis of the Value Added Reseller model and revalidated that Diversity Suppliers' lower cost structure, lower return on investment hurdles, local presence, flexibility, and ability to customize provided competitive advantages to the supply chain. A VAR is well positioned to respond to the special local operating environment. Therefore, diversity VARs play an important role in optimizing local supply, reducing turnaround time on changes and modifications, consolidating orders between multiple supplier platforms, and providing flexible delivery and turn-up. Diversity VARs and small Contract Manufacturers can partner with EMSs and Original Equipment Manufacturers ("OEMs") to fulfill the need for local customization of product and customer service.

A successful Diversity Supplier must understand the challenges it will face within the Telecom supply chain. The competitive Telecom environment requires that Diversity Suppliers diversify their value proposition beyond low margin, basic distribution service offerings; make improvements in governance; and develop strategies that focus on long-term profitability, growth and diversification of the revenue base either through new customer acquisition, new service offerings, or by penetrating new industries. Finally, Diversity Suppliers must develop a core management team with strong Information Technology ("IT") and e-enablement skills, expertise in financial management, quality process management, and solid Telecom industry experience. Diversity Suppliers are often small businesses, and Web-enabled tools provide accurate, timely information on inventory levels, delivery status, and other performance measures that can help mitigate the risks of using smaller suppliers in a very large supply chain.

Financial capability, which can be seen in a strong balance sheet and positive, growing cash flow, is essential to business success in the Telecom supply chain. Those suppliers with financial resources are better situated to manage the variability in revenue streams that occur over the business cycle. The Task Force found that Diversity Suppliers in the Telecom supply chain are often operating with slim margins in the 2%-10% range and tend to be undercapitalized and cash poor. Careful financial management is a vital factor for these entrepreneurs.

The Task Force determined that timely action is needed to address the challenges facing the Telecom supply chain and Diversity Suppliers in that supply chain. To facilitate such action, the Task Force developed a set of specific recommendations under each of five identified critical success factors. The action-focused recommendations are further supplemented with a set of appendices that include specific examples and tools that can be utilized in carrying out the recommendations. These tools and examples are illustrative and are offered to stimulate the sharing of best practices and practical ideas among

companies interested in achieving supplier diversity and supply chain optimization.

Since the work of the Task Force is only a beginning effort that calls for continued collaboration within Telecom and across other industries as well, the Task Force recommends the establishment of a few strategic, Web-based supplier diversity resources sites. The Institute of Supply Chain Management ("ISM"), the QuEST Forum, and the National Minority Supplier Development Council ("NMSDC") have all shown interest in supporting resource sites of this kind. These sites could serve as the focal point for collecting and disseminating a wide variety of best practices and tools; a vehicle to enable timely discussion of issues and ideas along with benchmarking; and the launch pad for further collaboration in the ongoing work of revitalizing the supplier diversity value proposition in the Telecom industry.

The Task Force launched its efforts with significant concern about the challenges facing Diversity Suppliers in the Telecom supply chain. The Task Force concluded its work with a solid belief that Diversity Suppliers have an important role to play in optimizing a supply chain that is struggling to regain performance excellence and maintain the proper balance between scale and customization. If the industry collaborates to implement more effective strategic sourcing, improved risk mitigation measures, better quality process management and enhanced access to capital and financial management skills, our supply chains and Diversity Suppliers will be positioned to accelerate the Telecom recovery.

Summary of Recommendations

The Task Force identified five critical focus areas necessary to leverage the participation of Diversity Suppliers through improved supply chain performance:

I. Implement Effective Sourcing for Supplier Diversity

II. Enhance Risk Mitigation Activities in Supply Chain Management Practices

III. Deploy Process Quality and Control

IV. Improve Access to Capital and Financial Management

V. Accelerate Supplier Diversity Participation Through Industry Collaboration

Under these five critical themes, the Task Force developed twenty-one recommendations (see Section G of this report) for revitalizing supplier diversity participation and supply chain management. The very initiatives and practices that will strengthen the contributions for Diversity Suppliers will also strengthen the performance of the overall Telecom supply chain.

I. Implement Effective Sourcing for Supplier Diversity

The Task Force recommended that Procurement contracting should develop more effective sourcing practices for supplier diversity. Supplier diversity planning should be integrated into the supply chain sourcing process. This includes requiring bidders to file a detailed and specific supplier diversity plan as part of the RFP process, explicitly defining supplier diversity program requirements as part of final contracts and ensuring that suppliers report their level of diversity participation one level up in the supply chain (e.g., channel partners in sales and distribution) and two levels down (prime supplier and subcontractors). Telecom companies should also map the functions and participants in their supply chain to verify the small business value proposition as measured by cost, performance and schedule terms, delivery, customer satisfaction, and total cost of ownership.

- Recommendation #1 – Integrate supplier diversity planning into the sourcing process
- Recommendation #2 – Require Supplier Diversity Plan in RFPs
- Recommendation #3 – Require Supplier Diversity Plan in contracts
- Recommendation #4 – Require Supplier Diversity participation reporting in contracts
- Recommendation #5 – Design and verify Supplier Diversity business value propositions

- Recommendation #6 – Develop contracts that mitigate risks to small businesses
- Recommendation #7 – Assess the supply chain value of Diversity Suppliers by including total cost of ownership calculations and the potential marketing and revenue generation value of the relationship in addition to first cost. Utilize a best overall value assessment, rather than a first cost assessment alone when calculating the relative value of competing supply chain solutions.

II. Enhance Risk Mitigation Activities in Supply Chain Management Practices

The Task Force recommended that a Readiness Assessment be conducted with supplier diversity partners before implementing a new supply chain arrangement. This would include assessing operations, in addition to other areas such as IT capabilities and financial viability. This proactive assessment of supplier capabilities will help reduce future process problems related to functions such as ordering, invoicing and inventory management. The Task Force also proposed that a Supplier Health Check dashboard be created to keep Telecom OEMs and Service Providers updated on the stability and sustainability of their diversity small business partners. Additionally, it was concluded that Web-enabled performance tracking capability, and enhanced IT capabilities for smaller business would help reduce risk.

- Recommendation #8 – Conduct Readiness Assessments
- Recommendation #9 – Maintain Supplier Health Check dashboards
- Recommendation #10 – Utilize Web-enabled performance tracking
- Recommendation #11 – Promote information systems capabilities for small businesses

III. Deploy Process Quality and Control

The Task Force recommended improving quality and control of the supplier diversity process by creating cross-functional teams made up of Diversity Suppliers, OEMs and/or Service Providers. These teams would ensure that new supply chains are properly constructed with all of the necessary performance measures, Web-based surveillance reports, and issue resolution capability to ensure high performance.

- Recommendation #12 – Create cross-functional implementation teams with Diversity Supplier, OEM and/or Service Provider members jointly focused on utilizing quality process management to guide the implementation of new or significant supply chain arrangements

- Recommendation #13 – Implement Value Added Reseller/Channel Partner Best Practices to effectively integrate Diversity Suppliers into the Telecom supply chain
- Recommendation #14 – Develop clear strategies and quality-focused processes for integrating supplier diversity planning into the marketing and sales process

IV. Improve Access to Capital and Financial Management

The Task Force recommended that the industry consider additional funding sources for Diversity Suppliers. The idea of creating a source of funds from the industry's largest companies is still under consideration, particularly, as it has been modeled in the automotive industry. The Task Force also felt that progress could be made to reduce financial risk and improve cash flow management through better contracting terms and conditions which protect small business cash flow (for example, late payments from Service Providers and better inventory return procedures from VARs to OEMs). Greater emphasis on financial management capability and working capital planning skills should be emphasized in the industry's university programs.

- Recommendation #15 – Improve access to both long- and short-term capital
- Recommendation #16 – Enhance university management programs for diversity entrepreneurs to place greater emphasis on financial management capability and working capital planning skills

V. Accelerate Supplier Diversity Participation Through Industry Collaboration

The Task Force recommended several tools for promoting ongoing collaboration within the Telecom industry, including Web-based diversity resource sites, university-sponsored Joint Venture Success Labs which would bring together Diversity Suppliers, manufacturers and Service Providers and business school academia, and an annual "State of the Union" report on the Telecom supply chain. The Task Force also proposed that the Telecom industry continues working on standardizing metrics and reporting methodologies for supplier participation in diversity programs. The increasing role of EMSs in Telecom calls for their full collaboration in supplier diversity programs and processes.

- Recommendation #17 – Establish Web-based supplier diversity resource sites
- Recommendation #18 – Leverage the resources of existing university diversity management training programs to establish multi-disciplinary Join Venture Success Labs

- Recommendation #19 – Propose a Telecom supply chain "State of the Union" report
- Recommendation #20 – Standardize supplier diversity participation metrics and reporting methodologies
- Recommendation #21 – Encourage large scale EMSs to adopt the supplier diversity goals and best practices of their Telecom industry customers, establish supplier diversity programs and launch initiatives that will integrate Diversity Suppliers into the EMS supply chain as CMs, VARs, direct suppliers and subcontractors

Many of these recommendations have associated appendices, located at the end of this report, which are offered for practical applications.

A.
Telecom Supplier Diversity Task Force Mission and Approach

Mission

SBC has a 35-year history of leadership in promoting the participation of minority-, women-, and service-disabled-veteran owned businesses in the Telecom supply chain. This commitment to supplier diversity has continued during the current environment of economic stress and regulatory uncertainty. SBC convened this Telecom Supplier Diversity Task Force (the "TSDTF" or "Task Force") to answer the following questions: *How does supplier diversity fit into a Telecom supply chain under stress and an economy in a downturn? How can the Telecom industry continue to leverage Diversity Suppliers for competitive advantage?* (See Appendix 1A for a list of the Task Force members.)

Although an environment of economic stress often calls for immediate, drastic actions, it also calls out for industry self-reflection. In a very short time frame, the Telecom supply chain experienced a period of boom then bust, which led to some disorganized and at times irrational behavior. This Telecom Supplier Diversity Task Force sought to analyze the current supply chain structure after its recent experience of economic volatility and in particular, the experience of Diversity Suppliers in such a business environment. Task Force members believe that analysis of this sort often leads to useful discoveries about the improvement of supply chains in general. Given the recent turmoil, the Task Force believes these general supply chain insights and resulting recommendations for improvement could prove timely and potent for increasing effective diversity participation within the Telecom supply chain.

Approach

The approach was to convene a Task Force of respected experts with strong backgrounds in supplier diversity, entrepreneurial management, and supply chain management from the ranks of VARs, OEMs, EMS companies, and the Telecommunications Service Providers ("Service Providers"). The Task Force examined the impact of the current economy on existing supplier diversity participation models in the Telecom supply chain with a particular focus on OEM-channel partner models. The Telecom Supplier Diversity Task Force was supported by a project staff under the direction of Dr. Alfred E. Osborne, Jr. of The Anderson Graduate School of Management at UCLA who served as Chairperson of the Task Force.

The Task Force met five times in 2002 and took testimony from 21 people at these meetings. A list of those who presented testimony is included in Appendix

1B. The first several months were spent gathering information through a literature review and through Diversity Supplier site visits conducted by the project staff. A copy of the site visit protocol and the companies that were visited are shown in Appendix 1C and 1D. After this initial round of information gathering, the TSDTF divided into two committees, the Finance Committee and the Supply Chain Committee, with each committee concentrating on specific issues facing Diversity Suppliers in the Telecom industry. The Task Force needed to understand the financing constraints Diversity Suppliers felt during the Telecom downturn and what types of financing options were available to a typical Diversity Supplier. Additionally, the Task Force believed a committee needed to focus on the detailed value proposition of Diversity Suppliers in the supply chain.

Supplier Diversity in the Telecom Industry

The inquiry began with an examination of the history of supplier diversity in the Telecom industry. The Telecom industry has promoted the inclusion of Diversity Suppliers in the supply chain for greater than 35 years. Starting in 1968 with a program that responded to federal contracting requirements, supplier diversity evolved over time into widely-adopted, independent, private sector business initiatives designed to create and leverage the competitive advantages of a diverse supply chain.

The competitive advantage of enhanced public sector bid responses was only one of the benefits of the Telecom diversity initiatives. Changing demographics also called for closer business ties with minority-owned and women-owned businesses. The growth of procurement from minorities and women paralleled the growth of those specific communities. Providing opportunities for smaller, growing companies, in particular those owned by minorities, women, and service-disabled veterans makes good business sense if only to better reflect the evolving customer base served by the Service Providers. By investing in business relationships with suppliers from these communities, Telecom companies hoped to attract more customers and enhance customer loyalty. Additionally, those customers and communities were often actively engaged politically and able to effectively support public policy issues important to the success of the highly regulated Telecom industry.

A June 2003 quote from Edward E. Whitacre Jr., Chairman and CEO of SBC Communications Inc., illustrates the importance of Diversity Suppliers to a major Service Provider:

> "At SBC Communications, we strongly believe that supplier diversity gives us a strategic advantage in an increasingly competitive marketplace. Our very competitive local markets demand unique approaches, and our Diversity Suppliers have been invaluable at providing those services. Faster delivery, better access to inventory and customized services help SBC succeed locally, which is where good service and customer loyalty begin.

> "Our diverse business suppliers are strategic partners that have helped SBC Communications become one of the most respected Telecom companies in the world."

Minority purchasing power in the U.S. is expected to grow. As noted in a U.S. Department of Commerce study:

> "The minority share of the total U.S. population is projected to increase from 29% in 2000 to 46% in 2045."[1]

With this increase in the percentage of minority population, minority purchasing power, defined as disposable income, is projected to also grow.[2]

> "Women purchase or influence the purchase of 80% of all consumer goods, including stocks, computers and automobiles."[3]

Women, especially women business owners, are a vital part of the economy and in 2002, there were 10.1 million majority-owned, privately held women-owned firms in the U.S., accounting for 46% of all privately held U.S. firms. Moreover, between 1997 and 2002, the number of women-owned firms grew by 11%, more than 1.5 times the rate of all privately-held firms.[4] Employment in woman-owned firms increased by 18%, more than twice the 8% average of all firms, and revenues were up 32% compared to an increase of 24% for all firms.[5] At the same time, the Center for Women's Business Research has noted that:

> "...business women have been found to be the primary decision-makers in their households fully two-thirds or more of the time when making household purchases – such as telephone services, television/cable services, and insurance policies, as well as clothing."[6]

Service-disabled veteran business enterprises ("SDVBEs") were incorporated into supplier diversity programs beginning in California in 1992. The veteran population in the United States is approximately 26 million[7] in 2003, and represents a unique and emotional force in the U.S. The skillful advocacy of a Congressional Medal of Honor Korean War veteran - John K. Lopez, President of the Association of Service Disabled Veterans - led to the enactment of service-disabled veteran procurement goals in California and in federal government contracting as well. In 1999, Congress enacted a 3% Federal procurement goal

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[1] Mineta, Norman and Robert Mallett, U.S. Department of Commerce, "Minority Purchasing Power: 2000 to 2045," September 2000, p. 1
[2] Ibid.
[3] Krotz, Joanna, "Women Power: How to Market to 51% of Americans," http://www.bcentral.com/, June 2003
[4] Center for Women's Business Research, "Nearly Half of All Privately Held Businesses are Women-Owned," May 2003, p.1
[5] Ibid.
[6] Center for Women's Business Research, "Business Women Drive Consumer Purchasing," December 1, 1999, p. 1
[7] Association for Services Disabled Veterans official Web site, http://www.asdv.org/, June 2003

for SDVBEs, known as Public Law 106-50, and established a set-aside program for select federal government contracts to recognize the sacrifices made for this country by service-disabled veterans, such as delayed entrepreneurial and employment opportunities.

The general public cares greatly for service-disabled veterans. This creates an opportunity for the Telecom industry to leverage its championship of SDVBE participation with its customer base.

Finally, perhaps the most important reason for the growing participation of smaller, Diversity Suppliers in the Telecom supply chain is that their participation leads to better business solutions for the Service Providers and their customers. Minority, women, and service-disabled veteran business enterprises help meet the needs of Telecom's diverse customer base and maintain a competitive edge by providing quality products and services that meet the industry's specific requirements and improve the Telecom supply chain.

Many in the corporate business sector recognize the competitive advantages of supplier diversity and this in turn has increased its value as a strategic initiative. Today, supplier diversity is frequently required to win private sector Telecom business as well as public sector business. What started in response to federal government contracting requirements has expanded across the United States and across the world to become a best practice in supply chain management, a powerful marketing tool, and an engine for revenue generation.

Many smaller Diversity Suppliers have grown to become much larger organizations, with annual revenues exceeding $100 million. They entered the Telecom supply chain as entrepreneurial ventures and developed into very sophisticated and very extensive enterprises. Not all companies that participate in this supply chain will survive. However, the opportunity to succeed and grow still exists.

The Task Force also reviewed the resources that have supported supplier diversity programs and noted that the growth of diversity participation in the Telecom industry was supported by the growth of supplier diversity programs and staff within Telecom companies. Corporate supplier diversity programs that started with the important first step of raising awareness and support within a particular corporation for the idea of procuring goods and services from Diversity Suppliers, moved on to the "meet and greet" phase focused on outreach and the exchange of information with Diversity Suppliers. Those that were to truly succeed moved on from information exchange to a targeted focus on creating significant business opportunities with Diversity Suppliers. Once the business development processes and models were tested and implemented, some supplier diversity programs moved forward to leverage opportunities into better business solutions and greater growth.

In the last 15 years many supplier diversity initiatives have matured within the Service Provider sector; and in the last eight years, several programs have begun to gain traction in the OEM community. Companies like SBC were on the cutting

edge in recognizing that the OEMs needed to become key players in helping Diversity Suppliers break through into the core Telecom network infrastructure. SBC challenged its two largest OEMs, Lucent and Nortel, to develop diversity business solution partners that could play a substantive role in providing network products and services.

The Service Providers and OEMs discovered that the Diversity Suppliers could play an important role in customizing OEM service and products to meet the varying requirements of individual customers across different geographies. Rather than becoming a cost-adding layer or "middleman" in the supply chain, Diversity Suppliers were taking functions historically performed by the OEM and Service Provider and providing those functions at lower cost and with better focus. Smaller, Diversity Suppliers were well positioned to set up local services tailored to the specific requirements of any given locality. If Telecom engineers in Silicon Valley needed 2-day delivery intervals for their hi-tech customers, then facilities and processes could be set up to meet such intervals - without creating an exception process at the OEM factory. If Telecom engineers in San Diego wanted a unique configuration for their central offices, then the more agile Diversity Supplier was able to respond with speed and flexibility to provide something "out-of-the-box." Nortel and Lucent were the first OEMs to enter into very thoughtful, well-planned and long-term business relationships with diversity business solution partners.

Supplier diversity initiatives grew tremendously during the mid-1990s. The Telecom industry as a whole was growing and procurement from minorities and women finally took off after two decades of relatively anemic growth. The industry came together to promote supplier diversity by forming the Telecommunications Industry Group ("TIG") – composed of Telecom companies that were national members of the National Minority Supplier Development Council ("NMSDC"). SBC was one of the charter members of TIG in 1995 along with Lucent, Nortel, Fujitsu, Alcatel, Sprint, AT&T, and Verizon. Referred to as the "United Nations" of Telecom, TIG members who were competitors in every other arena, shared best practices and success stories, referred Diversity Suppliers to each other, and created an atmosphere of excitement and collaboration about the growth of diversity participation in the Telecom supply chain.

TIG's supplier diversity directors decided to take their message of inclusion to SUPERCOMM, the Telecom industry's premier annual conference and trade show. Even before TIG was formed, a few Telecom supplier diversity champions had sponsored supplier diversity workshops at SUPERCOMM. Such workshops tended to draw a relatively small group of Diversity Suppliers and other supplier diversity advocates. With the increased interest in supplier diversity and the expanded sponsorship of TIG members, supplier diversity workshops at SUPERCOMM have grown into a full day of programs that draws hundreds of attendees to hear officers of leading Telecom companies speak about supplier diversity best practices and the value Diversity Suppliers have brought to their supply chains.

In 1999, 14 companies issued a Supplier Diversity Challenge at SUPERCOMM, inviting the rest of the industry to commit to world-class supplier diversity programs and supplier diversity goals of at least 10%. Since that challenge, supplier diversity results have grown to over $20.8B between 1999 and 2002. There are now more than 90 signatories to the challenge and at least 20 additional supplier diversity programs with dedicated staff.

After reviewing the importance of supplier diversity in the Telecom industry, the Task Force proceeded with its mission to examine ways in which SBC and the Telecom industry can analyze the current Telecom supply chain and provide processes and tools that will help previously successful Diversity Suppliers to withstand the current economic crisis and continue to provide competitive value.

B.
Current Conditions of the Telecom Supply Chain

The Task Force examined closely the problems encountered in the Telecom supply chain and the impact those problems were having on Diversity Suppliers. Since the late 1990s, the Telecom industry has experienced considerable economic instability, moving swiftly from boom to bust. During this period of rapid expansion and speculation, demand for Telecom products and services was projected to grow at a phenomenal rate. In one such prediction, the U.S. Commerce Department stated in 1998 that growth in Internet traffic "doubles every 100 days,"[1] indicating a more than 1,000% annual rate of growth. While such predictions pumped the Telecom supply chain into over-drive to meet the anticipated expansion, the opposite ultimately occurred with an unprecedented drop in demand. The result was plummeting prices for products and services, steep reductions in capital spending, massive layoffs, and unprecedented investor losses that reverberated throughout the U. S. economy.

The Supply Side Boom

The Telecom industry aggressively built out networks in response to the quick and massive acceleration of demand. When this demand rapidly declined, excess capacity abounded. As an example, only 5% of the installed fiber across the U.S. is actually being used, according to TeleGeography, Inc.[2]

Five major factors contributed to the current state of over-capacity:

First, deregulation, and specifically, The Telecommunications Reform Act of 1996, encouraged competition and growth by removing entry barriers to local and long distance markets. Numerous well-funded competitors rapidly expanded networks to compete for customers' current and predicted Telecom business.

Second, demand predictions, even by "conservative" U. S. government sources, were extremely over-optimistic. The U.S. Commerce Department's projection of more than 1,000% annual growth has since been revised to

[1] Dreazen, Yochi J., "Wildly Optimistic Data Drove Telecoms to Build Fiber Glut," *Wall Street Journal*, September 26, 2002

[2] International Bandwidth 2003: Volume Two: Terrestrial Networks (TeleGeography, Inc., April 2003), p. 13

100% a year, and more recently, analysts have projected that traffic will grow as low as 40% in 2003.[10]

Third, both debt and equity sources of capital were encouraged by robust demand predictions, and financing was abundant. To finance the creation of networks that were predicted to dramatically expand, Telecom companies accumulated massive amounts of debt. According to Thomson Financial, during the late 1990s the industry in total had borrowed more than $1.5 trillion from banks, and issued more than $630 billion of bonds. This large amount of corporate debt had surpassed all other industries.[11]

Fourth, rapid technological developments changed the equation for network capacity. Over an unprecedented short period of time, innovations allowed Telecom networks to carry dramatically increasing volumes of voice and data traffic.

> "Prior to 1995, Telecom carriers could send the equivalent of 25,000 one page e-mails per second over one fiber optic line. Today, these networks can send 25 million such e-mails over the same fiber strand, a 1,000-fold increase. Yet the cost of making that [network] upgrade rose by just a few times over the 1995 price, and in some instances actually declined."[12]

Fifth, the bottom fell out of the U.S. economy in 2001 causing a significant reduction in the demand for Telecom products and services. The U.S. economy, in the two prior years, had reached record highs on enthusiastic predictions about the increased productivity, profitability, new products and new markets fueled by the World Wide Web and numerous Internet businesses.

The Resulting Bust

Swollen capacity and catapulting demand in the Telecom industry played an important role in an economic chain reaction that affected virtually every aspect of the U.S. economy.

> "With over 60 bankruptcies to date [August 2002], it's now clear that the sector sank under too much capacity and debt. Telecoms

[10] Dreazen, Yochi J., "Wildly Optimistic Data Drove Telecoms to Build Fiber Glut," *Wall Street Journal*, September 26, 2002

[11] Blumenstein, Rebecca and Gregory Zuckerman, "Telecom Industry Leaders Struggle With Growing Debt, Overcapacity," *Wall Street Journal*, March 13, 2002

[12] Berman, Dennis K., "Technology Races Far Ahead of Demand and the Workplace," *Wall Street Journal*, September 26, 2002

> have now shed half a million jobs, and about $2 trillion in market capitalization."[13]

While bandwidth prices plummeted an average of 65% in 2000 and 2001,[14] Service Providers slashed capital spending to maintain profitability. In 2000, capital spending was $116 billion, and had been slashed 60% to $46 billion by 2002.[15] Impacted by the large decrease in Service Provider capital spending, equipment manufacturers, like Lucent, Nortel and Alcatel, underwent several rounds of layoffs and restructuring. Although equipment manufacturers were the larger, more visible suppliers to the networks, providers of peripheral product and support services, were also affected.

As market capitalization of the Telecom players declined dramatically up and down the supply chain, investors and lenders were financially pummeled. During the late 1990s, Telecom companies comprised 40% of the high-yield bond market. By mid-2001, already about half of those issues were trading at 50 cents per dollar of face value or less.[16]

By the end of the year 2000, the bubble burst. By historical standards, the impact was extraordinary in how quickly and severely it plunged the Telecom industry into a depression, and how broadly it affected the U. S. economy.

Implications for Telecom Service Providers

Prior to the late 1990s, Service Provider supply chains were designed to reliably satisfy a stable and predictable demand for equipment, while complying with extensive regulatory requirements. Service Provider demand for equipment grew predictably during this period, with planned expansion and improvement of the primarily wire-based voice network. Incremental innovations by suppliers continued the evolution of Service Providers' product offerings and increased efficiency, but did not create entirely new markets or result in major swings of existing markets.

Additionally, Service Provider network development plans were regulated by the Federal Communication Commission (FCC) and state public utility agencies. These regulatory bodies heavily influenced growth rates, prices, and the pace of new technology introduction.

Although deregulation is generally welcomed by Service Providers as a source of new opportunities, in some cases it results in new regulations which actually slow investment. This is the case with the Unbundled Network Element requirements

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[13] Berman, Dennis K., "Before Telecom Bubble Burst, Some Insiders Sold Out Stakes," *Wall Street Journal,* August 12, 2002

[14] Dreazen, Yochi J., "Wildly Optimistic Data Drove Telecoms to Build Fiber Glut," *Wall Street Journal*, September 26, 2002

[15] Berman, Dennis K., "Lingering Telecom Weakness Pinches Bear Makers' Incomes," *Wall Street Journal*, August 29, 2002

[16] Blumenstein, Rebecca, Scott Thurm and Greg Ip, "Telecom-Sector Bust Reverberates Across the Entire U.S. Economy," *Wall Street Journal*, July 25, 2001

(UNE-P). According to Verizon's CEO, Ivan Seidenberg, the incumbent local exchange carriers view UNE-P requirements as "destructive" to creating sustainable growth.[17] Consequently, Service Providers pull back on network investment where regulation makes it a money-losing proposition.

The Telecom industry now faces the challenge of establishing supply chain growth and stability in a new Telecom environment. The Task Force believes that there are key learnings to be gained from the recent problems encountered in the supply chain and that Diversity Suppliers can play an important role in returning the supply chain to a healthier condition.

Impact on Diversity Suppliers

This major shift from rapid expansion to rapid contraction accentuated vulnerabilities in the Telecom supply chain and accelerated change. The Task Force discovered that smaller Diversity Suppliers faced a great deal of uncertainty with both increased financial risk and increased opportunity to contribute to the development of competitive advantage in a changing supply chain.

Through the 1990s, Diversity Suppliers grew rapidly in size, scope, and number in the Telecom industry. As an example, between 1993 and 2002 SBC increased annual spending with Diversity Suppliers by 181%, from $0.6B (13%) to $1.7B (16.57%).[18] Many of these firms were launched in supportive business and regulatory climates with mentoring from Telecom Service Providers and OEMs. This close relationship between Service Providers, OEMs, and Diversity Suppliers provided incentives for Diversity Suppliers to be very focused on successfully deploying "projects." As Diversity Suppliers performed well with projects awarded by Service Providers/OEMs, they were further rewarded, which in turn accelerated their growth.

By the late 1990s Service Providers facing rapid growth turned to Diversity Suppliers to develop creative solutions for solving critical supply chain problems such as material shortages and the need for rapid deployment. Customer-focused Diversity Suppliers responded in many cases by taking, what was in hindsight, excessive risk. For some, these risks included borrowing heavily to finance inventory and adding staff to address sharply accelerated time-sensitive demands from customers.

The "Demand-Pull" of the Service Providers put a tremendous strain on the systems infrastructure of smaller suppliers. Many accounting and inventory tracking systems could not accommodate the torrent of orders, demands for partial shipments, and many other "out-of-process requests" made by the OEMs and Service Providers in the flurry of competition to get to market and to win and retain customers. For example, the sharp increase in additional order status

[17] Ferranti, Mar, "Impending FCC order rekindles local network fight," IDG News Service\New York Bureau November 14, 2002

[18] Testimony provided by SBC to the Telecom Supplier Diversity Task Force

inquiries from Service Providers often disrupted standard order processing, added complexity to existing ordering and invoicing systems, and necessitated the hiring of additional personnel.

Diversity Suppliers and other supply chain participants scrambled to cope with all the problems attendant to unanticipated rapid growth and began to deploy new accounting and tracking systems, expanded facilities, and hired personnel. There were not sufficient resources to develop contingency planning for another rapid change in the tides. Ultimately, the precipitous growth of the late 1990s came to an end during the year 2000. As the bubble burst, most Diversity Suppliers faced severe financial hardship or bankruptcy from revenue reductions of up to 50%.[19]

Although VARs and OEMs have historically been impacted more severely by changes in customer demand patterns than Service Providers, by the year 2000 the industry had experienced a rapid expansion and contraction much larger than ever before.

A large Service Provider supply chain is complex and consists of tens of thousands of locations and millions of customers. Changes in one sector of the supply chain can have accelerating impacts across other areas of the supply chain. This "Bullwhip Effect" occurs when information is distorted as it is conveyed from one end of the supply chain to the other. It can lead to large order swings, and "over-ordering" during periods of shortages. Excess inventory, generated through the "Bullwhip Effect," was a very visible impact of the sudden demand changes that impacted the complex Telecom supply chain. Indeed, Steve Welch, Senior Vice President, SBC Communications testified, "After the shortages in the late 1990s, people started stockpiling equipment." As the entire industry resynchronized supply and demand, a massive amount of inventory was left in the pipeline. One industry professional estimated that in 2002 there was seven years of excess Telecom equipment valued at $160 billion.[20]

The Bullwhip Effect was further amplified for Diversity Suppliers mainly because their expanding businesses were:

- Largely dependent upon one or a few Service Providers
- Frequently linked to bubble-driven projects and unsettled new technologies
- Generally not diversified across established technologies

Diversity Suppliers have also been squeezed by the drive of Service Providers and OEMs to continually reduce costs in a contracting market. As competition has driven OEMs to focus on their core competency of technology development, in an effort to further increase efficiency they have outsourced much of their

[19] Testimony provided to Telecom Supplier Diversity Task Force from Diversity Supplier site visits
[20] Blumenstein, Rebecca, "For Telecom Workers, Burst of Bubble Takes Heavy Toll," *Wall Street Journal*, August 19, 2002

manufacturing to EMSs, like Celestica, Flextronics, Jabil, Sanmina and Solectron. Large EMSs are well suited to derive manufacturing economies of scale by performing similar functions for large customers across diverse industries (e.g., computer, medical instrumentation, Telecom, etc.) with an intense focus on maximizing return on assets. Their cost efficiencies are ideally suited for bulk volume manufacture of electronic equipment. The EMS business model typically involves thin margins and high volumes. Their customer base also expects year-over-year price reductions. Consequently, in the last few years, EMSs have moved business offshore in order to increase profitability.

These EMSs are playing an increasingly larger role in a Telecom supply chain, which is much more highly cost focused after decades of rate of return regulation. One of the largest EMS companies, Celestica, provided testimony on how Telecom manufacturing has skyrocketed and now accounts for close to 60% of all their manufacturing. This change in their customer profile paralleled another shift - the relocation of more manufacturing operations to lower operating cost regions in Asia-Pacific. In 2002, about 30% of the EMS industry's total production was manufactured in low-cost labor regions. By 2004, it is estimated more EMS production will migrate toward low-cost labor regions, ultimately reaching 60%-70%.[21] Mike Mortson from Celestica testified to the Task Force that:

> "Almost a third of our production is in Asia, with some in Eastern Europe and the rest in the U.S. A year ago, Asia was closer to 15%."

An additional development in this sector, that could be seen as threatening to Diversity Suppliers, is EMS attempts to move up the value chain into some of the service and value-add functions that are performed by Diversity Suppliers.

Small companies, especially startups, during a time of greatest need, have been hard pressed to raise funding. Jeff Rosen from AFC testified to the Task Force that:

> "Many of the companies that we deal with in the supply chain, whether they are minority, women, disabled-veteran enterprises (M/W/DVBEs) or not, are facing financial difficulties."

The instability of the Telecom industry and the huge losses sustained by investors resulted in a massive exodus of capital, as detailed in Section F of this report. This kind of environment compounds the finance problems Diversity Suppliers ordinarily face. According to testimony to the Task Force from Tim Bates, an expert who has studied the financial environment for smaller size companies, including minority business enterprises:

[21] Roos, Gina, "The EMS industry is calling the shots," EE Times, May 28, 2002

> "Venture capital financing is very thin right now, especially for anything hi-tech. Moreover, established MBEs that supply large industries like Telecom have a problem obtaining bank financing that helps support their growth trajectory. They also have a hard time finding banks that will appreciate the large customers that they have and are willing to lengthen the payback schedule on this basis. In the Telecom industry, we must look to the value experience as the biggest gain. The big players are trying to shore themselves up, let alone assist smaller companies in the supply chain."

As thinly capitalized small business enterprises, Diversity Suppliers were not immune to the precipitous drop in Service Provider spending, and the flight of capital from the Telecom industry. However, there is no evidence that the incidence of business failure among diversity participants in the Telecom supply chain was any greater than the rate of business failure among non-Diversity Suppliers.

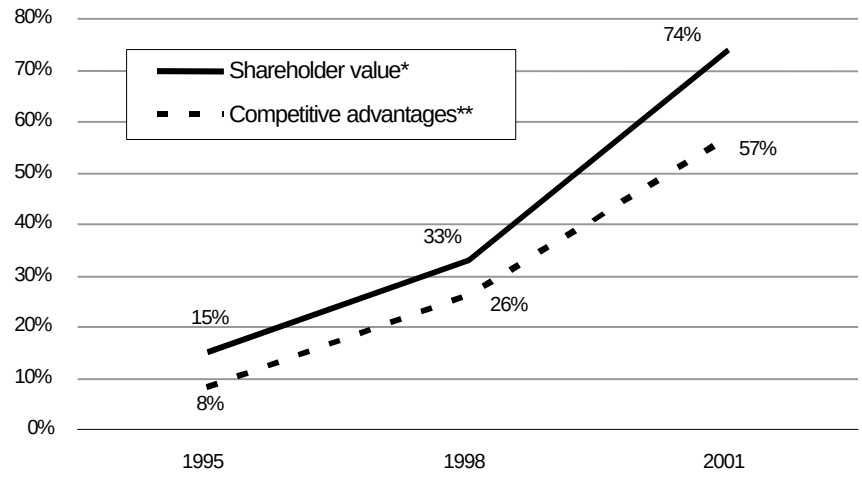
However, supply chain disruptions that involved Diversity Suppliers caused the industry, and the Task Force, to re-examine the viability of the existing business models that integrate Diversity Suppliers into the core of the Telecom supply chain.

C.
Best Supply Chain Wins

The tremendous supply chain problems encountered in recent years have elevated the strategic importance of carefully monitoring and managing supply chain performance. It is imperative to focus on and remedy these problems, not only because they threaten the viability of the smaller Diversity Suppliers participating in the supply chain, but also because, in today's increasingly competitive environment Diversity Suppliers will have fewer potential customers in the Telecom industry. For example, the number of global long haul carriers decreased from 50 to 20 in recent years, and further industry consolidation is expected.[22]

In the last decade, the perception of Procurement as a back-office, low-leverage necessity has given way to a new vision of cutting edge, mission-critical strategic sourcing and supply chain management. As indicated in Figure 1,[23] the CEO's view of the importance of supply chain management to increase shareholder value and create competitive advantage has increased dramatically over the last few years.

Figure 1: Procurement's Emerging Impact



* CEOs indicating "high" relevance of procurement in shareholder value

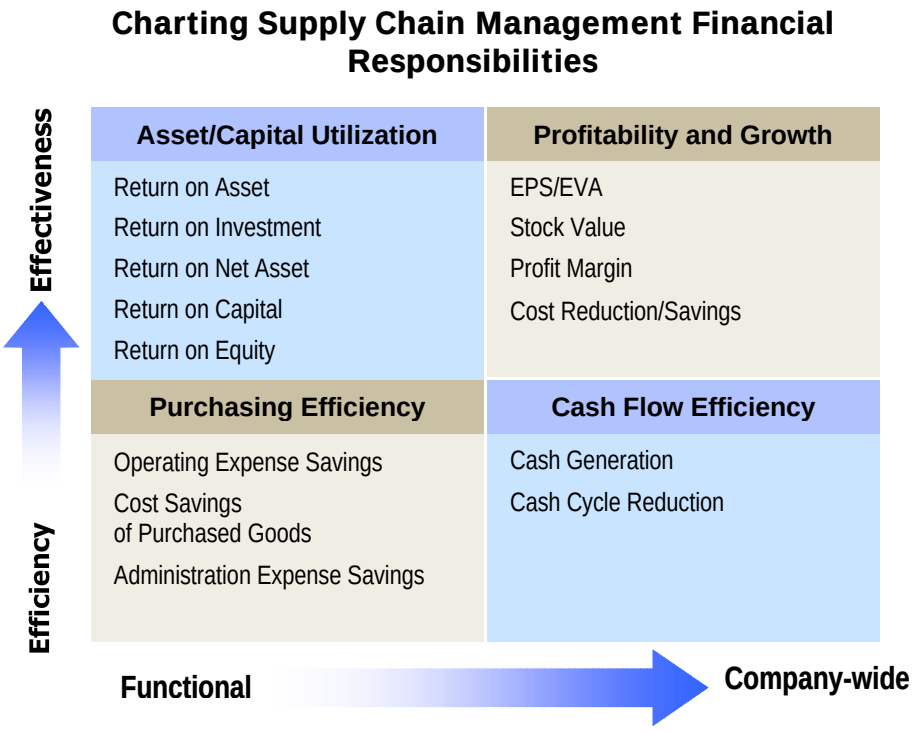
** Importance of procurement (relative to other key functions) in developing and sustaining the company's competitive advantage

[22] Biddlecombe, Elizabeth, "Battered Long-Haul Market has Turned Corner," *Total Telecom*, April 11, 2003

[23] From A.T. Kearney, as published in Ellram, Lisa M., and Baohong Liu, "Purchasing and Supply Management: A Key Lever in Financial Performance," *Supply Chain Management Review*, Volume 6, Issue 6, Nov./Dec. 2002, pp. 30-37

Affecting the CEO's view of the increasing importance of the supply chain are the changing responsibilities associated with supply chain management. Figure 2 shows how Purchasing and Supply Chain Management senior executive responsibilities are migrating from silo-based responsibilities to becoming more tightly integrated into the key financial performance metrics of companies such as profit margins, stock values and cash flow.

Figure 2: Senior Supply Chain Managers' responsibilities significantly impact company's financial performance metrics[24]

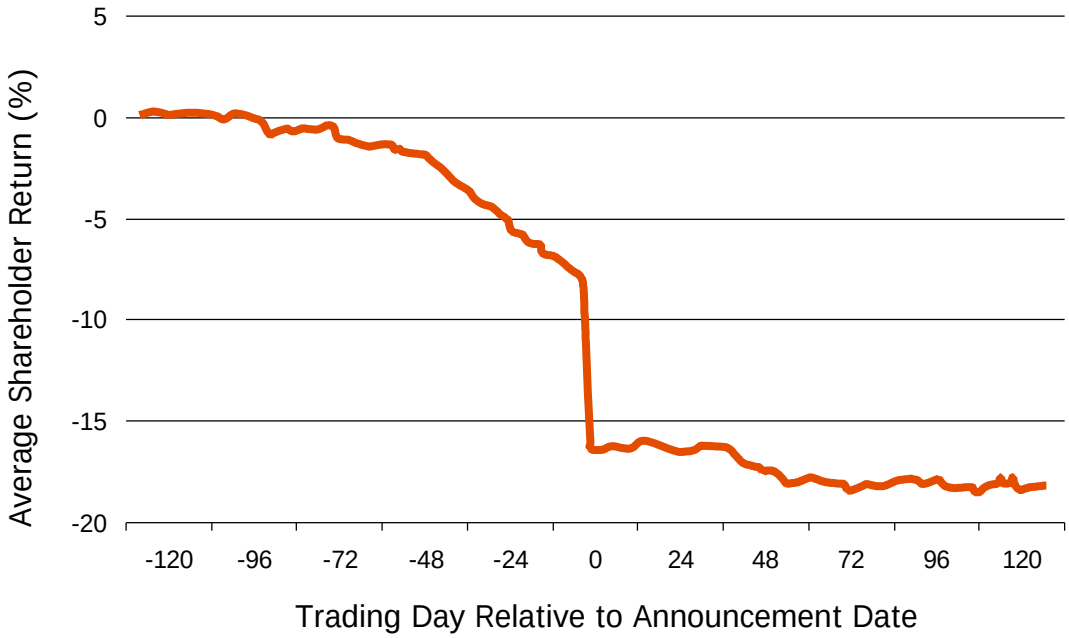


A key factor in the Darwinian race toward Telecom survival is the ability to sustain a stable, flexible, low "total cost of operation" supply chain that responds quickly to meet customer needs. The best supply chain - the lowest cost, most efficient, best-tailored supply chain, provides a distinct competitive edge that can be the determining factor in profitability. The supply chain with quality processes for continuous improvement is able to respond to changes and problems in the supply chain much faster and with greater consistency and reproducibility.

[24] Ellram, Lisa M., and Baohong Liu, "Purchasing and Supply Management: A Key Lever in Financial Performance," *Supply Chain Management Review*, Volume 6, Issue 6, Nov./Dec. 2002, pp. 30-37

Studies have shown that supply chains that are not able to quickly resolve major supply chain "glitches" result in companies losing, on average, 18%[25] of their shareholder value immediately preceding and after the glitch occurs as shown in Figure 3.

Figure 3: Impact on Shareholder Value from Supply Chain Glitches



The merger mania of the late 1990s led to the consolidation of huge amounts of spend and the consequent ability of big players to leverage volume and scale to command lower prices and lower operating costs. Such well-positioned companies have the opportunity to leverage strategic value through aggressive supply chain management. To remain competitive, even smaller companies, without such impressive scale, must do all that they can to drive costs out of their own supply chain and the supply chains they serve.

In the short-term the best supply chain is more profitable and attracts more capital. In the long-term, THE BEST SUPPLY CHAIN WINS the race for continued viability and success of the company it supports.

[25] Hendricks, K.B., and V. R. Singhal, "How Supply Chain Glitches Torpedo Shareholder Value", *Supply Chain Management Review,* Vol 6, No. 1, January/February 2002, 18-24

D.
OPTIMIZING THE TELECOM SUPPLY CHAIN

The Task Force testimony and research found a Telecom supply chain that was in distress and far from functioning in optimal fashion. The problems that small companies encountered in this environment were not unique to Diversity Suppliers and primarily reflected widespread supply chain problems that were also described by the core Telecom players. Lucent, ADC, AFC, and SBC all provided testimony to the Task Force about their direct experiences in the Telecom supply chain. They also discussed common challenges shared by many of their supply chain partners. For example, SBC staff reported that over 44 bankruptcies[26] were being managed in their supply chain.

The Telecom Service Providers, OEMs, and Diversity Suppliers all described problems resulting from the volatility in Telecom demand, the absence of timely information about the performance of the supply chain, a lack of collaborative and cohesive planning, and insufficient communication among supply chain partners.

The Task Force noted that traditional Telecom supply chain roles are shifting as exemplified by the rapid move of OEM manufacturing functions to outsourced, offshore EMS manufacturing.

There was a general consensus that the Telecom supply chain had been unstable for some time and that recent global and national economic trends had exacerbated existing conditions. Previously, expansion and growth had allowed many of those problems to remain below the surface. With the economic ebb tide, the underlying vulnerabilities were revealed and now most Telecom managers believe new strategies must be developed to manage downside risks.

There was a general appreciation among Task Force members that the current crisis could, in the long-term, actually lead to the improvement of the Telecom supply chain and revitalize the participation of Diversity Suppliers.

Improving supply chain performance through process management was determined to be a critical strategy for resolving the current problems in the supply chain, restoring growth, and developing a more healthy Telecom supply chain. Improving supply chain process management would also be key in revitalizing the participation of Diversity Suppliers and ensuring the continued viability of Diversity Suppliers as contributors of competitive advantage in the supply chain.

[26] Testimony provided by SBC to the Telecom Supplier Diversity Task Force

While there are many elements in the current complex Telecom supply chain, there are clearly some overarching trends. One trend noted by all participants in the supply chain is the unrelenting focus on maximum cost reduction. This focus can be attributed in part to the Telecom industry's current economic downturn. As a result, companies up and down the supply chain have been laying off employees, slashing budgets, and restructuring. Crisis cost management is driven by the degree of the industry downturn, acknowledged over-capacity, and the number of participants in the supply chain who are in financial trouble, even to the point of bankruptcy.

Another major factor in the focus on lowering first costs has been the expectations for recapturing merger premiums. In recent years, the Telecom industry has experienced increased merger and acquisition activity. After an acquisition, the acquirer is often seeking to recapture a premium that is paid in the transaction. Such recapture might occur through increasing revenue, but there is often an assumption made in a proposed merger's economic analysis that the post-merger aggregated spend will be leveraged to lower costs. Since revenue has not been increasing for most Telecom companies following these mergers, pressure has increased on lowering costs to recapture merger premiums.

Furthermore, cost cutting is also a necessary strategy in the fiercely competitive battle for customers. Telecom is a price sensitive service and customers can be lured by lower prices. As incumbents, Regional Bell Operating Companies ("RBOCs") have been required to provide network access to competitors at below-cost pricing. In order to meet or beat competitors' pricing and retain customers, there has been an increased emphasis on RBOC cost reduction. With predictions of industry consolidation to a handful of Service Providers in just a few short years, cost-cutting becomes an urgent matter.

The powerful trend to lower costs can also be seen as part of a broader framework – that of a Telecom supply chain trying to organize itself to deliver both customization and scale. In fact, the Task Force concluded that a dominating tension in Telecom is the current struggle with the tension between the push for scale and the push for customization.

The global Telecom market demands an increase in scale in order to leverage standardization to reduce costs. The global Telecom market also simultaneously demands customization of products and services to meet individual customer needs. These two seemingly opposite challenges create a dynamic tension that reverberates throughout the Telecom supply chain. Large scale Telecom companies are continually faced with the dilemma of how to balance this tension.

The Task Force determined that this dynamic tension between the push for scale and the push for customization must be understood and managed in order to optimize the Telecom supply chain. In closely examining this phenomenon, the Task Force discovered that the dynamics of this tension also reveal the optimal role for Diversity Suppliers within the Telecom supply chain. The interplay

between scale and customization provides fertile ground for the sustained contributions of smaller Diversity Suppliers in the Telecom supply chain.

SCALE: Telecom networks typically serve millions of customers over large geographic territories and require very large infrastructure investments to maintain existing services and to deploy technology that supports new service offerings such as Voice over Internet Protocol. Both OEMs and Service Providers seek to maximize efficiencies of scale and lower costs through standardizing the manufacture, installation, and maintenance of equipment. There are also cost benefits to standardizing and outsourcing non-network spend, such as customer call centers and operations. Aggregating demand and consolidating suppliers is a strategy being deployed in most areas of Telecom procurement. This drive toward standardization supports OEM and Service Provider efficiencies in providing global Telecom networks.

CUSTOMIZATION: However, specific regulatory bodies, geographies, competitive offerings and customer groups require customization of equipment and/or supporting services to meet their particular requirements.

With a plethora of choices in telecommunications customers who are increasingly knowledgeable about features, functions and their own ability to leverage Telecom services for specific business efficiency, the demand for customization of Telecom applications has increased.

Telecom Service Providers must be responsive to the varying needs of business and residential market segment customers. The ability to provide these customers with choices, with products and services that reflect each customer's profile is critical to success. For example, the customer demands for high-speed data services in California's Silicon Valley require delivery and repair intervals as well as customer premises engineering services that are not duplicated in Lubbock, Texas.

The demand for diversity participation itself can be seen as a request for customization.

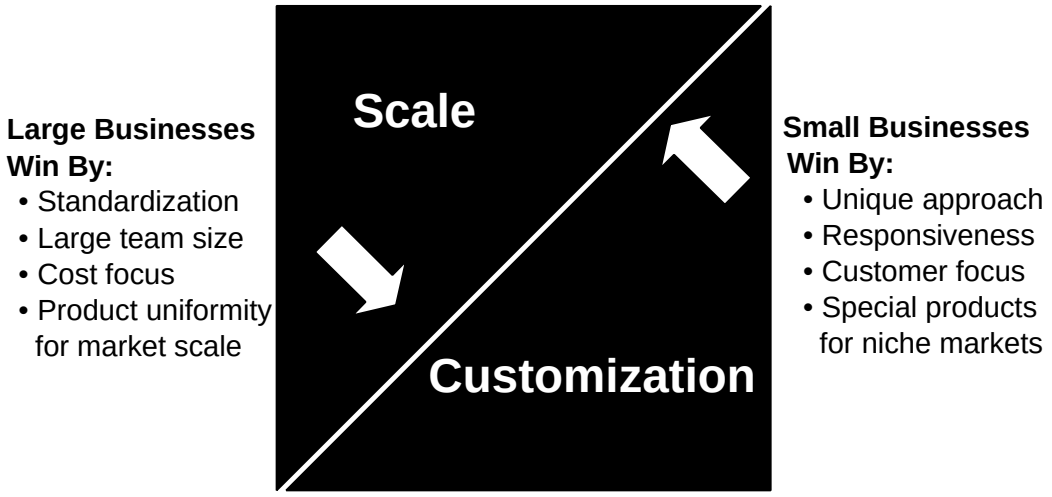
The Telecom supply chain is trying to organize itself to deliver both customization and scale. Scale is essential to achieve lowest "first-cost" in a national and global competition for survival. Customization is essential to effectively respond to local conditions and to win and retain every segment and level of customer.

Over the last few years, the OEMs have outsourced the delivery of scale to EMSs and have concentrated even further on research and development ("R&D"). Until recently, OEMs focused on R&D delivering both the benefits of scale along with R&D successes. OEMs must be responsive to the Service Providers' varying needs for customization as well. They have increasingly utilized smaller diversity partners to provide product warehousing, distribution, and customization at the local level.

There are customers who want to promote the participation of smaller, local companies in their Telecom supply chain and expect their Service Providers and suppliers to partner with businesses rooted in their communities.

As a result, scale alone will not optimize the supply chain or serve customer needs, and customization alone will not create an efficient global Telecom network. The best value proposition lies in meeting both demands by finding the right balance between scale and customization, as shown in Figure 4.

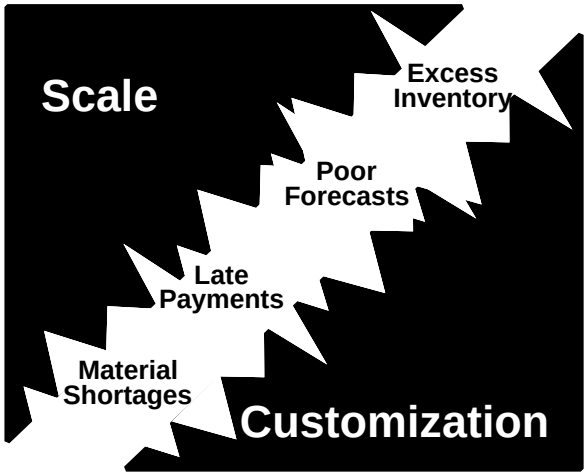
Figure 4: The right mix of Scale and Customization achieves supply chain competitive advantage



While Telecom participants need to fully leverage both scale and customization in their supply chains, the optimal balance will vary depending on factors such as the type of equipment and market characteristics. For example, global manufacturers that maximize efficiency through high volume processes need supply chain partners that can cost-effectively address local needs such as special ordering, delivery, assembly, testing, and maintenance. Large Service Providers with nationwide marketing campaigns can utilize smaller, local supply chain partners to provide targeted marketing and customer support services tailored to particular markets and customers. Smaller Diversity Suppliers are well poised to be significant players in meeting the needs of customization. Section E of this report will more fully address the value proposition smaller Diversity Suppliers bring to maintaining the proper equilibrium between scale and customization.

The interplay between scale and customization must be properly managed to reap the competitive advantages that can be provided by the proper balance of the two supply chain demands. Conversely, this interplay, when not carefully managed, can be a potential fault line that can fracture the supply chain and wreak havoc on both upstream and downstream participants, as indicated in Figure 5.

Figure 5: Supply Chain Fractures occur when
Scale and Customization are not properly balanced



Macroeconomic issues can stress the interplay as we have seen with the accumulation of surplus inventory resulting in part from the precipitous surges and drops in the economy and industry. Microeconomic issues can stress the interplay too, as when insufficient access to capital results in the inability to service debt or provide needed inventory. Process problems and inefficiencies resulting in incomplete orders, late invoices, and lack of visibility to key performance data also stress the supply chain. They can create a wedge that will unravel a seamless supply chain and cause further deterioration in performance.

The interplay between scale and customization is ultimately composed of relationships and processes. Regardless of the source of the stress to the supply chain or the source of the fractures to the important interface between scale and customization, a collaborative supply chain will be able to respond more effectively to any of the challenges that arise. Some efforts are well underway to develop shared standards and processes that will foster tightly knit, cooperative supply chain interfaces, and relationships that will better manage supply chain performance.

One successful initiative has been the development of the QuEST (Quality Excellence for Suppliers of Telecommunications Forum) and the TL 9000 quality standards for the Telecom industry. The importance of quality processes and standards has been understood by the Telecom industry for some time. ISO 9000 and Baldrige were accepted approaches to managing quality within the Telecom industry. In

1996, a core group of Telecom Service Providers and suppliers initiated the idea of establishing better, more targeted quality requirements for the industry. From this meeting, the QuEST Forum was created in January 1998. Today QuEST has over 119 member companies from around the world, 332 TL 9000 certified companies, and 679 certified locations.

Its mission is to foster continual improvement to the quality and reliability of Telecom products and services. It is committed to developing and maintaining a common set of quality management system requirements for the Telecom industry, worldwide, including reportable performance and cost-based measurements for the industry (see www.QuESTforum.org).

The Forum fostered a high degree of collaboration among its members. Competitors from the Service Provider and OEM communities worked side-by-side to develop collaborative approaches to improving the Telecom supply chain. QuEST established its own set of telecommunications-specific requirements, TL 9000, which were built on the ISO 9000 framework. Within the Forum there has been established a shared goal of collaboratively addressing critical issues in the supply chain and fostering better communication. A common language and standards were developed that permit the participants in the Telecom supply chain to create a more optimal supply chain and better performance outcomes for all participants.

A key focus of the Forum is developing and sharing repeatable “Best Practices” that can help to optimize the Telecom supply chain and improve Telecom products and services. Supplier diversity excellence was the very first “Best Practice” adopted by QuEST. A committee of quality, Telecom and supplier diversity subject matter experts worked to develop the “Supplier Diversity Excellence Best Practice and Maturity Assessment Scale,” which is provided in Appendix 2. The Maturity Assessment Scale is intended to help QuEST members assess their current level of performance in supplier diversity and identify developmental steps necessary to meet customer supplier diversity requirements and, importantly, with an approach consistent with TL 9000 standards.

E.
Supply Chain Models – Supplier Diversity Value Propositions in Practice

The Task Force identified five generic models that describe how to optimize the participation of smaller, Diversity Suppliers for competitive advantage and maintain the dynamic balance between scale and customization in the Telecom supply chain. Smaller minority-owned, women-owned and service-disabled-veteran owned firms are successfully collaborating with Service Providers and OEMs as Value Added Resellers, Business Solution Partners, Primes, Subcontractors and Contract Manufacturers/small EMSs. These models of supplier diversity participation are all found in today's Telecom supply chain – in both customer-facing supply chains and internally focused supply chains.

The Telecom crisis put tremendous pressure on all participants in the supply chain and precipitated an analysis of the value brought by each participant. The Task Force concurred that the validity and sustainability of the existing supplier diversity models require quantifiable value propositions, and demonstrable contributions to optimizing the supply chain.

The Task Force's Supply Chain Committee, chaired by Krish Prabhu, began its analysis of supply chain functions and costs by using Michael Porter's basic model of a single company to break down a firm's activities. Next the committee compared several supply chain models across industries including the automobile industry and the IT industry. Last, the committee analyzed the Telecom supply chain by activities and the associated margin produced by each activity to determine where diversity VARs, small EMSs/Contract Manufacturers and services companies could help optimize the current Telecom supply chain.

Firm's Activities

To evaluate the models for incorporating Diversity Suppliers in the Telecom supply chain, the Task Force decided to begin with Michael Porter's model for categorizing the activities that a firm performs to "design, produce, market, deliver, and support its product."[27] Examining a firm's activities can reveal sources of competitive advantage. Porter describes three different generic strategies for building competitive advantage: cost leadership; differentiation; or focus on one or the other for a narrow target group.[28] Porter's analytical tools combined with knowledge of Telecom supply chain management can help

[27] Porter, Michael E., *Competitive Advantage: Creating and Sustaining Superior Performance*, The Free Press, 1985, p. 36
[28] Ibid., pp. 11-12

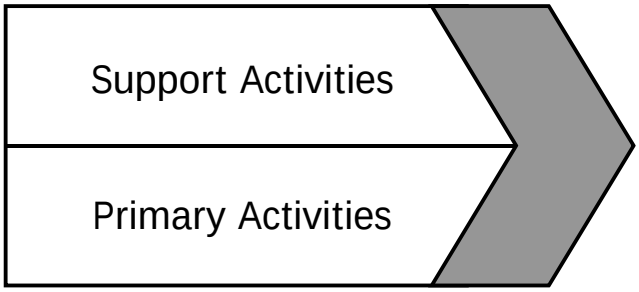
identify the precise niches or "sweet spots" where Diversity Suppliers can bring value and build competitive advantage.

A firm's activities can be divided between support activities and primary activities as shown in Figure 6. Primary activities are those that are performed in "the physical creation of the product and its sale and transfer to the buyer as well as after-sale assistance."[29] Support activities "support the primary activities and each other…"[30] Diversity Suppliers in Telecom are engaged in both primary and support activities.

The whole model represents the price customers are willing to pay for what the firm provides. The customer pays for value that is created by the firm's activities plus a margin. The value created by the firm's activities can also be thought of as the cost of performing the activities. Notably, Porter states:

> "Supplier and channel value chains also include a margin that is important to isolate in understanding the sources of a firm's cost position, since supplier and channel margin are part of the total cost borne by the buyer."[31]

Figure 6: Essential components of Porter's Model of Competitive Advantage[32]



Porter specifically distinguishes this perspective from the more traditional "value added" (selling price less the cost of raw materials) viewpoint for examining competitive advantage. The value chain model is more accurate for three reasons.[33] First, there are several inputs purchased by a firm, not just the raw materials. Second, examining the costs of the inputs used to perform the activities is as important as understanding the cost behavior of the activities themselves. Finally, the value chain model highlights the linkages between a firm and its suppliers that can affect cost or enhance differentiation. The Task Force determined that a broad view of the supply chain and an expansive view of value

[29] Porter, Michael E., *Competitive Advantage: Creating and Sustaining Superior Performance*, The Free Press, 1985, p. 38
[30] Ibid.
[31] Ibid.
[32] Ibid., p. 37
[33] Ibid., p. 39

– beyond first cost – to include life cycle cost/total cost of ownership as well as contributions to revenue generation was more appropriate for assessing the wide range of possibilities for Diversity Supplier contributions to the complex Telecom supply chain.

Porter's model categorizes the types of activities that any given firm in the Telecom supply chain can be involved in, either primary or support activities. Typically, a nexus between firms in the supply chain occurs in both categories. Moreover, companies maximize competitive advantage when they promote collaboration across all tiers in a company's supplier network (i.e., Service Provider, VAR, Business Solutions Partner, Prime, large EMS, Subcontractor and Contract Manufacturer/small EMS). Identifying all elements in the value chain and analyzing associated total costs and total value, are essential steps in any effort to improve the supply chain or to define sustainable opportunities for smaller Diversity Suppliers. New supply chain partners must be able to take on primary and or support activities where they can provide lower margins or better service. Alternatively there may be opportunity in activities that large OEMs or service companies no longer consider core to their business model. Finally they can also demonstrate how their participation in the supply chain leads to enhanced revenue generation.

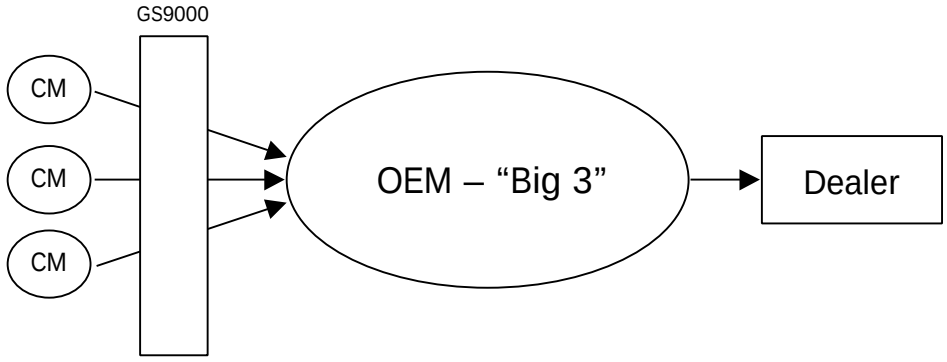
Supply Chain Models

The next larger unit for analysis is the industry. The supply chain refers to an industry's structure for producing and delivering goods. To better examine the Telecom supply chain, the analysis below briefly compares and contrasts it with other industries such as automotive and information technology.

Automotive

Below is a high-level diagram of an automotive industry supply chain:

Figure 7: Automotive Supply Chain



In this supply chain, Contract Manufacturers deliver components to much larger auto OEMs according to GS9000 quality standards. The auto OEM then

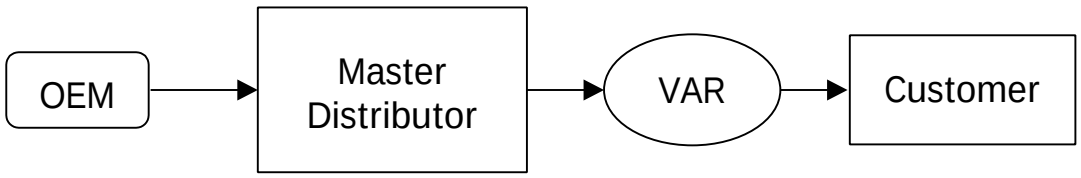
distributes cars through dealers (or dealer networks) and the OEM essentially determines the terms of this relationship.

According to testimony gathered from Dr. Ray Jensen from Ford, automobile OEMs focus on developing long-term relationships with Contract Manufacturers who specialize their production methods for the OEM to achieve supply chain efficiencies and benefits from closely-knit, focused, and dedicated strategic partnerships. The testimony given by Dr. Jensen addressed how auto manufacturers and large OEMs have helped Diversity Suppliers manage inventory risk during a downturn in the market. As an example, the larger automobile manufacturers continued to purchase product and stockpile inventory to shelter Diversity Suppliers from extensive risk. Additionally, financing mechanisms were established within the automotive industry to support the growth of Diversity Suppliers and sustain operations during an industry downturn. This concept is discussed in greater detail in Section F.

Information Technology

Below is one of several IT supply chain models.

Figure 8: IT Supply Chain



The traditional method for IT hardware order processing was for the Service Provider to place an order with an OEM and wait four to twelve weeks for the entire order to be delivered, or to receive component parts when the manufacturing facility completed their production lot. During the explosive growth of the late 1990s, when new technologies heightened customer expectations, the OEMs such as IBM, SUN, and HP searched for a more efficient manner to deliver their products to the end user. Born of necessity is the present IT supply chain that services its multiple customers while managing huge volumes of computer hardware and peripherals. Elements of the present IT supply chain are stated below.

The VAR role includes customer relationship management, order management, technical advice and systems configuration. The VAR performs many of the technical and operational tasks that the OEM and customer used to perform. During order placement, the customer needs only to make contact with a single point of contact, the VAR. The VAR may interface with multiple OEMs and by being the single point of contact for the customer, greatly reduces the burden of

order administration for the Service Providers, and can also reduce the number of Service Provider employees who must possess high-level technical certifications. The VAR takes on a larger role to customize the final product for the customer and the OEM refocuses its efforts on core competencies such as R&D and production.

The responsibility of the master distributor is to maintain inventory levels of component parts, perform quality testing of hardware configurations, and ship product to the VAR as it receives and processes the Service Providers' orders. A typical master distributor will carry between $450M to $600M in inventory, thus smoothing uneven customer demand, shortening delivery cycle time, and reducing order-processing time. Just-in-time order placement, including site delivery can occur in less than one week, which is substantially shorter than the traditional IT supply chain model. According to Sandy Davis of ACS, a diversity-owned IT VAR, her company was able to grow quickly due to the small investment required in inventory. She stated,

> "ACS would have to be 3-4 times bigger if it carried all the IT inventory, and then would have to charge inventory carrying costs."

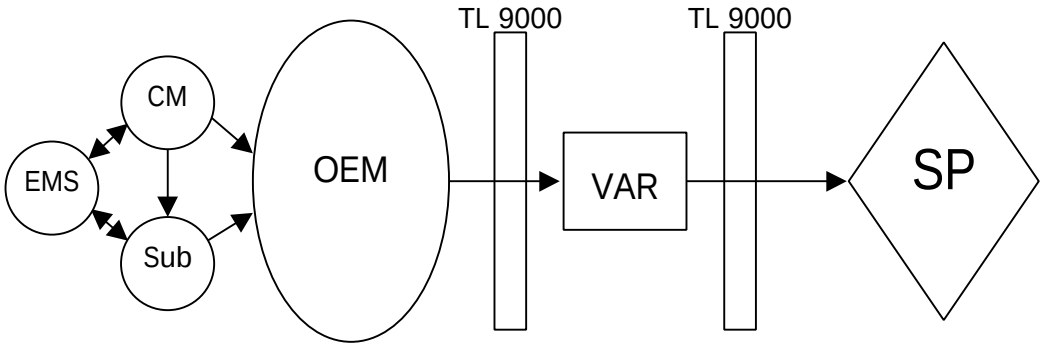
By consolidating the inventory with master distributors, this supply chain ultimately delivers lower costs to the customer because of its increased efficiency.

The Information Technology sector has seen significant and dramatic changes in its supply chain over the past decade including the advent of direct ordering on a mass basis for the desktop space. Analyzing those supply chain models and identifying the optimal role of Diversity Suppliers will require the full engagement and ongoing flexibility of the OEMs, Diversity Suppliers, and Customers.

Telecom

A typical industry supply chain model for producing products for the Telecom Service Provider's network, and incorporating a diversity VAR, is shown in Figure 9.

Figure 9: Telecom VAR Supply Chain



In this model, the large OEMs strongly influence the terms of contracts and relationships with the smaller VARs who are required to take inventory risk. This is very different from the IT and automotive supply chains where the VAR does not assume the inventory risks associated with fluctuating demand. Additionally, VARs typically depend heavily on business from one major Service Provider, which uses the VAR to stage and customize inventory. The customization of inventory may result in the VAR holding an illiquid set of products and gives the Service Provider considerable control over the relationship since they are the only customer for the VAR. Testimony from Houston Williams, CEO of PNS, a diversity VAR, addressed the situation of a VAR in this supply chain. He stated,

> "A large challenge for a VAR is dealing with the OEM plus the client base and getting the back office to support both bases profitably. Sometimes, they really need to educate the OEM about working with a smaller business."

Additionally, both OEMs and Service Providers want VARs to meet industry standards, such as TL9000, which, in the short-term, adds to the cost of doing business. In the long-term, however, compliance with such standards not only increases the confidence of the larger business partners and customers, but also helps the VAR in optimizing supply chain performance.

Telecom Service Provider Supply Chains

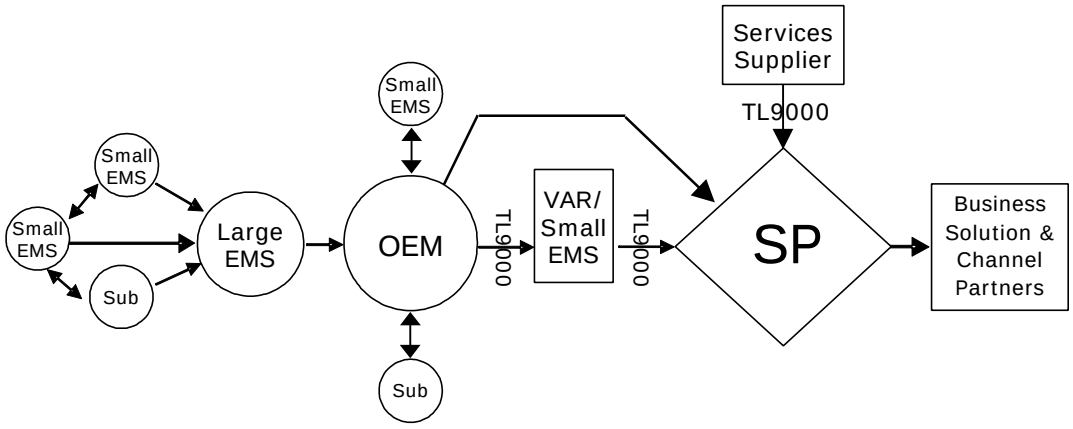
To serve the diverse needs of this customer base, the RBOCs deploy a vast and costly network composed of embedded infrastructure. This infrastructure must also be maintained to provide ubiquitous service, along with state-of-the-art products necessary to serve the most sophisticated and demanding customers, for whom the Telecom network is a critical business tool. Although these network elements and products are designed and developed by multiple OEMs, network interoperability between the different OEM products is required. Within each product family, multiple configurations may be deployed. This allows for some degree of customization needed to address unique service requirements in different parts of the network.

An operating Telecom network may have hundreds of thousands of network elements, typically composed of several different product types (with each product type supporting multiple configurations). The need to upgrade a network, or add to it due to market demands, creates unique supply chain challenges. The demand for network upgrades varies from region to region and is time-sensitive; therefore, it is important that the supply chain deliver the products in a timely fashion. The alternative is to store a large inventory of products. This is clearly difficult, especially given the variety of product types, OEMs, changing technology, and configurations. While a certain amount of tactical inventory is maintained by the RBOCs, it is not financially feasible to maintain a complete inventory in each region. When product is needed in short order, the RBOCs rely on the supply chain's ability to be responsive and deliver the needed products quickly.

When an RBOC decides to upgrade its network, various players in the supply chain must initiate a series of actions. Network engineering triggers supply chain activity by defining what products and what configurations need to be deployed. This supply chain activity includes understanding the types and quantities of products needed, placing the appropriate orders with suppliers to ensure that the production and delivery of these products occurs in a timely manner, ensuring that the shipment is made to the right geographical regions, preparing the sites for installation, installing and testing to ensure network compliance, and eventually turning up the equipment for use. In this process, manufacturers and associated service companies specializing in the manufacture or installation of parts (cables, cards, racks, cabinets, specialty panels, etc.) get involved. Coordinating all supply chain participants and activities to ensure timely integration requires sophisticated project management capabilities.

Supply Chain Players

Figure 10: Telecom Supply Chain



Over the past several years, the RBOCs have worked closely with various players in the supply chain to encourage tighter synchronization among all participants in the supply chain including small specialist manufacturers and large bulk manufacturers. This synchronized interaction results in the timely and flexible deployment of new equipment in the network in response to current needs. While the RBOCs maintain a primary supply agreement with the large OEMs, the OEMs themselves outsource many tasks to a variety of players largely lumped under the class of EMSs, but more specifically identified under the categories of bulk contract manufacturing, specialty contract manufacturing, VARs or Channel Partners and specialty services. The roles, interrelationships, and core competencies of these various entities are shown in more detail in Appendix 3.

Broadly speaking, the OEMs and the bulk contract manufacturers can be viewed as global companies that are very efficient at volume business, whereas the specialty contract manufacturers and VARs are very good at meeting the local challenges of deploying products in a flexible manner in response to the diverse needs of RBOCs. The fundamental challenge in the supply chain is to match the global and the local capabilities of these two parties so that collectively, the supply chain can efficiently deliver its goods both when business is booming (demand outstrips supply) and when times are lean (supply outstrips demand). This tension between the demands for scale and customization was discussed in depth in Section D of this report.

As global competition increased and the excess capacity problem became apparent, large OEMs saw their revenues plunge. In an effort to cut operating costs, and to focus on core competencies, most OEMs have now outsourced their manufacturing operations to large EMSs. As discussed in Section B of this report, large EMSs are well suited to derive manufacturing economies of scale. Moreover, most of the top tier EMS corporations want to migrate more than 60% to 70% of their total production to those regions by 2004.[34]

Globalization enhances the need for localized logistics and post deployment services within North America. Although large-scale manufacturing continues to move to low cost regions in Asia and Eastern Europe, Service Providers will still require a local presence from its suppliers to meet customer needs. Additionally, large EMSs have a lower ROI hurdle for entry into new businesses compared to OEMs and will most likely leverage their current expertise in supply chain management to include direct fulfillment and warranty repair to OEM customers. Since they support several industries (computers, IT, medical device, etc.), large EMSs will be able to spread the fixed costs of establishing distribution centers across multiple product lines and work their way up the value chain. Finally, with the addition of a new player to the value chain, the supply chain becomes more complex as manufacturing shifts from OEMs to the EMSs.

The deficiency in localized logistics and post-deployment services created by the growing dominance of large EMSs is a critical issue. Indeed, supply chain

[34] Ross, Gina, "The EMS Industry is Calling the Shots," *EETimes*, May 28 2002

management research points to the need for maintaining flexibility, particularly in a supply chain for innovative products like those in the Telecom industry. (An innovative product is characterized by product newness leading to unpredictable demand and a short life cycle. An innovative product is distinguished from a functional one, which satisfies basic needs that do not change over time, has stable predictable demand and has a long life cycle.)[35]

An innovative product's supply chain is optimized by:

- Lowering market mediation (supply-demand imbalance) costs from mark downs, lost sales, and dissatisfied customers
- Reading key information that flows from the market
- Placing inventory in the chain to strategically hedge against uncertain demand
- Choosing suppliers for speed and flexibility[36]

In contrast, a functional product's supply chain is optimized by:

- Lowering physical function costs such as production, transportation, and inventory storage
- Reading key information that flows within the chain[37]

Thus, there is an opportunity for small EMSs and VARs to complement the low cost manufacturing provided by the large EMSs. Small EMSs and VARs can help lower market mediation costs, stay close to the customer for market information, and provide speed and flexibility. Such developments in the Telecom supply chain are already beginning to happen. According to *EBN*,

> "Major OEMs are increasingly turning to small EMS providers with annual revenue in the $20 million to $100 million range for certain prototype, new-product-introduction, and systems-build work."[38]

Indeed, Christy Bieber Orris, CEO and owner of ATEK manufacturing, in testimony to the Task Force, confirmed that increased responsiveness, flexibility, and the ability to develop customized solutions are key advantages of small EMSs over large EMSs.

While EMSs bring economies of scale and cost efficiencies to OEMs for high volume, standardized production runs, EMSs are not well suited to handle product diversity in the form of component mix (specialty cables, connectors, mechanical cabinets, panels, etc.) or product configuration or testing (e.g., unique burn-in, temperature cycle, and/or system testing). Functions that are not

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[35] Fisher, Marshall L., "What is the Right Supply Chain for Your Product?" *Harvard Business Review*, March-April 1997

[36] Fisher, Marshall L., "What is the Right Supply Chain for Your Product?" *Harvard Business Review*, March-April 1997

[37] Ibid.

[38] Serant, Claire, "Small EMS providers find a place at the table," *EBN*, March 19, 2002

scale-focused, such as specialized component manufacturing and testing, are frequently outsourced by the OEM or large EMS to small EMSs that possess a competitive advantage for specialized production jobs/specialized manufacturing. Unfortunately, because of the current decline in revenues, the specialty EMSs are finding it difficult to sustain their fixed cost infrastructure. In response, many of the small EMSs have diversified their operations into other areas to maintain revenues and margins.

Testimony presented from LeeMAH Corporation shows the value a small Diversity Supplier brings to the Telecom supply chain with regards to turn-up. In a major Telecom project, LeeMAH was hired to build sub-assemblies for the deployment of DSL. Within three months of receiving the contract, LeeMAH began manufacturing this product, and ramped from 0 to 400 employees in less than a year while pricing the contract 30% lower than a large EMS/Contract Manufacturer who also bid on the project. This example of quick turnaround time and low cost structure shows the value and efficiency a Diversity Supplier can bring into the supply chain.

Even before the OEMs began to outsource manufacturing to the large EMS community, Value Added Resellers/Channel Partners had been serving a unique and critical role in the Telecom supply chain. As value-added resellers, many smaller Diversity Suppliers have been able to help optimize the supply chain and serve as a flexible, low-cost interface between the manufacturer's push toward standardization and scale and the Service Provider's need for customization, and flexible deployment schedules linked to fluctuating demand. The VAR's basic service offerings consist of:

- Order Consolidation
- Inventory Management
- Product Integration
- Packaging
- Distribution
- Customer Service Management

By stocking equipment in state-of-the-art warehouse facilities that are often located in different parts of an RBOC region, VARs can more easily distribute and deliver parts on demand. Inventory and transportation management are key services. The VAR's important role in customer service management includes emergency expedite services, order error correction, billing error reconciliation, warranty and return administration, performance tracking and reporting, EDI, and electronic channel management. In many cases, VARs also provide enhanced services such as: OEM certification, repair and return services, product training, and TL 9000 compliance reporting.

The Supply Chain committee found that as the last element in the supply chain, and as a more focused supplier with a narrower customer base, the VAR is well

positioned to understand the RBOC's special local operating environment. Therefore, diversity VARs can play an important role in optimizing localized supply, reducing turnaround time on product changes and modifications, consolidating orders between multiple supplier platforms, and flexible delivery and turn-up. VARs that diversify their value proposition beyond basic service, expand into product customization, and increase their value to the large players they serve are faring better during the Telecom downturn.

A Balanced Telecom Supply Chain

In order for the supply chain to operate efficiently in all economic conditions, it is necessary to strike the right balance between:

- The efficiencies inherent in bulk manufacturing done by large EMSs that are exploiting economies of scale across multiple industries
- The specialized expertise of small EMSs and their ability to respond quickly to sudden or changing demand
- The unique service offerings of VARs who are in tune with the RBOC's local operating needs

Indeed, supply chain experts have noted that the rewards of investing in a flexible, responsive supply chain, especially for an innovative product, can be much greater than the benefits of efficiency and lower costs alone.[39]

The problems of the big public companies (OEMs, large EMSs, Service Providers) have been well chronicled as they go through multiple rounds of layoffs and restructuring. However, the problems of the smaller, private companies are equally severe. With thin profit margins, lower volumes and less access to capital than the larger Telecom supply chain participants, VARs and small EMSs face significant challenges.

Long-term profitability is critical to sustain the supply chain competitive advantages provided by small and diverse VAR and EMS participants. Based on testimony and other industry information, the Task Force determined profit margins by VAR or small EMS functions to be, on average, 5%.

Because VAR and small EMS margins are thin, these participants are more vulnerable to sudden changes in revenue or in the supply chain. Such changes can quickly put their viability at stake. Telecom VARs are particularly vulnerable to inventory risk as compared with VARs in other industries, since Telecom VARs historically have assumed a greater proportion of inventory risk than in the Auto and IT industries. As an example, the Task Force visited a diversity Telecom VAR that was holding $14 million of inventory during 2002 - $2 million more than its total sales of $12 million that year. With profit margins of 5%, the carrying cost

[39] Fisher, Marshall L., "What is the Right Supply Chain for Your Product?" *Harvard Business Review,* March-April 1997

associated with excess inventory and obsolescence can quickly put a VAR in financial jeopardy.

Consequently, cash flow and volume must be carefully managed. OEMs, large EMSs, and the Service Providers must ensure that cash flow cycles are adequately controlled, so that liquidity issues don't encumber the smaller suppliers. Considering the thin margins, it would also be helpful if business is not fragmented among too many diversity VARs and EMSs.

Additionally, as the industry has contracted and business has become fragmented, in many cases volumes have declined below levels that can be profitably maintained by small EMSs. Small EMSs have responded by continuing to define niches across other industries such as automotive, medical, industrial, and consumer sectors.

The primary focus of large EMSs is to leverage their asset base when undertaking volume manufacturing opportunities associated with multi-industry global markets. They employ limited outsourcing and, as noted, in the current downturn many of them are seeking to move up the supply chain and expand into services. They may absorb smaller EMSs as part of this expansion. There is also a move towards consolidation of EMSs, as evidenced by mergers such as between Sanmina and SCI.

Revalidating the Supplier Diversity Value Proposition

Although the Telecom Equipment Supply Chain depicted in Figure 10 has been in place for many years, recent major contractions in the Telecom industry have caused supply chain participants to re-examine the design and value of this supply chain, and in particular the VAR or Channel Partner role performed by several top Diversity Suppliers. (See Appendix 4 for a breakdown of SBC's Top 10 Diversity Spend categories. Network products have been a key growth area for Diversity Suppliers.)

Detailed supply chain analysis is a critical step in the initial design of supplier diversity participation. Without a thorough understanding of the end-to-end supply chain, one can't be sure that the best opportunities for supply chain improvement and supplier diversity participation have been uncovered. Since Telecom is such a dynamic and complex industry, it is very important to periodically review this initial analysis and design in order to revalidate that the supply chain is performing optimally and that the Diversity Suppliers are positioned to provide value and to remain profitable.

To determine how best to repair the current problems in the Telecom supply chain and to evaluate how Diversity Suppliers can be utilized in the optimization of that supply chain the Committee first identified major supply chain activities associated with the OEM, EMS, and VAR participants. Twenty-one major supply chain activities were identified and are summarized in Table 1.

Table 1: Telecom Supply Chain Activities

Initial Activity	• Customer Management • Marketing & Sales • Demand Forecasting
Manufacturing activity	• Production Planning • Bulk Component Manufacturing • Specialty Component Manufacturing
Integration & test	• Product Integration • Product Assembly • Testing Q&A
Job-specific activity	• Customization • Inventory Management • Order Management • Fulfillment
Field activity	• Site Preparation • Installation • Network Testing
Post-job activity	• Training • Technical Support • Warranty Repair • Customer Service Management • Customer Management

To further examine the core competencies of the Telecom supply chain participants, the Committee further subdivided the analysis by Switch, Transport and Access. Because these product categories perform distinctly different functions, and are deployed in widely differing quantities – typically, in proportion 1:10:100, respectively – they support three supply chains.

Based on cost analysis, performance history, scale and customization issues, and other testimony, Table 2 identifies VAR and small EMS competitive advantages in the Switch, Transport, and Access major equipment categories. Transport and Access VARs were found by the Task Force to have a consistent competitive advantage across the following activities:

- Inventory Management
- Order Management
- Fulfillment
- Customization
- Site Preparation
- Customer Service

The Task Force also noted that Switching customization is generally not performed by VARs because they have not yet been well positioned to contribute to increasingly software driven customization. Small EMSs remain well-positioned to excel in specialty component manufacturing. Small EMSs can also serve well in the product integration and assembly functions, though large EMSs consider those areas as core to their business.

There are many other network supply chain activities where small diversity VARs and EMSs are cost and performance competitive with the OEM or EMS. When such activities are bundled with activities where the Diversity Supplier offers a competitive advantage, positive synergies emerge for the customer and increased business opportunity for the smaller suppliers. For the limited purpose of evaluating competitive cost advantage, Table 2 indicates only those functions where the diversity VAR or EMS had a clear competitive advantage.

Table 2: Competitive Cost Advantages of Major Telecom Supply Chain Participants

	Switch	Transport	Access
Marketing & Sales	**OEM**	**OEM**	**OEM**
Demand Forecasting	**OEM**	**OEM**	**OEM**
Production Planning	**OEM**	**OEM**	**OEM**
Bulk Component Manufacturing	**Large EMS**	**Large EMS**	**Large EMS**
Specialty Component Manufacturing	**Small EMS**	**Small EMS**	**Small EMS**
Product Integration	**Either EMS**	**Either EMS**	**Either EMS**
Product Assembly	**Either EMS**	**Either EMS**	**Either EMS**
Testing & QA	**Large EMS**	**Large EMS**	**Large EMS**
Customization	**OEM**	**VAR**	**VAR**
Inventory Management	**VAR**	**VAR**	**VAR**
Order Management	**VAR**	**VAR**	**VAR**
Fulfillment	**VAR**	**VAR**	**VAR**
Site Preparation	**Small EMS**	**Small EMS**	**Small EMS**
Installation	**Small EMS**	**Small EMS**	**Small EMS**
Network Testing	**Small EMS**	**Small EMS**	**Small EMS**
Training	**Small EMS**	**Small EMS**	**Small EMS**
Technical Support	**Small EMS**	**Small EMS**	**Small EMS**
Warranty Repair	**Small EMS**	**Small EMS**	**Small EMS**
Customer Service	**VAR**	**VAR**	**VAR**
Customer Management	**OEM**	**OEM**	**OEM**

Within this framework of supply chain activities and major equipment categories, the Task Force received testimony from Lucent, ADC, AFC, Complas, Telamon, PNS, LeeMAH, and World Wide Technologies. Their testimony provided information on the relative competency and cost of VARs and small EMSs, even in the currently depressed Telecom economic conditions. The Supply Chain committee chaired by former CEO of Alcatel USA, Krish Prabhu, sought to ascertain whether costs continue to be lower when smaller diversity VARs or small EMSs perform significant roles in the supply chain. The conclusions, as shown in Table 3, indicated that a 2% to 3.5% savings can be gained when smaller diversity VARs or EMSs are positioned to provide value. These conclusions are also are shown in more detail in Appendix 5.

Table 3: VAR or small EMS cost advantages compared with OEMs range from 2.0% to 3.5%

	OEM or EMS	Site Custom-ization	Inventory Mgmt	Order Mgmt	Fulfillment	Customer Service	Total Costs	Out-source Cost to VAR or small EMS	Savings
Access	OEM	**3.50%**	**2.50%**	**1.25%**	**2.00%**	**0.25%**	**9.50%**	**6.00%**	**3.50%**
	EMS	**3.00%**	**2.25%**	**1.50%**	**1.00%**	**0.25%**	**8.00%**	**6.00%**	**2.00%**
Transport	OEM	**3.50%**	**1.88%**	**0.94 %**	**2.50%**	**0.38%**	**9.20%**	**5.75%**	**3.45%**
	EMS	**3.00%**	**1.69%**	**1.13%**	**1.75%**	**0.38%**	**7.95%**	**5.75%**	**2.20%**
Switch	OEM	**3.50%**	**1.25%**	**0.63%**	**3.50%**	**0.56%**	**9.44%**	**6.00%**	**3.44%**
	EMS	**3.00%**	**1.13%**	**0.94%**	**2.75%**	**0.56%**	**8.38%**	**6.00%**	**2.38%**

An analysis of the data reveals that with a slight amount of compromise, it is feasible to streamline the allocation of the supply chain activities amongst the players, regardless of the type or product. In doing so, one can allocate a certain amount of "margin" for each activity, ensuring an adequate return for all the players involved in the supply chain. Smaller Diversity Suppliers should be called upon to perform activities not only where there is clear competitive cost advantage, but also where they can perform at equivalent cost. A "straw" proposal is outlined in Table 4.

Table 4: Sustainable Margin of Integrated Telecom Supply Chain Participants

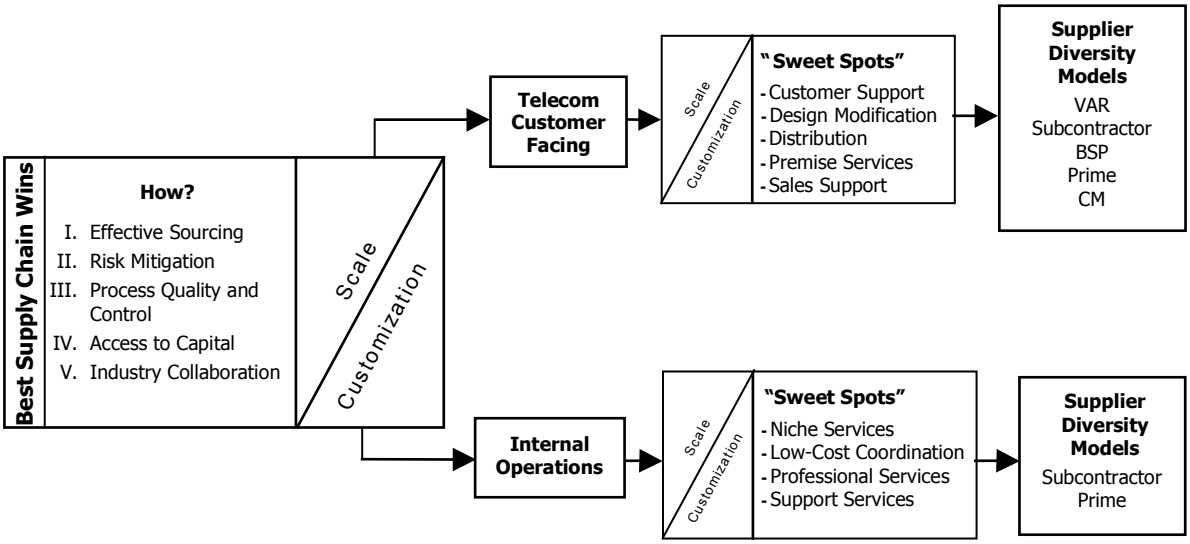
		COGS = 65%
OEM	**Overall Management**	**25%**
Large EMS	**Bulk Component Manufacturing**	**20%**
Small EMS/VAR	**Specialty Component Manufacturing**	**5%**
	Product Integration	
	Product Assembly	
	Testing & QA	**6%**
	Customization	
	Inventory Management	
	Order Management	
	Fulfillment	**5%**
	Site Preparation	
	Installation	
	Network Testing	**1%**
	Training	**1%**
	Technical Support	**1%**
	Warranty Repair	**1%**
	Customer Service	

To ensure the best overall value and optimization of the supply chain, it is necessary to combine the power and scale of the large EMSs with the advantages of flexibility, lower cost structure, and superior customer service offered by small EMSs and VARs. The Telecom industry should continue to develop opportunities for diversity VARs and small EMSs to partner with the large EMSs to fulfill the need for local customer service, and customization of product.

Beyond Telecom Network Equipment

The same opportunities that exist for diversity network equipment suppliers to repair supply chain disruptions and to facilitate the balance of scale and customization also exist for Diversity Suppliers in other parts of the Telecom business. Conducting a detailed analysis of the end-to-end activities in any supply chain, similar to the Task Force analysis for the network products above, will reveal the "sweet spots" where Diversity Suppliers can contribute to success. Both customer-facing and internal-facing supply chains can be improved through Diversity Supplier contributions.

Figure 11: Supplier Diversity Value Proposition in Telecom Supply Chain



Scale: Economies of scale drive need for big players, major networks, large capital investments

Customization: Market differentiation, increased responsiveness, reduced cycle time drive need for customization

The Task Force could only begin to contemplate the expansion of this approach to other Telecom supply chains. Examples of products and services that Diversity Suppliers provide to the internal facing operations of Service Providers, OEMs, or EMSs include:

- Temporary management, technical and administrative services, and personnel
- Professional and consulting services
- Office equipment and supplies
- IT acquisition, utilization, and maintenance
- Real estate services
- Fleet acquisition and management

Examples of customer facing services that Diversity Suppliers provide Telecom Service Providers include:

- Business Solutions Partners ("BSPs") (e.g., LAN/WAN configurations, network management using Service Provider networks and products)
- Channel Partners (i.e., marketing, selling, and distributing Service Provider product offerings)

In weighing the value of diversity participation it is important to also find ways to quantify the revenue generation and public policy facilitation provided by working with Diversity Suppliers. In business markets, it is fairly easy to determine which customers require diversity solutions to compete successfully for their business. Increasingly, supplier diversity participation requirements can be found in the requests for information and proposals of Fortune 1000 companies. This is in addition to the requests for such participation from federal, local government, and public sector customers.

Whether participating in supply chains that are internal or customer facing, Diversity Suppliers provide not only the advantage of small-scale agility, lower cost structures and local customization, but also provide access and support from the diverse communities in which they are rooted. By partnering with Diversity Suppliers that reflect changing demographics, Service Providers demonstrate to their residential, business, and public sector customers that they value and invest in local businesses and local communities. With increasing choices and competition, supplier diversity becomes a significant differentiator in attracting and retaining these customers and in garnering their support for favorable public policies.

Future Collaboration for Revitalizing Supplier Diversity Supply Chain Value

The Task Force invites the Telecom industry and other industries that are interested in supplier diversity success, to continue the work it has begun. It is our hope that we can join together in detailing and analyzing typical supply chains such as those listed above, with the goal of optimizing both performance and supplier diversity participation. Together we can develop a learning community model - where supply chain issues are identified and examined; where problems are analyzed for opportunities to improve both the supply chain and diversity participation; and where ideas, success stories, tools and processes are fully shared.

To facilitate this proposed collaboration, the Task Force approached the Institute of Supply Chain Management ("ISM"). The ISM Board voted to establish, on the ISM Web site, a supplier diversity resource site where the fruitful intersection of supply chain management and supplier diversity can be further developed and shared for the mutual benefit of all participants. In addition the National Minority Supplier Development Council Board of Directors responded to a presentation of the Task Force's work, by establishing a committee to further develop and

leverage supply chain analysis and performance improvement in order to strengthen and expand diversity participation. The Telecom industry's quality forum, QuEST, has agreed to expand its groundbreaking establishment of supplier diversity as a Telecom industry quality best practice, by utilizing its best practices Web site as a focal point for collecting and sharing supplier diversity best practices. The Women's Business Enterprise National Council plans to expand on the work of the Task Force by establishing a Board committee composed of procurement officers and other supply chain managers to examine how the synergies between supply chain effectiveness and women-owned business can be further developed.

F.
Financing for Long-Term Success

Financial capability is essential to business success in the Telecom supply chain. Whether Diversity Suppliers participate in the Telecom supply chain as primes, VARs, contract manufacturers, subcontractors, or channel partners, access to capital and financial management acumen are required for long-term success. The importance of financial capability to business success was an overarching theme in all testimony, site visits, interviews, and research conducted by the Task Force.

Suppliers with financial resources are best situated to manage the variability in revenue streams that occur over the business cycle. Financial capability is best evidenced by a strong balance sheet and a positive, growing cash flow from business operations. Our review and testimony suggest that Diversity Suppliers in the Telecom supply chain are undercapitalized and cash poor. Margins are slim for most VAR activities available to Diversity Suppliers in the supply chain, often in the 2%-10% range, making careful financial management a vital factor for these entrepreneurs.

Slim margins also have serious implications for growth. Uncertain and variable income from operations is simply not enough for rapid business expansion. Revenue growth and business diversification must therefore be financed from external sources, making access to sources of debt and equity capital essential to the long-term viability of these enterprises.

The Task Force established a finance committee to review and take testimony on these issues from various Diversity Suppliers that have struggled to gain access to capital. The Task Force Staff visited a numbers of VARs and reviewed the benefits and costs of alternative financial structures and financial intermediaries.

The committee concluded that initiatives to improve Diversity Supplier access to larger amounts of capital and educational efforts to promote greater financial management skills are important. Even more important are efforts to better manage financial operations and cash generating and preserving activities over the business cycle, with particular attention to the nature of contractual relationships between VARs, OEMs, and other participants in the supply chain. In short, large Telecom firms, particularly those committed to a diverse supply chain, must promote industry wide solutions to improve short-term financial management skills, and invest in creative vehicles and/or intermediaries that are able to finance VARs over the business cycle in ways traditional banks and asset-based lenders cannot.

The Telecom Industry, VARs, and Finance

The cyclical downturn in the Telecom industry has adversely affected the economic fortunes of small and large companies alike in the supply chain. The layoff of thousands of employees in the industry, several mergers, restructurings, and a few celebrated large bankruptcies have been well documented in the press. What is less apparent, however, is the plight of the smaller suppliers and VARs stuck between giant OEMs and Service Providers. Large decreases in demand and a challenging regulatory environment have all conspired to force significant cuts in new capital spending and in major reductions in ongoing network service upgrades and deferred maintenance. As discussed in Section B, at the height of the boom in the late 1990s, Service Provider capital spending was 32% of revenue, compared to a historical rate of about 16%.[40] This significant reduction in capital spending resulted in major dislocations to the Telecom value chain.

As discussed in Section E, VARs and Diversity Suppliers occupy a unique position in the Telecom supply chain. These firms provide services such as order consolidation, inventory management, product integration, packaging, and distribution. Warehouse capacity and after sales service, warranty repair, and local field services to Service Providers with custom OEM equipment are often required. In addition to start-up and growth capital, VARs make large investments in inventories to satisfy OEM purchase and sale plans and to meet Service Providers quality and service level requirements. VARs are, in essence, squeezed. If there is significant order flow in the supply chain and rapid inventory turn, VARs have considerable operating leverage. However, if demand decreases, VARs are stuck with excess inventory that can't be leveraged for working capital. Banks and asset-based lenders withdraw, and the once valuable assets become stranded. The situation is compounded if the VAR does not have sufficient capital to take inventory write-downs, return or dispose of the material and equipment purchased from OEMs, or self-finance the slowing period in this business cycle. Liabilities grow, cash and receivables dwindle, and technical bankruptcy is inevitable unless sources of fresh capital can be injected into the business.

In addition to inventory forecasting and management, the administrative process of managing the flow of product, service, and returns, and matching the actual operations to invoices and billing protocols to the various Service Providers can be daunting. The information system requirements are large and if not in place, could disrupt a supplier's ability to manage its finances and therefore its cash flow. The size of the administrative burden and the risk VARs must assume, given the required ongoing investments in IT systems to meet end user demands, was of great concern to the committee.

[40] Goldman Sachs and McKinsey & Company, "Communications Technology Market Update", November 14, 2001

Traditional Commercial Banking Credit

Historically, commercial banks are the most important source of term loans and working capital for smaller companies in the Telecom supply chain. Banks are heavily regulated and in adverse economic times have few options when dealing with troubled credits. Tier II capital requirements compel credit committees at banks to monitor the quality of their loans and constantly assess the ability of customers to pay as agreed. Banks look to the cash flow from operations as the primary source of repayment. If this cash flow deteriorates, lenders pay close attention to the value of collateral securing the loan, and the amount of capital in the company as second and third sources of repayment. Finally, the personal guarantee of borrowers comes into play should the credit be unable to meet its obligations.

The capacity of a business to repay, and therefore the bank's ability to collect, is foremost in securing loan approval. Loan documents often specify minimum levels of cash and working capital relative to revenues. Any deterioration in financial covenants triggers concern. When the earnings prospects of a VAR diminish and inventory levels rise, liquidity, debt, and capital ratios are all adversely affected and reduce the eligibility of certain current assets as a source of finance.

Testimonies from several bankers attested to the difficulty that non-performing credits create, and testimony from an officer of a well-established VAR underscored this challenge. This company lost its borrowing base when a major bank decided to categorize most of its Telecom-related inventory as ineligible. Financing in place had allowed a borrowing rate of 50% against the movement of inventory. With inventory turns down to less than one time per year, the quality and value of the collateral became insufficient to support the line of credit. Given the working capital agreement, the bank could increase the borrowing rate and reduce eligible collateral to force an otherwise strong performer into technical bankruptcy. The committee investigated financing options for slow-moving inventory that eventually will be needed in the supply chain so that VARs and other resellers are not placed in financial jeopardy.

In testimony, the distinguished capital markets expert Dr. Timothy Bates advised the committee that discrimination is still a factor in the access and availability of bank credit to minority entrepreneurs. Recent studies based on the Federal Reserve's survey of Small Business Finances ("SBF") suggest that being African-American, all other things equal, is associated with having one's loan application rejected. African-American– and Latino–owned firms often do not seek business credit because they expect rejection. Quoting Professor Bates, "The obvious and non-controversial conclusion to be drawn is that Black-owned business borrowers have less access to credit than White firms with identical owner and business traits." Task Force member Susan Bari, President of the Women's Business Enterprises National Council, also submits that women-owned firms experience the same lack of access and availability.

This lack of access and availability has forced many women and other Diversity Suppliers to rely on credit cards for the working capital needs of their businesses. Professor Bates notes that studies of consumer finance show widespread use of VISA and MasterCard to finance minority- and women-owned business enterprises to a greater extent than White-male-owned business of similar characteristics such as size, age, and industry grouping.

Minority Small Business and Community Development Financing

Modest amounts of consumer credit-type support are available from organizations such as Count-Me-In ("CMI"). With underwriting by American Express, CMI was established to assist women-owned businesses with a first loan, usually of $5,000 or less (13% interest rate, term of 18 months or less). Nell Merlino, founder of CMI, testified on the use of credit scoring and on-line applications as a way to reduce the administrative cost of access while providing some financing for working capital, equipment, or event marketing to women applicants. Credit-scored lending products have helped smaller firms get started but a large gap remains for requirements in the $250,000–$1,000,000 range. Arguably these limits are still too small for larger emerging growth-oriented VARs in the Telecom sector, but CMI illustrates the need for specialized sources of finance created to bridge the availability gap.

Various for-profit and not-for-profit intermediaries have been established by the government, such as Small Business Investment Companies ("SBICs") and government sponsored Community Development Financial Institutions ("CDFIs"). Professor Bates noted the limited success of these enterprises because of their "lending decision calculus" which is designed to minimize default risk and was driven by a focus on collateral instead of cash flow. VARs with growth prospects cannot be readily supported by CDFIs with little risk capital, poor management, and political rationales that may hamper prudent business decisions. These entities still think small and disadvantaged and, as a result, cannot be relied upon for any significant availability of funding.

Testimony by Angela Rokkos and Stephen Franklin of Chase Financial Services described the middle market lending effort, and the community development lending program. The Small Business Administration's Section 7(a) Loan Guarantee and Certified Development Company Guaranteed Loan program (Section 504) programs were prominent in their risk-mitigating strategies for lending to Diversity Suppliers in their community development lending area.

Bank Consortiums

Bank consortiums like the California Economic Development Lending Initiative ("CEDLI") were created to bridge this gap. CEDLI, established in 1995, is a for-profit corporation whose shareholders include 45 financial institutions and four corporations, including SBC. These parties are investors in CEDLI and have committed funds in excess of $70 million. George Williamson, President, described the CEDLI mission and lending objectives. This capital provider often

fills the equity gap for entrepreneurs with subordinated capital that might count as equity to make a more senior lending facility possible. For example, a commercial bank would finance the accounts receivable, and CEDLI would finance the inventory. The average loan size is about $300,000, and 76% of the borrowers are businesses with sales of $10 million or less, with the rest over $10 million. CEDLI underwriting is based primarily on management capability, operating cash flow, and operating history. Williamson indicated that management assistance is often required to perfect the credit. CEDLI's sister organization, California Resources and Training, was created to provide business consultant and controller services.

Business Consortium Fund

The Business Consortium Fund ("BCF") established in 1984 by the NMSDC is a working capital lender. Funded through several corporations, state governments and foundations, the BCF began by providing primarily one product, contract financing to NMSDC certified minority businesses across America through a network of local participating banks and NMSDC affiliates. Eligible NMSDC certified borrowers must have a contract or purchase order in hand from a corporate NMSDC member organization to be able to seek financial assistance. The loan is specific to producing the goods and/or services required by the agreement at hand. BCF has since expanded into other products as well. Triad Capital Corporation is a Specialized Small Business Investment Company ("SSBIC") and a wholly owned subsidiary of the BCF. Triad provides long-term debt and/or equity financing to small businesses that meet their requirements but lending limits are still quite low. The challenge is to develop these types of financing mechanisms for Telecom-specific companies that require fairly large amounts of capital.

Asset-Based Lenders

Commentary suggests that alternative but more expensive sources of finance may be preferable. Steve Macko, Business Development Manager for Foothill Capital, a subsidiary of Wells Fargo & Co., testified to the Task Force that asset-based lenders are an alternative to traditional secured financing provided by commercial banks. Asset-based lenders can be helpful to VARs for two major reasons. First, these lenders focus on companies that have problems acquiring bank financing due to profitability, leverage, or being part of "out-of-favor" industries. Second, although more expensive than traditional bank financing, asset-based lenders can be more aggressive in their lending by offering less restrictive covenants, allowing higher advance rates, and taking wider definitions of assets. A lender like Foothill Capital typically provides facilities in the $10 million to $300 million range for companies with revenues of $20 to $750 million. There are also other asset-based lenders who provide smaller facilities.

OEM-Sponsored Financing

The turmoil in Telecom is not a new phenomenon. The committee received testimony from Keith Boudreau of Textron Financial Corporation ("TFC"), who described similar problems in the appliance industry in the 1930s, the automobile industry in the 1950s, and the computer industry in the 1980s. Faced with rapidly declining sales, dealer defaults, OEM credit losses, lack of commercial bank support, and massive layoff and restructurings, financial solutions for difficult economic times were developed. Mr. Boudreau reported that the need to relieve the strain in the consumer appliance dealer community and eliminate dealer investment in inventory gave rise to the concept of "Floor-plan Financing" develop by General Electric Credit Corporation ("GECC").

Floor-plan financing is a secure, collateralized form of asset-based lending commonly used to facilitate product flow through the supply chain. This technique transfers credit loss exposure from the manufacturer and the dealer or reseller. The credit provider is compensated for bearing this risk. By positioning goods as near to the end user as possible, opportunities to reduce reseller cash outlay are present even if dealers are expected to maintain certain levels of inventories.

Floor-plan financing predates the emergence of specialized distribution finance entities by industry that are capable of delivering consistent and reliable working capital in good times and bad times to dealers at a lower cost, and with greater availability and less investment than conventional lenders. For example, dealer support is available through General Motors Acceptance Corporation ("GMAC") and Ford Motor Credit Corporation ("FMCC").

Although certain OEMs such as IBM have equipment-lending facilities, their capacity is limited and often of short-term duration created to serve their needs for sales and quarterly profits and not necessarily liquidity in the supply chain.

Testimony was also received about Textron's $1.5 Billion commitment to the Telecom opportunity with an initial focus on the Diversity Supplier VAR channel launched in spring 2002. ADC, a manufacturer of Telecom network equipment and SUPERCOMM signatory, has developed a finance program for their diversity channel partners with Textron.

The lack of manufacturer-sponsored specialty finance offerings requires increasingly greater amounts of capital from the Telecom VAR, which in challenging economic times can grow to exponential levels. The existing commercial banking and finance infrastructure cannot finance these levels. The role of industry specialty finance is vital. An opportunity exists for the Telecom industry, OEMs and Service Providers to come together to create, nurture, and develop a finance facility modeled after GECC, GMAC, FMCC, TFC, and others who have experience in financing the supply chain in various industries.

Financing Growth

The financial requirements of a growing enterprise are depicted in the chart in Appendix 6. Here we model the revenue growth trajectory of three enterprises from birth to exit. Note that there is an R & D phase, a start-up phase, an early growth and rapid growth phase, and finally a maturation and possible sale of the business or exit phase. Growth and the external finance needs of the firms change over time and this change assumes an interval of 13 years with revenue growth to over $20M for a high-potential firm.

As firms grow in revenue, changing requirements can be met from the different sources of equity and risk capital. For example, a high potential firm experiencing early growth might seek capital from informal investors, venture capital firms, Small Business Investment Companies, or strategic partners. Informal investors might provide anywhere form $50,000 to $500,000 in equity at a cost of anywhere from 30% to 100% in terms of required annual rates of return. Strategic partners can provide $250,000 and up in capital over the entire range of business growth at required annual rates of return that can be moderate or extreme. A third source is mezzanine or bridge capital for amounts in the $1M-$15 M range at a cost anywhere from 40% - 60% depending on the amount and perceived risk of the business at this stage of development.

The chart in Appendix 6 is illustrative of the available finance sources and costs of capital to firms at various stages in a firm's growth. The Task Force Finance Committee reviewed this chart in detail as one significant factor in shaping its perspective on availability and cost of equity or risk capital. The Task Force concluded that a greater understanding of finance and capital market issues would benefit VARs in the Telecom supply chain.

The Role of Knowledge and Education

Knowledge and education are fundamental to business success. Entrepreneurs need to know their financing options and be knowledgeable about changes in sources, availability, costs, and access of various types of capital over the business cycle. Several financiers in testimony noted that entrepreneurs look for capital too late and do not anticipate their financial requirements well enough in advance. This knowledge and familiarity is important for minority- and women-run firms, as networks exist to match entrepreneurs with financing sources. As an example, Springboard Enterprises established a network for WBEs to develop and foster ongoing relationships with capital sources.

The importance of communication with existing lending sources before challenges occur was documented in case studies conducted by the Task Force. With weak balance sheets and poor income statements, it was too late for many VARs to convince lenders to invest in their companies. Testimony from Amy Millman at Springboard Enterprises confirmed that Diversity Suppliers must develop relationships with various types of lenders before they need the money

to ensure that financial flexibility will exist for the Diversity Supplier in a downturn.

The Task Force also noted the criticality of having a knowledgeable and experienced CFO. The operations and marketing skill sets of entrepreneurial CEOs are not always accompanied by sound and sophisticated financial skills. Nevertheless, Diversity Suppliers must ensure that the company's leadership teams includes someone who can manage and lead the financial strategies of a growing (or shrinking) diversity enterprise.

Many Telecom companies currently sponsor graduate-level management development programs for entrepreneurs at leading universities across the country. These programs are poised to offer the education and coaching on financial management and access to capital that is needed. These universities could readily expand curriculum on financial management and could develop CFO training and certification programs for entrepreneurs.

In summary, having a strong balance sheet is not the only basis for financial capability. Being able to manage the cash in good and bad economic times has proven difficult for even the best capitalized and larger firms in the Telecom supply chain. Being able to survive the downturn is critical and takes tremendous savvy. Management teams working at Diversity Suppliers in the Telecom supply chain must be prepared to address ongoing finance challenges.

G.
Tools and Processes to Optimize the Management of Supply Chain Performance and Revitalize Supplier Diversity Participation

After reviewing the current challenges facing the Telecom supply chain and re-validating the important roles that Diversity Suppliers can play in optimizing the supply chain, the Task Force focused on identifying tools and processes that will:

- Improve the performance of supplier diversity supply chains
- Revitalize the supplier diversity program value proposition in Telecom

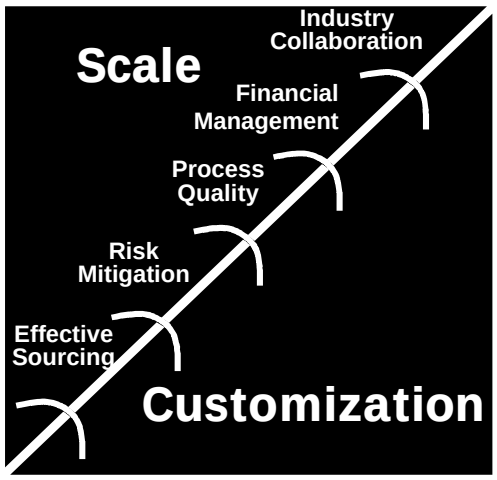
The Task Force sought to define practical supplier diversity program approaches that would lead to more effective supply chain management and competitive performance. A winning supply chain was defined as one that seeks optimization by incorporating smaller Diversity Suppliers, as well as large EMSs, OEMs and Service Providers; one that focuses on supply chain effectiveness; one that achieves the proper balance between scale and customization; and fosters a closely-knit, cooperative interface between functions and participants.

In addition to the extensive testimony presented at Task Force meetings, the Task Force drew heavily upon the comprehensive site visits made to key Telecom Diversity Suppliers (see Appendix 1D). The Task Force staff visited 12 minority-owned, women-owned, and service-disabled-veteran-owned suppliers with collective Telecom revenues of over $1.5B. The staff examined their physical operations, quality systems, process management systems, financial records, and business plans. They also interviewed the owners and other key personnel and encouraged candid discussion of the challenges facing their businesses. Their experiences and comments are reflected throughout this report. (In addition, the site visits suggested a profile of a successful Telecom Diversity Supplier that can be found in Appendix 7.)

Drawing upon all these information sources, the Task Force discussed and analyzed Telecom supply chain effectiveness and supplier diversity initiatives. Ultimately the Task Force distilled its research, testimony, analysis, and discussion into 5 essential strands that can be woven together to mend, strengthen, and balance the Telecom supply chain and the contributions of Diversity Suppliers. Each one of these strands is a critical element in repairing Telecom's broken supply chain processes and also in revalidating and revitalizing supplier diversity

participation and programs. The Task Force developed a set of detailed recommendations under each "Success Strand" accompanied by appendices that contain implementation resources and tools.

Figure 12: Supply Chain Effectiveness Success Strands



Recommendations to Repair, Strengthen, and Balance the Telecom Supply Chains

I. ***Implement Effective Sourcing for Supplier Diversity***
   – 7 Recommendations

II. ***Enhance Risk Mitigation Activities In Supply Chain Management Practices***
   – 4 Recommendations

III. ***Deploy Process Quality and Control***
   – 3 Recommendations

IV. ***Improve Access To Capital and Financial Management***
   – 2 recommendations

V. ***Accelerate Supplier Diversity Participation Through Industry Collaboration***
   – 5 Recommendations

Effective sourcing and effective supply chain management are essential to the success of a diversified supply chain. Sourcing managers must cultivate and employ specific skills and practices in order to sow and harvest the benefits of a balanced supply chain. The pivotal role strategic sourcing plays in optimizing diversity participation is reflected in the fact that the greatest number of Task Force recommendations fall under the **"Effective Sourcing"** success strand.

There are clear competitive advantages to incorporating Diversity Suppliers, such as VARs and small EMSs/CMs, into the Telecom supply chain, as discussed in Section E. However, Diversity Suppliers are often small businesses, with specific risks. In order for the supply chain to fully benefit from their participation, the Task Force determined that all parties in the Telecom supply chain, Diversity Suppliers, OEMs, large EMSs, and Service Providers must work together to monitor and address these risks. Therefore, many of our recommendations directly focus on "**Risk Mitigation"** as well as "**Industry Collaboration**."

Another critical success factor **"Process Quality and Control"** is an integral part of all of the recommendations. Quality processes and tools must be deployed throughout supplier diversity initiatives. The contribution Diversity Suppliers make to Telecom quality improvements in the supply chain should be lifted up as well. We highlighted three very broad recommendations under this success strand, with the recognition that this area calls for further development. We hope the development of more applied research on the link between quality processes and supplier diversity success will be actualized through collaboration with QuEST, ISM, and other groups focused on quality in sourcing and supply chain management.

The **"Improve Access to Capital and Financial Management"** success factor yielded several recommendations for enhancing financial management and access to capital. Access to equity capital remains a tremendous challenge to smaller Diversity Suppliers, as does access to working capital. After numerous august bodies including Congress, the Department of Commerce, the SBA, the Federal Reserve, every sort of bank and financial institution, foundations, advocacy groups, and corporations have tried to address the persistent challenge of financing the growth of smaller Diversity Suppliers, the Task Force found no hidden "silver bullets." Nevertheless, this is an ongoing challenge where unwavering effort and attention can yield incremental improvements over time. Certainly, the role that financial management and access to capital plays in the success of a supply chain must be better understood in order to plan and manage around existing constraints.

I. Implement Effective Sourcing for Supplier Diversity

Effective sourcing processes and policies are key to a healthy supply chain and also to robust and sustained supplier diversity participation in that supply chain. The strategies and action steps for successful supplier diversity participation should begin in the initial stages of any sourcing process and continue through every other stage – including supplier selection and contract administration. Whether using a six or seven-step sourcing model, each step includes an opportunity to improve the scope and quality of supplier diversity contributions within a particular supply chain and within that particular sourcing decision.

When strategic sourcing managers conduct needs assessments with internal clients to determine technical requirements and performance specifications, supplier diversity requirements and opportunities should be planned for as well. Designing an optimal, diversified supply chain and establishing the right balance of scale and customization requires a great deal of skill and knowledge. But, a detailed analysis of the various supply chain opportunities for diversity participation at the beginning of the sourcing processes, yields exponentially greater benefits than efforts to slap on "quick and dirty" diversity solutions late in those processes. Getting the right suppliers to the table is critical to success as well. When supplier searches are conducted, sourcing tools that bring Diversity Suppliers into assessment and bid lists should be utilized. Specific goals can also be set for the number of Diversity Suppliers to be included in bid pools.

Many companies have found it useful to formally document and review the progress of a sourcing solution through each stage of its development. The actions taken to maximize diversity inclusion during the multi-stage sourcing process should be tracked in all such formal documentation. If sourcing/contract plans are tracked in a project scope document - then include a field for supplier diversity plans to trigger management review of the initial steps being taken to carefully assess and plan for diversity participation. If there is a contracting compliance checklist, a project tracking matrix, an online project management tool, or a contract administration job aide, all of these should call for a report on supplier diversity planning and implementation. Management review of the early-stage documents, as well as concluding reports, such as a "sourcing decision summary," provide the essential check steps to ensure diversity participation has been thoughtfully planned into the sourcing decision.

When RFIs or RFPs are issued, supplier diversity requirements need to be explicitly stated. Bid responses should be deemed non-responsive when they do not include specific plans detailing exactly how Diversity Suppliers will be integrated into the winning supply chain. The expectations set in the RFP along with the detailed and specific plans submitted in the bid response must be carried over into the contracts that are executed. By the time the contract terms and conditions are negotiated, the detailed and specific diversity plans submitted

in the supplier's bid response should have evolved even further. These additional details should be included in the diversity plan that becomes a part of the contract. When the contract between the parties is finalized, the supplier diversity reporting requirements should also be explicitly included as part of the terms and conditions.

Diversity planning and implementation work best when thoroughly embedded into end-to-end strategic sourcing and procurement processes. For example, when cost comparisons are made, the value of a Diversity Supplier may not always be apparent if only first cost is considered. Smaller Diversity Suppliers may be severely challenged to beat the commodity prices of global suppliers. But if all associated service costs are included along with the commodity cost, and a total cost of ownership viewpoint is taken, Diversity Suppliers are often more cost competitive. For example, is direct-ordered IT equipment really less expensive than a VAR solution when the cost of utilizing the customer's employees to manage the ordering, receiving, installing and troubleshooting of their own computer equipment problems is factored in? A smaller Diversity Supplier's return-on-investment hurdles are almost always lower than those of a large corporation which must recover large R&D costs and higher overhead expenses.

Beyond cost there is also the need to determine best overall value. Is the value of brand enhancement, revenue generation, and public policy support calculated into the benefit analysis of which supply chain model and which supplier to choose? Products and services with strong supplier diversity participation are frequently required for responsive bidding on public and private sector business. Top-notch supplier diversity results can tip the scales in a competitive bid. Customers may decide to retain an existing supplier rather than open a bid process that could jeopardize a good supplier diversity solution. Revenues are on the table – not just savings when a supply chain decision is made. Are all of the benefits associated with supplier diversity factored into the value equation at the time of sourcing?

A well-designed and well-executed strategic sourcing plan that factors diversity participation into each stage creates the foundation for optimal supplier diversity participation in any supply chain. It also positions Diversity Suppliers as integral contributors to effective supply chain management.

Effective sourcing also includes clear contractual terms that support the enduring success of a particular supply chain solution and the smaller Diversity Suppliers in that supply chain. The Task Force found that many of the problems recently encountered in the disrupted Telecom supply chain might have been better managed if they had been anticipated and provided for in the contracts between supply chain participants.

Contract negotiating leverage differs considerably between the well established, larger supply chain participants and the smaller new players seeking to prove their value. Contract terms and conditions between the parties should be based

on the optimization and sustainability of supply chain solutions. Negotiating the very thinnest of margins might appear to be a victory, but soon reveals itself as a weak link in the supply chain if the subordinate supplier trying to operate with insufficient margins is caught by slow payables or sharply reduced volumes and no longer has the cash or credit to deliver products or services. Theoretical "first–cost" savings prove only a Pyrrhic victory when a particular supply chain is slowed or shut down. If, on the other hand, contract-pricing provisions provide flexibility in response to market changes and pricing is built with an understanding of the value and cost structure of the smaller supplier, it is possible to design a much more stable supply chain that nurtures the ongoing viability of all parties.

There are many contract provisions that can contribute to a more stable and sustainable supply chain. For example, it is critical to the success of smaller partners in the supply chain to have accommodating inventory return policies that acknowledge that forecasting responsibility lies with the larger OEM, EMS, and Service Providers. Indeed, in testimony to the Task Force, Joanne Anderson, President of ADC's Integration unit, indicated that forecasts over 30 days are rare. Diversity VARs and channel partners also need adequate transition plans when shifts in technology or market strategies render their core product obsolete.

In summary, the role of effective sourcing in maximizing diversity participation in the service of a winning supply chain cannot be overstated. Careful planning for how to optimize each supply chain to meet the needs of both customization and scale combined with hands-on, life-cycle management of diversity success will yield all the competitive advantages of a diversified, balanced, and optimized supply chain.

Recommendation #1 - Integrate Supplier Diversity planning into the sourcing process

Procurement sourcing staff should integrate supplier diversity planning into their supply chain sourcing process.

This integration would include such process steps as:

- Needs assessment
- Supplier search
- Request for proposal
- Supplier selection
- Contract negotiations
- Contract administration

By incorporating supplier diversity planning requirements early in the sourcing process, companies can ensure they have optimized supplier diversity participation, fully leveraged the unique capabilities of small business in the

Telecom supply chain, and increased the probability of successful inclusion and sustained performance. (See Appendix 8 for an example of a documented sourcing operating practice, Appendix 9A for a sample essential sourcing checklist and Appendix 9B for sample decision matrix factors that include supplier diversity. Also see Appendix 9D, containing elements that can be used in a decision matrix, checklist, etc.)

Recommendation #2 - Require Supplier Diversity Plan in RFPs

RFPs should contain the proposed supplier diversity contractual requirements of the sourcing company. Requiring bidders to file a detailed and specific plan for meeting those supplier diversity requirements as part of the bid response will ensure the necessary planning for effective supplier diversity inclusion. This step will clarify that supplier diversity participation is required for a responsive bid and that supplier diversity responses will be evaluated in determining the best overall value and the winning bidder. (See Appendix 9C for sample RFP language.)

Recommendation #3 - Require Supplier Diversity Plan in contracts

Supplier diversity program requirements should be explicitly defined in Telecom company contracts. Supplier diversity contractual requirements should include the filing of specific and detailed plans for participation of Diversity Suppliers in the supply chain that is the subject of the contract. These specific and detailed plans should reflect an end-to-end supply chain analysis designed to identify how smaller suppliers can help optimize the supply chain. (See Appendix 9D for a sample supplier diversity supply chain analysis and a model supplier diversity plan to be included in a contract.)

Recommendation #4 - Require Supplier Diversity participation reporting in contracts

Telecom contracts should define the customer's required supplier diversity reports and reporting methodologies. For example, suppliers should be required to report both the supplier diversity participation in their direct spend (prime suppliers) as well as supplier diversity participation of subcontractors to their primary suppliers. In addition, suppliers should be encouraged to report sales to the customer that are enabled through supplier diversity channel partners (for example, value added resellers). Sales channel partnerships have increasingly become a valuable source of supplier diversity opportunities, and should be counted toward the fulfillment of a supplier's contractual participation goals. (See Appendix 10 for a sample Prime Supplier Guide, Appendix 11A and 11B for sample supplier diversity participation clauses, and 11C for a process flow of the diversity reporting process.)

Recommendation #5 - Design and verify Supplier Diversity business value propositions

As discussed in the Task Force report, Telecom companies and their strategic sourcing and supplier diversity teams should proactively design and verify small business value propositions in Telecom supply chain applications. In the experience of the Task Force members this is a key foundational element to providing sustainable business growth opportunities and viable supplier diversity partnerships. This work is most effective when it is done early in the sourcing process and verified during the submission of RFPs. This involves mapping the functions and participants in a specific supply chain so that the contribution of each company can be verified in specific cost, performance, and schedule terms.

It was the collective experience of the Task Force members that supply chain performance (quality metrics, delivery intervals, inventory turns, order quality, problem resolution timeliness, end-customer service levels, etc.) was significantly enhanced when the targets for that performance were clearly specified and communicated among all the parties. When this planning work is done, it enables the cost advantage of small business operations to emerge (see page 52 of the report) and highlights the value that Diversity Suppliers can bring in the form of customized services for either their customers or their customers' customers. (See Appendix 12, Sample Guide to How to Analyze a Deal for Supplier Diversity. Also see Appendices 9D and 19 for Diversity Supplier plans and process flows.)

Recommendation #6 - Develop contracts that mitigate risks to small businesses

Companies should develop contract terms and conditions that support the success of small Diversity Suppliers in Telecom supply chains. Large businesses might not think to insist on contract terms and conditions which mitigate risk for their smaller Diversity Supplier partners. However, if they desire to capture the competitive advantage offered by diversity businesses in their supply chain, then they need to proactively encourage contract terms and conditions that protect smaller businesses from undue risks. In doing so, the large businesses also protect themselves from supply chain disruption.

The Telecom downturn uncovered the importance of providing contractual protections such as:

1. Mutually satisfactory exit conditions
2. Easy to execute inventory return policies
3. Commitments to timely payment by customer
4. Extended payment terms for smaller suppliers
5. Support for Web-enabled performance measurement systems

6. Reasonable adjustments for a lack of forecasting accuracy
7. Fair and timely issue resolution processes
8. Specific change control procedures to be followed
9. Terms of contract, which are long enough to support re-capture of capital investments that might be required by small business (e.g., warehouse and equipment)
10. Limited forecast commitments from OEMs and Service Providers to Diversity Suppliers (e.g., 90 days out within 10% accuracy)

(See Appendices 13A, 13B, 13C, 13D and 13E for sample terms and conditions for contracts that mitigate risks to small businesses.)

Recommendation #7 - Assess the supply chain value of Diversity Suppliers by including total cost of ownership calculations and the potential marketing and revenue generation value of the relationship in addition to first cost. Utilize a best overall value assessment, rather than a first cost assessment alone when calculating the relative value of competing supply chain solutions.

The Task Force observed that the full value of Diversity Suppliers in the supply chain was not always properly assessed. Before rejecting the participation of Diversity Suppliers based on a first-cost analysis, companies should be sure they have fully assessed and evaluated the total costs in the supply chain. For example, both first-cost (e.g., cost of equipment) and ongoing costs (e.g., change-outs, maintenance, repair, set-up, help desk services, customization, and employee time) over the life cycle of the product (total cost of ownership) should be evaluated in conducting bid analyses. Performance factors such as delivery and customer satisfaction should be given appropriate weighting along with cost information. In addition, best overall value assessments should include the revenue generation enhancement offered by establishing a diversity solution.

II. Enhance Risk Mitigation Activities in Supply Chain Management Practices

Risks are inherent in any supply chain design regardless of the size or identity of the participants. However, identified business risks can be reduced and mitigated with process and project planning, effective management, and a thorough evaluation of the strengths and weaknesses of each participant in the supply chain. During the Telecom boom, when demand was surging and supply shortages threatened service deployment, careful planning often took a back seat to immediate action. A sense of urgency prevailed. Getting to market, serving the customer now, no matter what, seemed to trump all other considerations. The supply problems that were rippling throughout the chain - the partial orders, the double orders, and the lack of information on receipt and return of equipment – were submerged by waves of new orders. Service Providers, OEMs, and Diversity Suppliers held on to a belief that everything would "work out in the wash" and that profitability would cover the additional costs being incurred. No one wanted to miss out on the boom.

The sudden downturn in demand, combined with the "boom-time" over-stocking of inventory, aggravated the existing supply chain problems and led to more serious Telecom supply chain disruptions. Many of the surviving companies lost significant amounts of money and now are understandably more wary of risk and more anxious to appropriate any margins that can be found in their supply chain. Some have heightened concerns about working with smaller companies that are leanly staffed, possess less capital, and have fewer resources with which to ride out disruptions.

Some strategic sourcing managers expressed reluctance to work with Diversity Suppliers after they experienced disruptions in the supply chain involving a Diversity Supplier.

These disruptions include:[42]

- A diversion of employee resources to resolve invoicing, accounting, and payment processes with Diversity Suppliers
- Bankruptcy of Diversity Suppliers
- The inability of Diversity Suppliers to provide products due to credit holds or disputes with the OEMs
- Complaints from OEMs about Diversity Suppliers failing to pay OEMs for products received by Diversity Suppliers and delivered to the Service Provider customers who had already paid Diversity Suppliers for the products

[42] Testimony provided by SBC to the Telecom Supplier Diversity Task Force

However, by confronting these sorts of concerns head-on, it is possible to determine how actual and perceived risks can be better managed and mitigated.

The successful and efficient integration of suppliers into the Telecom supply chain requires enhanced process management throughout the life cycle of each specific supply chain solution i.e., methods for qualifying the readiness of suppliers to perform, effectively including them in ongoing communication, and monitoring their performance and financial strength. Web-enabled tools can facilitate this enhanced process management. Specifically, Web-enabled tools can enhance forecasting, requisitioning, procurement, order management, order tracking, supplier performance, and metric reporting. Supply chains in other industries have benefited greatly from the deployment of such tools.

When smaller suppliers are working with much larger suppliers and customers, it is particularly important to take the time to lay a solid foundation for success. A smaller company with thin margins cannot simply absorb losses with a long-term perspective. A smaller company must be carefully positioned in the supply chain, with a well-defined, profitable role so as not to be crushed between the much larger OEM and Service Provider. A well-documented plan for mutual success, that addresses the tensions between scale and customization and the known points of stress in the supply chain can turn uncertain, speculative risk into reasonable business risk. The ability of the supply chain to monitor and fully communicate the condition of its processes and the business health of its participants provides a high degree of risk management and mitigation.

To begin, expectations and assumptions must be surfaced and documented. Readiness Assessments can ensure that all supply chain participants are ready to perform their particular role in a particular supply chain solution. Process mapping, communication plans, escalation protocol, alternative dispute resolution procedures, and change management all need to be laid out in advance. Proper collection, monitoring, and review of relevant performance data and financial data throughout the supply chain and throughout the life cycle of the contract gives all parties clear and contemporaneous visibility to what is going on. With visibility to early warning signs of problems that might be developing, countermeasures can be taken and corrections can be made.

While it is important to determine readiness for a particular contract or supply chain initiative, larger businesses and customers want reassurance throughout the term of the relationship, that the smaller suppliers in their supply chain are in “good shape” overall as a business. Collaboration and growth among supply chain participants is furthered when the parties have a solid basis for continuing and expanding their work together. Smaller companies tend to have gaps in their management team, as they are not able to hire and retain human resources to fill important management roles, such as a chief financial officer, chief technology officer, and full-time quality manager. Are there qualified board members who can augment and mentor the management team? What is the depth of the bench and what are the plans for smooth management succession?

What are the ongoing quality systems and processes to comply with quality standards such as ISO9000 and TL9000? Quality plans and business processes are required of all suppliers and quality certifications are highly valued in Telecom. Quality standards such as ISO and TL create an important common denominator between large and small suppliers and demonstrate that both know the value of defining and adhering to explicit processes. Having the imprimatur of a third-party certification enhances the credibility of a relatively unknown supplier and establishes a basis upon which increased trust can be built. However, certification can be obtained for just a subset of operations in a business and it is important to have all important business operations certified. For example, a company might have excellent ISO-certified delivery systems and processes but be much less astute managing their financials.

The Task Force concluded that a method of monitoring the comprehensive business health of smaller suppliers should be deployed as a tool to identify and remedy any deficiencies or incipient problems. The use of such a "health check" will assure large OEMs, CMs, and Service Providers that smaller supply chain partners are solid, stable, and ready for the next level of growth.

Managing information flow efficiently and effectively, while difficult, is essential to supply chain optimization. Such supply chain information flow includes forecasts, inventory levels, invoicing, and financial reports. Fortunately, the collection, monitoring, and review of essential performance data have become exponentially more manageable due to internet and intranet applications. Web-enabled tools permit all supply chain participants in any location, to input and review performance data on a real time basis, 24x7. This capability enhances the ability of smaller suppliers to participate in much larger supply chains and provides a distinct competitive advantage to those suppliers who can demonstrate the full deployment and effective use of Web-enabled tools.

The Task Force visits to VARs revealed that most had well-developed systems supporting modern warehousing operations. The typical VAR maintained a robust set of systems including EDI, electronic payment, and inventory tracking capabilities. Larger VARs tended to operate a more sophisticated warehousing system that included virtual warehouses with distinct tracking and reporting capabilities for products going to different end-users. Integration of systems with downstream and upstream interfaces was not as well developed. None had visibility to Service Provider and OEM inventory.

The site visits show that all of the Diversity Suppliers fulfilled their reporting responsibilities to Service Providers and their OEM partners but consider the reporting an overwhelming amount of work that takes significant management time in an already resource constrained environment and increases the operating costs of working in this supply chain. Finally, VARs felt that the performance reporting and feedback system was not as open and solution-focused as their partners suggested. They feared that reporting problems would cause Service Providers and OEMs to seek another supply chain partner.

On-time delivery and high quality products and services depend upon fully operational and integrated back-office systems that deliver timely and widely visible business metrics. Supply chain participants can set customized performance parameters that trigger management review and operational changes. To be competitive and effective, any size Telecom supply chain participant must have efficient, robust, technically-enabled business operations systems including purchasing, payment, and accounting systems. Relevant business data must stream across company boundaries for seamless supply chain management.

Benefits can include:

- Improved coordination, increased speed of procurement, delivery, and installation functions
- Increased visibility to information and transaction flow
- Improved productivity
- Reduced supply chain management costs

Web-enabled tools providing accurate, timely performance information such as inventory levels and financial strength can help mitigate some of the risks inherent when suppliers of very different sizes work together. Warning signals will be more visible and will be seen more quickly by both parties. Web-based tools may also be more cost effective, compared to alternatives. JoAnn Brumit from Karlee Manufacturing notes the low cost barrier to utilizing Web-based tools that facilitate communication of all types up and down the supply chain. Karlee is part of a supply chain that uses Web-enabled supply chain tools to post information such as schedules, forecasts, prices, meeting minutes, and so on. (Appendix 14A provides an example of how a Web-based reporting system could benefit the Telecom supply chain.)

Diversity Suppliers are increasingly required to participate in the world of e-enablement and e-commerce. An array of IT and business performance systems must be managed in order to participate in reverse auctions, virtual business fairs, on-line catalogues, customer-specific on-line ordering, etc. For many businesses, sophisticated customer relationship management ("CRM") tools are also necessary to effectively compete. The Task Force strongly believes that successful deployment and utilization of such systems is essential to the successful integration of Diversity Suppliers in the Telecom supply chain.

Therefore, the Task Force recommends that the industry pay careful attention to the ways in which smaller suppliers can be assisted in navigating through business processes and e-commerce requirements and systems. Many Telecom companies currently support graduate level university programs for diversity entrepreneurs. This collaboration offers a wonderful opportunity to advance the capabilities of Diversity Suppliers in e-enablement and other areas that are deemed critical for success by the Telecom industry.

Recommendation #8 - Conduct Readiness Assessments

The Task Force recommends that a Readiness Assessment be conducted with supplier diversity partners before implementing a new supply chain arrangement. It appeared to the Task Force that such assessment efforts have been and could be used to reduce unforeseen business risks associated with process problems in ordering, invoicing, and inventory management often encountered in new supply chain relationships.

Such assessments can include:

- Identification of key contact personnel for supply chain process problem resolution
- Adequate provision for order and invoice error reconciliation
- Adequate information systems support including Web-enabled performance reports, EDI, network functions, and capacities
- Adequate financial arrangements including cash flow requirements, appropriate debt facilities, and financial controls and reports
- The readiness of physical facilities, e.g., warehouses, transportation, and equipment, etc.

(While specific requirements for readiness assessments will vary by the nature of the specific supply lines and projects involved, an example that can be used as a starting point for the development of such assessment vehicles is contained in Appendix 15.)

Recommendation #9 - Maintain Supplier Health Check dashboards

OEM and Service Provider customers can stay current on the stability and sustainability of their diversity small business partners by tracking and monitoring the key indicators of ongoing business health. Such a health check dashboard surveils beyond project-specific performance to monitor cash flow, margins, debt terms and levels, overdue receivables and payables, inventory turns, changes in management and governance, unbalanced customer dependencies, sales results, delivery performance, quality defect levels, etc., throughout the suppliers' operations. (See Appendix 16 for a sample of one approach to a Supplier Health Check. Also see Appendix 9D and Appendix 19 for potential measurement points in process flows.)

Recommendation #10 - Utilize Web-enabled performance tracking

Business performance risks can be mitigated through the use of Web-enabled performance reporting and tracking systems. With new Web-enabled reporting tools, what once was a costly and time-consuming performance reporting process can now be done efficiently and effectively. Few tools can match the

impact of the Web in allowing small businesses to operate more effectively in a modern supply chain with large business partners.

Small businesses should propose performance reports to their business partners not only to maintain shared visibility of performance metrics, but also to establish an agreed-upon basis for eliciting immediate attention and support for problem resolution and corrective action. Providing an accurate, data-rich description of a process problem, based on performance reports, is often a prerequisite to problem resolution. Larger business partners should ensure that the smaller supplier also has visibility to relevant metrics from the larger supply chain and should receive tracking information from smaller suppliers with a focus on utilizing such data for joint quality improvement initiatives. (See Appendix 14B and 14C for examples of Web-enabled performance reporting systems.)

Recommendation #11 - Promote information systems capabilities for small businesses

Diversity Supplier supply chain systems need to be fully integrated with upstream (e.g., OEM) and downstream (e.g., Service Provider) interfaces. The Task Force saw that in addition to Web-enabled reporting systems, it is crucial in most cases to have back-office operations supported by information systems technology (e.g., EDI systems, ordering, invoicing, inventory, and customer relationship management systems). Site visits to diversity VARs, and CMs reinforced that sophisticated capabilities in managing vast and complex supply chain transactions were directly correlated to overall business success.

The Task Force recommends that Telecom supplier diversity programs' staff join together to request that the university management development programs designed for diversity entrepreneurs offer more sophisticated curriculum focused on enhancing information technology and business performance systems capabilities for small businesses.

In addition to increasing the curriculum that addresses IT and business operations planning and systems, a Chief Technology Officer certification program for small businesses might help to ensure the required expertise in companies with a small management team.

III. Deploy Process Quality and Control

The Task Force concluded that both supply chain management and supplier diversity effectiveness would be greatly improved through more careful planning and process management throughout the supply chain continuum - from sourcing to sales and beyond to post-sales services.

Process quality and control begin at the very earliest stages of supply chain development. Approaching the design of supplier diversity solutions with process quality and control lays the foundation for a solid solution. This is particularly important with large scale or newly designed supply chain initiatives.

This same focus on quality processes and control must continue throughout the life cycle of any supply chain solution or partnership. Fully resourced, cross-functional, inter-company planning and implementation teams can effectively apply quality process management to the development and implementation of diversity solutions. OEMs, EMSs, and Service Providers need to design and validate supplier diversity solutions using project and quality management tools.

Any new or complex supply chain arrangement can pose significant implementation challenges. Establishing processes and project management tools for smooth implementation and interface is essential for success. When smaller suppliers are involved it is even more important to ensure that there is a collaborative approach toward the implementation of a supply chain solution. The avoidance of downstream process problems through early detection, and corrective action can mean the difference between profitability and business failure.

The Task Force reviewed a few successful examples of diversity solutions designed and implemented by a quality-focused project management team. The solidity and value of the supply chain solutions utilizing this approach were notable. None of the faltering supply chain solutions that were reviewed had the benefit of ongoing cross-functional implementation and/or review teams. A few of them had benefited from such an approach in their inception but careful monitoring and attention to changes in market or operating conditions did not continue after the initial start-up phase. Across the industry, there was no evidence of any consistent or widespread use of cross-functional quality-focused teams to support supplier diversity supply chains.

Another successful approach to process quality and control can be found in formal mentoring relationships. Large Telecom companies that seek to benefit from the inclusion of smaller Diversity Suppliers in their supply chains must be prepared to offer appropriate levels of mentoring and coaching. The commitment to full sharing of information and knowledge transfer are hallmarks of a mentoring relationship. Both large and small partners in a supply chain can benefit from each company's respective expertise. The historical knowledge, wide-ranging subject matter expertise, and financial and human resources that a large company commands need to be brought together with the focused

expertise of smaller supply chain partners. Larger, more established businesses can benefit from the insight and innovation offered by suppliers that possess a different vantage point and different strengths. Nevertheless, the mentoring offered by the larger Telecom player to a smaller supplier is an invaluable tool in ensuring the overall success of a supply chain seeking to balance scale and customization. The commitment to mutual success that is at the heart of successful and enduring supply chain relationships is clarified and strengthened in a mentor-protégé relationship.

Mentoring is a successful means for Diversity Suppliers to grow in their capabilities and become successful partners with large CMs, OEMs, and Service Providers in the Telecom supply chain. The Task Force found very little evidence of significant mentoring of Diversity Suppliers in Telecom today. The more seasoned Diversity Suppliers reported that a few OEMs and Service Providers had offered much more significant mentoring in the past, prior to the downturn. It appears that with a distressed supply chain, the OEMs and Service Providers are financially constrained and less willing to extend resources for mentoring/coaching to Diversity Suppliers within their supply chain. Service Providers do provide limited mentoring but this is geared towards finding new opportunities for diversity VARs and rarely crosses over into operational or financial mentoring.

The Task Force was impressed with the successful investment the Ford Motor Company has made in their formal mentoring program. Ford has established a loaned executive program that places Ford management retirees into key positions with Ford's Diversity Suppliers (see Appendix 17). Is there a correlation between formal mentoring and the success of a particular supplier diversity solution? As we investigated ways to optimize the Telecom supply chain and diversity participation in that supply chain, the Task Force noted the current lack of formal mentoring programs in Telecom and the need for further study. While beyond the scope of this report, the Task Force hopes that the industry will proceed to benchmark with mentoring programs in other industries and to develop a recommendation on Diversity Supplier mentoring in Telecom.

The Task Force was able to study more closely the VAR/Channel Partner/ Business Solution Partner models being deployed in the Telecom industry and discussed in Section E. The importance of these models in optimizing the supply chain and in supporting revenue generation was validated. However, it became very clear that the degree of quality process management deployed in planning, implementing, and sustaining these relationships is critical to their success and to their ability to provide value.

According to research and the testimony presented to the Task Force, channel partner relationships are successful when the VAR becomes a trusted and integrated element of the supply chain, a true business solution partner. One of the essential VAR success factors identified by a comprehensive Gartner Group study on channel partners, was the willingness of the OEM to leverage the VAR into more business with multiple customers. This is consistent with Telecom

Service Provider requests that OEMs/CMs select and develop VARs that they will utilize with multiple Service Provider customers.

From the OEM and Service Provider perspective, any small company that is growing to serve much larger customers faces well-documented challenges that must be faced head on. Diversity VARs tend to be thinly capitalized and even in the best of times have a difficult time obtaining financing. They are often leanly staffed and are reliant upon the owner/founder who is hard pressed to assume functions that ideally would be managed by several officers and top management personnel. These potential weaknesses increase supply chain risks and are another reason it is important that acknowledged best practices be employed when selecting and implementing a channel partner or VAR solution.

The Task Force discovered that there were several best practices/critical success factors in VAR/Channel Partner development and that these best practices were very unevenly applied across the industry. Therefore, one of our recommendations is that quality process management and established best practices be utilized when integrating diversity VARs into the Telecom supply chain.

The research conducted by the Task Force showed many areas of potential improvement in the OEM-VAR relationship. These include Web-based performance reporting, creating joint business plans, ongoing supply chain analysis to "mine-out" the optimal balance between customization and scale, structured communication channels, and joint quality teams.

In reviewing the end-to-end Telecom supply chain, the Task Force noted the significant linkage between the successful integration of Diversity Suppliers in that supply chain and revenue enhancement. The value diversity partners provide to Telecom customers can be seen in the number of enabled sales and the revenue generated because of strong diversity programs. There are many customers who prefer doing their Telecom business with a Diversity Supplier, whether the Diversity Supplier serves as a channel partner, business solution partner, or sales agent. There are also customers who require evidence of strong supplier diversity subcontracting and direct contracting within the supply chains of their Telecom equipment and Service Providers. Some customers require a specific percentage of diversity inclusion in the supply chain in order to win and retain their business.

In order to leverage the competitive advantage that supplier diversity can provide to revenue generation, the supplier diversity and sales/marketing teams need to work together. Too often these two groups function as isolated silos within a company and do not work together to establish strategies, plans, and processes that will enhance sales leads and sales wins. Attracting, winning, and retaining customers are key advantages of a supplier diversity program, but there is too often a lack of planning and quality processes to effectively leverage that advantage. A supply chain with strong diversity participation can be the

table stakes required to submit a competitive bid. A minority or women owned channel partner might tip the scales in winning private or public sector business.

With solid supplier diversity participation and quality processes for linking that participation to customer requirements, Service Providers and OEMs can be ready to immediately and effectively meet customer requirements for diversity results. RFP submissions that meet diversity requirements can be prepared with minimal effort if the supply chain solutions are already in place and the performance metrics readily available.

Marketing and sales teams benefit when they understand the important linkage between supplier diversity achievement and its contribution to revenue growth and winning customer solutions. Supplier diversity should be an integral part of a company's marketing and sales strategies to gain competitive advantage in the local, national, and global marketplace. Federal, state, and local government customers are not the only market segments that frequently require supplier diversity participation. Many private sector customers now have their own supplier diversity programs and seek to do business with companies that have a diverse supply chain. The Task Force recommends that the full economic value of diversity programs and Diversity Supplier participation be realized through better program management of the synergy between sales and diversity.

Recommendation #12 - Create cross-functional implementation teams with Diversity Supplier, OEM, and/or Service Provider members jointly focused on utilizing quality process management to guide the implementation of new or significant supply chain arrangements

Cross-functional, inter-company teams should be responsible for coordinating implementation activities (including contractual requirements discussed earlier), identifying and resolving road-blocks in implementation schedules, and designing and implementing pre- and post-cut-over assessment checklists and tools. (See Recommendation 8 concerning Readiness Assessment.)

A best practice for such cross-functional teams is the development and implementation of a communication plan to promote seamless communication up and down the supply chain when integrating a Diversity Supplier into a significant role in the chain. (See Appendix 18 for one example of a multi-tiered formal communication plan/process where an inter-company team of officers meets quarterly to review the processes and performance of the implementation team.)

These teams must also monitor progress and assess feedback during and after implementation of diversity solutions. Utilizing quality process and project management tools, such teams should meet frequently at the inception of a project and at least quarterly thereafter to review issues in an action register and utilize post assessment tools as discussed in Recommendations 9 and 10. When issues are found to be systemic, sub-teams should be created to identify and resolve root causes of the problems and communicate key learning to the supply

chain participants and the industry. (See Appendix 19 for sample supplier diversity process flows and business requirements.)

Recommendation #13 - Implement Value-Added Reseller/Channel Partner Best Practices to effectively integrate Diversity Suppliers into the Telecom supply chain

Identified Best Practices for integrating Business Solution Partners/Value Added Resellers or Channel Partners should be employed by EMSs, OEMs, and Service Providers to optimize the participation of diversity partners in the Telecom supply chain. The potential benefits from such strategic relationships cannot be realized unless care is taken to establish a solid partnership based on a joint business plan. Conversely, adding a VAR solution as a thin cosmetic veneer without a focus on creating better business solutions will not enhance the supply chain. When EMSs, OEMs, and Service Providers include Diversity VARs, Channel Partners, and Business Solution Providers as part of a Telecom supply chain, the health of the new supply chain requires that identified best practices be employed in fully integrating these diversity partners.

Recommendation #14 - Develop clear strategies and quality-focused processes for integrating supplier diversity planning into the marketing and sales process

Supplier diversity managers should work with their company's marketing and sales teams to maximize the revenue generation potential of supplier diversity participation. Together they can leverage the competitive advantage of being able to provide good diversity results and respond appropriately to customers who request supplier diversity plans and performance. The success of those plans should be tracked in terms of bids won and additional revenue generated. (See Appendices 20A, 20B and 20C for sample methods of tracking revenue generation and Appendix 20D for a sample supplier diversity consulting flyer.)

OEMs and Service Providers alike have federal sector, public, and private sector customers who view diversity as a competitive differentiator. Unfortunately, too often the sales and diversity teams do not understand the complementary roles they play, do not share a clear strategy, and do not have quality processes in place to help them collaborate to increase revenues, to win, and retain customers. Telecom companies should foster close cooperation between the supplier diversity organization and the sales and marketing organizations. The teams should work together whenever Diversity Suppliers are included in a business relationship either as a Channel Partner/VAR, direct supplier, or as a subcontractor. These types of business arrangements require that the potential benefits and liabilities in terms of pricing, operations, quality etc., be qualified and quantified by sales, marketing, and supplier diversity before any business proposal is presented to the customer. The supplier diversity organization, in conjunction with sales and marketing, should develop business opportunity

assessment tools to assure that all aspects of the business arrangement have been considered.

IV. Improve Access To Capital and Financial Management

The Task Force concluded that the Telecom industry needs to improve the access to both long-term and short-term capital in order to sustain the financial health of Diversity Suppliers over the business cycle and to promote the stability of final demand given disruptive changes in technology and the variable nature of final demand. Measures to support working capital and liquidity are therefore of primary concern. The lack of long-term equity capital and the difficulty in gaining access to traditional sources of venture capital at reasonable cost contribute to sub-optimal capital structures and finance mechanisms. When a firm is undercapitalized, the foundation upon which prudent amounts of bank debt, lease finance, subordinated debt, preferred stock, and other sources of capital can be built is simply not adequate to build an enterprise over the long term. Diversity Suppliers, typically operating with slim profit margins in the 2%–10% range, must develop management procedures, systems, and practices that improve financial forecasting and the management of operating cash flow to assure greater financial flexibility over time.

Recommendation #15 – Improve access to both long- and short-term capital

The Telecom industry should support the development of a specialized working capital finance facility (or strengthen the capabilities of established intermediaries) to finance receivables and inventory, and equipment leasing over the business cycle in the Telecom supply chain at reasonable cost and reasonable terms. The industry should also support the development of some source of equity-like capital (or strengthen established SBICs) to mitigate the lack of venture capital for Diversity Suppliers. (See Appendix 21 for an example of a SBIC.)

Tier 2 EMSs should also be engaged as a source of growth capital finance in the Telecom supply chain and as a source of greater liquidity for Diversity Suppliers over the business cycle.

The Task Force recommends that EMSs, OEMs, and Service Providers alike guarantee loans linked to contract awards for new initiatives where significant business risk exists. Medium-term financing is needed in new supply chain arrangements involving OEMs, VARs, CMs, and Service Providers.

In turn, Diversity Suppliers must establish ownership structures that make their firms more ready for long-term finance from private equity and venture capital sources, and they must build and nurture business relationships with a wide variety of capital sources and financial intermediaries in all economic climates.

Recommendation #16 – Enhance university management programs for diversity entrepreneurs to place greater emphasis on financial management capability and working capital planning skills

The Task Force determined that existing management development programs could not only enhance overall financial management curriculum, but could also add CFO training and certification as a way to ensure that diversity entrepreneurs have the financial structures, processes, and planning necessary to navigate turbulent economic conditions.

V. Accelerate Supplier Diversity Participation Through Industry Collaboration

Task Force members concluded that the Telecom industry's efforts to optimize the supply chain and the contributions of Diversity Suppliers within that supply chain would benefit greatly from enhanced industry collaboration. The tremendous historical progress in diversifying the Telecom supply chain is rooted in strong industry collaboration. Telecom companies were among the first in the private sector to establish supplier diversity programs. Best practices and supplier diversity solutions have been openly shared within the industry. The formation of TIG to advance diversity participation in Telecom supply chains formalized this culture of collaboration. Continuing and expanding industry collaboration will be integral to the revalidation and revitalization of supplier diversity's role in optimizing the Telecom supply chain.

Throughout its proceedings the Task Force recognized that its efforts would only begin to address a subset of the supply chain and supplier diversity challenges facing our industry. The dynamics of globalization, industry consolidation, technological innovation, capital decline, changing regulatory policy, etc., will continue into the foreseeable future. We determined that revalidating and revitalizing the supplier diversity value proposition in Telecom is, by definition, work that must continue. The Task Force believes that the industry as a whole would benefit greatly from continuing this work together through the establishment of resource sites where best practices and innovative approaches to supplier diversity supply chain optimization could be widely shared.

Our recommendation is that a master resource site be hosted by the Institute for Supply Chain Management ("ISM") and that more specific resources sites be hosted by the Quality Excellence for Suppliers of Telecommunications ("QuEST") Forum, the National Minority Supplier Development Council ("NMSDC"), the Women's Business Enterprise National Council ("WBENC") and the Association for Service Disabled Veterans ("ASDV"). Each group has special interests, concerns, and constituents but all come together in a shared interest in the development of supply chains that successfully include Diversity Suppliers. The ISM is unique in its focus on supply chain management and in its breadth. It provides national leadership in education, research, and professional development for Supply Chain Management. It has had a special interest in supplier diversity for over 17 years, with a Minority and Women's Business Development Group focused on how to promote and optimize the participation of Diversity Suppliers in all supply chains. ISM also has a research arm, the Center for Advanced Purchasing Studies ("CAPS"), that has conducted research into the inclusion of Diversity Suppliers in corporate supply chains. ISM is an organization that serves all industries and all diversity groups.

With resource sites hosted by each of these organizations, we would be able to promote and compile the best thinking, the innovative efforts, the tools, and

practices of an expanded team of committed supplier diversity and supply chain management professionals. Each organization listed above could host their own site to focus on the specific concerns and interests of their constituents. These sites could also feed into an ISM site that aggregated and indexed the contents of each site into a master list where cross-industry, cross-diversity innovation could be easily shared.

Another more modest proposal for collaboration, that will create better administrative efficiency, is industry-wide agreement to standardized supplier diversity reporting metrics and processes. This would reduce the resources devoted to the collection of such data and would provide common metrics for measuring industry progress.

With a dynamic global supply chain, the proper incubation of joint ventures and strategic alliances to leverage the benefits of scale and customization becomes even more important. The expertise and resources to nurture the development of supplier diversity joint ventures or innovative diversity supply chain solutions are currently available at the universities that already offer executive management development programs for diversity entrepreneurs. The Task Force envisioned a clinic where participants of a specific supply chain jointly consult with university faculty and graduate students from several relevant disciplines to work on business plans, strategic alliances, supply chain design, and risk mitigation. Through such an approach, our industry could make further progress in understanding the optimal design and implementation of supply chain solutions. Smaller participants could access an array of resources that would otherwise be beyond their reach, and receive the advice and counsel necessary to navigate growth, joint ventures, and strategic alliances.

The Task Force members also felt that it would be extremely useful to set up an ongoing process for ensuring that the industry continues to actively monitor and assess the state of the overall Telecom supply chain. An annual Telecom supply chain “State of the Union” report presented at SUPERCOMM could disseminate relevant data, elevate issues, patterns, trends, and questions that deserve full consideration and deliberation by the industry. By aggregating individual experiences, industry members could distill key learning from specific supply chain problems and solutions.

The collaborative development of an annual report on the Telecom supply chain would be invaluable to smaller suppliers that do not have the staff or consultants to develop these sorts of analyses. It would provide Diversity Suppliers and others a way to assess whether individual experiences are reflective of larger issues that are more effectively addressed at a macro level. The report would provide key insights and early warning signals to the supply chain as a whole. Quite often, smaller suppliers such as Diversity Suppliers serve as the “canaries in the coal mine” that are the first to develop symptoms from systemic problems in the environment. Monitoring the health of the collective supply chain would reveal patterns and possibilities that might not be detected from one supply chain solution alone.

If the industry operates with increased self-reflection, and well-engineered feedback loops, there is an enhanced opportunity for Telecom supply chains to move toward a self-monitoring, re-balancing ecosystem that profits from its own experience. Such an approach would accelerate the recovery of the Telecom supply chain, identify problems before they become widespread, generate well-integrated solutions, and enhance supply chain optimization in the future.

The Task Force's final recommendation for industry collaboration concerns the induction of the EMS/Contract Manufacturing community into the Telecom industry's supplier diversity initiatives. As discussed earlier in this report, the dramatic and volatile industry changes of the last few years have shifted significant portions of the Telecom supply chain to contract manufacturers.

Due to cost-cutting pressures, in the early 1980s, the OEMs, particularly in the information technology space, began a process of outsourcing many business operations. One major result was the growth of large Electronic Manufacturing Services companies. These companies provide services to OEMs worldwide and are characterized as low-cost, large-scale manufacturers. In the 1990s, Telecom OEMs began to shift the bulk of their manufacturing requirements to the EMSs.

In recent years there has been significant movement of manufacturing to lower cost regions in the Asia/Pacific area and Eastern Europe. Today, about 30% of the large EMS industry's total production is manufactured in low-cost labor regions. As discussed earlier, most of the top tier EMS corporations want to migrate more than 60% to 70% of their total production to those regions by 2004.[43]

Globalization enhances the need for localized logistics and post-deployment services within North America. Although large-scale manufacturing continues to move to low cost regions in Asia and Eastern Europe, Service Providers will still require suppliers with a local presence to meet customer needs. Additionally, large EMSs have a lower ROI hurdle for entry into new businesses compared to OEMs and will most likely try to leverage their current expertise in supply chain management to include direct fulfillment and warranty repair to OEM customers. Since they support several industries (computer, IT, and medical device) large EMSs will be able to spread the fixed costs of establishing distribution centers across all product lines and work their way up the value chain. With the addition of a new player, the supply chain becomes more complex and visibility will cloud as manufacturing transitions from OEMs to the EMSs.

The deficiency in localized logistics and post deployment services created by the growing dominance of large EMSs is a critical issue. Indeed, supply chain management research points to the need for maintaining flexibility, particularly in a supply chain for innovative products, like those in the Telecom industry. (An innovative product is characterized by product newness leading to unpredictable demand and a short life cycle. An innovative product is distinguished from a

[43] Ross, Gina, "The EMS Industry is Calling the Shots," *EETimes*, May 28 2002

functional one, which satisfies basic needs that do not change over time, has stable predictable demand and has a long life cycle.)[44]

An innovative product's supply chain is optimized by:

- Lowering market mediation (supply-demand imbalance) costs from mark downs, lost sales, and dissatisfied customers
- Reading key information that flows from the market
- Placing inventory in the chain to strategically hedge against uncertain demand
- Choosing suppliers for speed and flexibility

In contrast, a functional product's supply chain is optimized by:

- Lowering physical function costs such as production, transportation, and inventory storage
- Reading key information that flows within the chain[45]

Thus, there is an opportunity for small EMSs and VARs to complement the low cost manufacturing provided by the large EMSs. Small EMSs and VARs can help lower market mediation costs, stay close to the customer for market information, and provide speed and flexibility. Such developments in the Telecom supply chain are already beginning to happen. According to *EBN*,

> "Major OEMs are increasingly turning to small EMS providers with annual revenue in the $20 million to $100 million range for certain prototype, new-product-introduction, and systems-build work."[46]

We cannot ignore the impact this is having on supplier diversity participation and the opportunities to balance the scale of the EMS with the customization of Diversity Suppliers. It is time for veteran Telecom OEMs and Service Providers to educate and set performance expectations for the newest members of our supply chain. Several OEM and Service Provider companies have already met with EMS companies and they were invited to make presentations on supplier diversity to both this Task Force and to TIG. From their testimony and reports from the OEM community, it appears that the EMS community is interested in learning more about supplier diversity as a customer requirement, but is waiting for explicit direction and contractual requirements from customers before fully establishing programs, outreach, and goals.

Most of the major EMSs have been approached and invited to become active participants in optimizing supplier diversity in the Telecom supply chain.

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[44] Fisher, Marshall L., "What is the Right Supply Chain for Your Product?" *Harvard Business Review*, March-April 1997
[45] Ibid.
[46] Serant, Claire, "Small EMS providers find a place at the table," *EBN*, March 19, 2002

Forward-thinking EMS companies like Solectron have assigned a full time manager to begin the development of their supplier diversity program. Solectron has also become a member of TIG and is the first EMS to sign the Supplier Diversity Challenge at SUPERCOMM. (See Appendix 22 for a list of all signatories of the SUPERCOMM Diversity Challenge.) As a signatory, they committed to strive to achieve at least 10% supplier diversity and to develop a world-class supplier diversity program. The Telecom industry must take further steps to encourage other EMS companies to build strong and diversity inclusive supply chains.

Recommendation #17 - Establish Web-based Supplier Diversity resource sites

The Telecom industry should establish and maintain a Web site resource center to foster industry collaboration for effective supplier diversity program management. The Web site would serve as a repository for best practices and specific examples of supplier diversity supply line management tools. Many of the appendices in this report are examples of the types of tools that could appear on such a Web site.

The QuEST Forum has created a best practices Web site for the industry that could be expanded to meet these purposes. (See Appendix 23 for adopted board motion.) In addition, the Institute for Supply Management (ISM) has announced its willingness to sponsor such an on-line resource center for all corporate activity. The NMSDC board is discussing how the newly revamped NMSDC Web site might serve in such a collaboration. The WBENC board will be entertaining this idea as well. The Telecommunications Industry Group of the NMSDC should undertake an effort to coordinate their inputs not only to the QuEST Web site but to the ISM resource center and NMSDC and WBENC initiatives as well.

Recommendation #18 - Leverage the resources of existing university diversity management training programs to establish multi-disciplinary Joint Venture Success Labs

The Task Force observed that optimization of the supply chain requires significant collaboration and partnership, even joint ventures ("JVs") between large Telecom companies and smaller suppliers. It may also require larger-scale Diversity Suppliers to join together to increase scale through the formation of JVs. There is a need for targeted and specific education and coaching for the proposed and existing joint ventures required to optimize the Telecom supply chain and diversity participation within that supply chain.

The Task Force believes that it would be possible to leverage the resources of the universities that currently support diversity entrepreneurial management programs to develop what could be called a Joint Venture Success Lab. Led by the current diversity management training programs, this proposed initiative could draw on resources and expertise from the Business Schools, the Law

Schools, the Supply or Purchasing Management Programs and Accounting Departments, etc. Faculty and students could establish a clinic where JVs with at least one Diversity Supplier, could work on the development and success of their JV.

This "incubator," staffed by a multi-disciplinary team, would provide coaching and education to the JV partners. It would also provide an exciting teaching forum and invaluable hands-on experience for the university students. Most Diversity Suppliers are not readily able to afford the services of investment banking teams and large consulting and law firms to help form JVs. When a large Telecom company is part of the JV, this approach would provide a knowledgeable and neutral third party with a good understanding of the specific business concerns of smaller diversity entrepreneurs. The tools for success, the development of business plans, allocation of responsibilities, resources, costs and profits, standard documents and agreements that need to be in place, clear financial accounting, and quality process tools that support the success of the JV could all be available at this JV Incubation/Success Lab.

Recommendation #19 - Propose a Telecom supply chain "State of the Union" report

The Task Force observed that frequently, Telecom supply chain issues that were latent or had not yet been addressed were revealed by difficulties that arose for smaller suppliers in the supply chain. Early detection of these problems will serve to improve the performance of the entire supply chain. To that end, the Task Force recommends that the Telecom industry develop an annual Telecom Supply Chain "State of the Union" report. This report, presented annually at SUPERCOMM, would present a status of the supply chain with particular focus on changes, trends, conditions, persistent problems, etc. The report would further examine the impact of relevant conditions on Diversity Suppliers and also evaluate how Diversity Suppliers have helped or could help alleviate current supply chain problems. The Task Force recommends soliciting support from the QuEST Forum members, ISM, Tuck, UCLA, and Kellogg to design and conduct a survey of Telecom supply chain conditions, the results of which could form the basis for the report.

Recommendation #20 - Standardize Supplier Diversity participation metrics and reporting methodologies

The Telecom Industry, through TIG, has been working to develop standard supplier diversity participation metrics and reporting methodologies. TIG established a committee to evaluate various participation metrics and reporting methodologies and to establish a uniform approach that would be recommended for use by all Telecom supplier diversity programs. By standardizing metrics and reporting methodologies, TIG hopes to streamline compliance reporting requirements and eliminate costly variations in compliance reports.

The Task Force felt that such standardization efforts would help reduce barriers to supplier diversity reporting and would become even more useful with wider adoption. While beyond the scope of investigation, the Task Force felt that the recommended reporting methodologies should be offered to industry groups other than Telecom. The Task Force recommends that TIG submit their final recommendations not only to the NMSDC but also to WBENC, ASDV, ISM and QuEST Forum for their consideration as a national standard.

Recommendation #21 - Encourage Large Scale EMSs to adopt the supplier diversity goals and best practices of their Telecom industry customers, establish supplier diversity programs, and launch initiatives that will integrate Diversity Suppliers into the EMS supply chain as CMs, VARs, direct suppliers, and subcontractors

The Telecom supply chain is in a dynamic state of flux. The explosive growth of EMSs in the Telecom sector represents a major shift of revenues and a major re-design of the Telecom supply chain. In the last 4 years alone, the EMS community has taken over the majority of Telecom manufacturing activities/functions, with Telecom customers now comprising 40% of EMS revenues in 2002 compared to 5% in 1999. (See Appendix 24 for EMS subcommittee report.)

As an increasingly important part of the Telecom supply chain, contract manufacturers need to be an integral part of developing supplier diversity participation in the supply chain. Without their participation, diversity results within the industry will suffer, and Diversity Suppliers will have fewer opportunities to help optimize the supply chain. The drive for scale must be balanced with the benefits of customization and local service. OEMs and Service Providers have collaborated to educate the EMS community about supplier diversity and now must go further in requiring their EMS/CM suppliers to establish diversity programs, report diversity results, and integrate diversity subcontractors and channel partners into all Telecom work. (See Appendix 25 for example of supplier diversity efforts in Solectron.)

Task Force Glossary Terms

Business Solution Partner – A company (subcontractor or sub-supplier) that provides complementary products and/or services necessary for the prime (contractor, supplier or Service Provider) to competitively provide a complete business solution to the customer.

Channel Partner – A company through which an OEM or Service Provider communicates with and sells products to customers. This can include distributors, resellers, and agents.

Contract Manufacturer/small EMS – A company that generally receives outsource projects on prototype, manual assembly of low volume specialty items, or high-volume automated production from the large EMS or OEM. Typically has one or two locations within the United States and/or Mexico.

Diversity Supplier – Within the United States, Diversity Suppliers are companies that are owned by a minority(ies), a service disabled veteran(s), or a woman (women). Outside the United States, the definition of Diversity Suppliers is determined locally and is based on historically underutilized businesses ownership.

Electronic Manufacturing Services Provider ("EMS") – A company that an OEM outsources the manufacture and assembly of component parts to; helps shorten time-to-market lead-times for OEM and enhances asset utilization with technologically advanced manufacturing processes. Typically has locations in multiple geographic regions, i.e., Pacific Rim countries and sub-Asian continent.

Minority- and Women-Owned Business ("MWBE") – Within the United States, these are defined as businesses which have been verified by the National Minority Supplier Development Council ("NMSDC"), Women's Business Enterprise National Council, California Public Utilities Commission Clearinghouse, or other certification agency with comparable standards to be 51% owned, operated, and controlled by a minority individual or group or by one or more women; for publicly held businesses, at least 51% of the stock must be owned by one or more minorities or women who are U.S. citizen or legal aliens with permanent residence status.

Original Equipment Manufacturer ("OEM") – A company that uses product components from one or more other companies to build a product that sells under its own company name and brand.

Prime Supplier – In the Telecom environment, a company that provides products or services via master agreement, in a direct mode to the customer.

Service-Disabled Veteran Business Enterprise ("DVBE") – These are defined as businesses that satisfy the requirements to be 51% owned, operated, and controlled by a service-disabled veteran or group. These businesses must be certified by a certifying agency recognized by the purchasing entity, such as the California State Office of Small and Minority Business ("OSMB").

Service Provider – In the Telecom environment, a company that aggregates products from OEM and bundles it with technology to offer a complete Telecom package for end users.

Value-added Reseller ("VAR") – A supplier who purchases a product(s) from an OEM or other prime supplier and resells the product(s) to its customer(s) after adding value to the basic product by providing presale and/or post-sale services and/or support.

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Telecom Supplier Diversity Task Force Report

Telecom Supplier Diversity Task Force Members

Dr. Alfred E. Osborne, Jr.	Task Force Chair; Director, Harold Price Center for Entrepreneurial Studies, The Anderson Graduate School of Management at UCLA
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Jo Ann Brumit	Karlee, President
Albert Chen	Telamon, President
Monica Garcia	Complas, Former CEO
Joan Kerr	SBC, Executive Director, Supplier Diversity
B. Hong Mah	LeeMah, President
Jose Mejia	Lucent, President, Supply Chain Networks
Lynn Mercer	Lucent, Officer, Mobility Supply Chain
Harriet Michel	National Minority Supplier Development Council, President
Krish Prabu	Morgenthaler Ventures, Partner (Former CEO, Alcatel USA)
John Schofield	AFC, President
David Steward	World Wide Technologies, President
Steve Welch	SBC, Senior Vice President

Telecom Supplier Diversity Task Force Testimony

Sandy Davis	ACS, President and Owner
Joanne Anderson	ADC, President, Integration Unit
Jeff Rosen	AFC, Vice President, Operations
Christy Bieber Orris	ATEK Manufacturing, CEO and Owner
George Williamson	California Economic Development Lending Initiative, President
Whitney Johns Martin	Capital Across America, Managing Director
Mike Mortson	Celestica, Vice President, Commodity Management
Laird Gray	Celestica, Manager, Commodity Management
Nell Merlino	Count Me In, President
Steve Macko	Foothill Capital, Business Development Manager
Dr. Ray Jensen	Ford Motor Company, Director Minority Supplier Development
Todd Baggett	Jabil Circuit, President
Angela Rokkos	JPMorgan Chase, Vice President, Chase Financial Services
Stephen Franklin	JPMorgan Chase, Vice President, Chase Financial Services
Joseph Avery	LeeMAH Corporation, Vice President, Sales
David Pell	Nortel Networks, former Director, Diversified Business Solutions
Houston Williams	PNS, CEO and Owner
Amy Millman	Springboard Enterprises, President
Gun Shim	SBC, Vice President, Procurement
Mark Hummel	SBC, Executive Director, Procurement
Keith Boudreau	Textron Financial, Senior Director
Gus Williams	Warren Electric, Vice President, Sales
Dr. Tim Bates	Wayne State University, Professor of Labor and Urban Affairs

Site Visit Protocol

Goals:

- To gain insight into and understanding of the challenges that SBC's diversity suppliers face;
- Collect data and impressions of the individual companies that make up SBC's diversity VAR supplier base, including identifying specific problems that certain suppliers may have;
- Expand, support and maintain the dialog between SBC and its diversity suppliers insuring that SBC has good, current information on its supplier partners and maintains a positive presence in the community of diversity suppliers.
- To gain a thorough understanding of the OEM and customer relationships for each of the VAR suppliers being visited for the purpose of reassessing and modifying the SBC VAR model and protocols.

Agenda:

1. Introductions
2. History
   - Company
   - Relationship with SBC
3. Current status
   - Overall condition of the business
   - Impact of recent telecom contraction
   - Outstanding business or financial issues and problems
4. Expanded discussion of relationship with SBC
   - Problems
   - Positive highlights of the relationship (vs. other service provider customers)
   - Suggestions
5. Discussion of relationship with OEM(s)
   - Problems
   - Positive highlights of particular OEM(s)
   - Suggestions
6. Next steps

Note: where possible, the above agenda should include a tour of the supplier's facilities (including production space), and discussions with (or informed by) CFO and COO of the company or their equivalent counterparts.

Agenda Detail/Notes:

1. Introductions

The UCLA-MBA team member should make clear to the VAR partners that s/he is present solely to collect data and impressions for SBC, and to be as helpful as possible in furthering the relationship between the VAR and SBC. Further, the team member should explicitly state that s/he is operating under a signed NDA with SBC, and that none of the information shared will be conveyed to anyone outside of SBC or the Telecom Supplier Diversity Task Force Panel being formed.

2. History

In order to get a better understanding of the company and of the development of relationships both with customers and OEMs the team member should get a basic handle on the history of the company and its relationship with SBC. Are the founders currently running the company? What is the background of current principals and key managers/executives? What has the growth path of the company been to date? And at what point in that growth path did the current telecom downturn occur? How did the company first establish a VAR relationship with SBC? How did you handle the growth in 1999-2000? And the contraction that followed?

3. Current status

As working capital is likely to be the most critical aspect of a VAR's condition given the nature of the business and the current market conditions, it's critical to get a thorough understanding of where the company stands financially. How hard has the company been hit by market conditions? What systems does the company have in place to track inventory, AR, AP, invoices, and orders? How good a handle does the company have on its own financial condition? Has the company been able to maintain its quality certification efforts in the current environment (ISO9000, TL9000, etc.)? Is the company locked into any long-term cost structures (e.g., leases, employment contracts, commitments to OEMs) that may cause problems given the contraction of service provider purchasing?

4. Relationship with SBC

It is important to get a sense for what the company's experience has been to date as a VAR to SBC. Are there aspects of SBC's Supplier Diversity Program that have been particularly beneficial? Or particularly problematic? Does the company have any recommendations for managing the relationship that they would like to convey to SBC for consideration? Has the company had any relationships with other service provider customers that have worked better than their relationship with SBC? What has your interface with SBC been like? Have you been an integral part of the purchasing process for SBC? Or do you feel like you are being included after the fact when SBC has negotiated in your stead without your inclusion?

5. Relationship with OEMs

The relationship in question here involves three players: SBC, the VAR, and the OEM. It is extremely important that we not neglect or ignore the needs and incentives of the OEMs. Has the company had particularly good or bad experiences with any OEMs? Do some OEMs seem more or less inclined to expend the extra effort necessary to actively promote diversity suppliers? Has the company identified any ways to specifically serve the OEMs needs without compromising their own prospects or their relationship with SBC? How do practices differ among the OEMs? Does there seem to be any relationship between these practices and the kind of business the OEM is doing with SBC through the VAR (e.g., high vs. low margin)? What kind of contribution have your OEM partners made to the relationship? Training? QA assistance? People onsite?

6. Next steps

In most cases, no specific needs or requirements will emerge from the meeting. There are a few special cases that will demand particular attention from the Supplier Diversity Group even before the panel meets. In those cases, the team member has to makes sure that a timeline is established for deliverables and communication, and that all of the materials that the Supplier Diversity Group will need in order to take action are either collected or requested with a clear date by which the company will send them.

Specific information to be collected:

- Business Plan (if they have one)
- Operational Plan (what's happening specifically with working capital)
- Income statement, Balance Sheet, and Cash Flows for 2-3 years
- Any packages/information given to financing partners or banks
- Information about: channel relationships (agreements with OEMs), facilities and assets (both physical and personnel), cash budgets, covenants on existing credit lines, backlog/pipeline for orders.

Diversity Supplier Site Visits

Sunbelt Telecommunications

Paula Mann, President

Cynthia Morris, CFO

Michael Smith, Director Strategic Suppliers Management

Randall Morgan, Director Central Region

Jay Davis, Senior Account Manager

Trilogy Ventures, LLC

Lora Brown, Program Manager

Telamon

Albert Chen, CEO

Larry Rodmen, CFO

Michael Shen, Vice President–Operations

Wire America

Lionel Tobin, President

Ted Jaminson, COO

Pacific Network Supply

Houston Williams, CEO

World Wide Technologies

Dave Steward, CEO

Kurt Grimminger, General Manager

Harvard Technologies

Manny Chavez, CEO

Optical Datacom

Orlando Carter, Chairman

Telpro Products

Larry Jordan, President

Stuart Mapes, Chief Operating Officer

Dennis Leonis, General Manager

Cherokee Nation Industries

Sean Walkingstick, Vice President – Telecommunications

Dennis McLemore, Vice President – Administration

Robert Blaylock, Controller

Tammie Brassfield, Operations Manager

Brian Morris, Operations Manager

Cadence Industries

Bob Yapp, President

Bruce Humiston, Vice President – Operations

Dave Swoish, Vice President – Marketing

Complas

Monica Garcia, CEO

Supplier Diversity Excellence Best Practice and Maturity Assessment Scale

Section 1 – Introduction

Supplier diversity is a best practice within the telecommunications industry. On June 7, 1999, at SUPERCOMM, 14 of the major worldwide telecommunications suppliers and service providers issued a "Diversity Challenge" asking other telecommunications companies to join them in moving towards "World Class" supplier diversity programs and annual supplier diversity results of 10% M/W/DVBE procurement. At SUPERCOMM 2000 an additional 34 companies joined the "Diversity Challenge." As telecommunications companies expand communications capabilities throughout the world, they plan to continue their 30-year history of including and developing minority-owned, women-owned and disabled veteran-owned suppliers (M/W/DVBEs) in the telecommunications supply chain.

This *Supplier Diversity Excellence Best Practice and Maturity Assessment Scale* was developed by the supplier diversity subcommittee of the QuEST Forum. It is intended to assist QuEST members to better meet customer supplier diversity requirements. It is also intended to assist companies in assessing their supplier diversity initiatives with an approach consistent with TL9000 standards. It contains elements that are important to a successful, world-class initiative and will allow the user to highlight areas for improvement.

The Maturity Assessment Scale allows suppliers to score responses to the criteria items and develop feedback based upon four levels of maturity: (1) Best-In-Class; (2) Advanced and (3) Emerging.

A telecommunications “Best Practice” with specific supplier diversity elements associated with the evaluation levels are described in Section 2. The scoring system for the Maturity Assessment Scale is described in Section 3. A Maturity Assessment Form is provided in Appendix A. A Glossary is provided in Appendix B.

1.1 Goals

The goals of the *Supplier Diversity Excellence Best Practice and Maturity Assessment Scale* are to:

- Assist suppliers in understanding and meeting customer requirements for supplier diversity performance
- Foster an awareness of the linkage between quality-focused supply chain re-engineering (optimization) and the inclusion of diversity suppliers in that supply chain

- Foster supplier diversity initiatives that enhance the quality of telecommunications products and services
- Establish and maintain a common set of telecommunications supplier diversity standards
- Reduce the number of disparate telecommunications supplier diversity standards
- Drive continuous supplier diversity improvement
- Enhance service provider, original equipment manufacturer (OEM), distributor and sales channel (VAR) relationships with diversity suppliers

1.2 Purpose

The purpose of the *Supplier Diversity Excellence Best Practice and Maturity Assessment Scale* is to define the telecommunications standards for the design, development and maintenance of supplier diversity initiatives.

1.3 Benefits

- Enhanced end-customer satisfaction both business-to-business and business-to-consumer
- Increased profitability through process improvements, revenue generation and cost cutting
- Improved speed to market and enhanced market penetration
- Uniform criteria for supplier diversity maturity assessment
- Increased focus on supply chain (manufacturing) re-engineering for quality improvement
- Enhanced outsourcing analysis

1.4 Approach

The supplier diversity subcommittee of the QuEST Forum used a broad-based and diverse team approach to developing this Best Practice and Maturity Assessment Scale. The supplier diversity subcommittee included both Quality experts and Supplier Diversity experts from all aspects of the telecommunications industry. Included on the team were service providers, manufacturers, distributors and value-added resellers. The subcommittee also included both majority-owned and diversity-owned companies.

Note A: Throughout this document any reference to “Diversity Supplier” includes diversity-owned companies involved anywhere in the supply-chain from the supply of goods and services to equipment manufacturers to sales channel (value-added resellers) and distribution of finished goods and enhanced services.

Section 2 – Best Practice

Element 1 – Policy

The supplier's executive management defines and documents its supplier diversity policy, including performance goals for supplier diversity utilization and its commitment to continually improve supplier diversity utilization. Some of the key best practice policy elements are described in this section.

2.1 Supplier Diversity Policy

The supplier's executive management has established, documented and is maintaining a supplier diversity policy as a means of ensuring that supplier diversity utilization conforms to customer requirements.

Key elements of supplier diversity policy include:

2.1.1 The policy is supported by a clearly articulated supplier diversity business case based on customer requirements and value to the corporation
2.1.2 There is a written supplier diversity corporate policy that clearly defines executive management commitment, measures of success and is ratified by the CEO or other executive management with the authority to set policy
2.1.3 Supplier diversity policies are aligned with the overall corporate mission, goals and objectives
2.1.4 Supplier diversity policy emanates from a business/marketing strategy and is not framed as a social welfare policy
2.1.5 Supplier diversity policy promotes the inclusion of diversity across all corporate operations

2.2 Management Support

The supplier's management assures that supplier diversity policy meets customers' requirements and is relevant to the supplier's organizational goals. The management also assures that the corporate supplier diversity policy is understood, implemented and maintained at all levels of the organization.

Key elements of management support include:

2.2.1 There is a written statement from the President or CEO promoting the supplier diversity policy
2.2.2 Corporate officers and senior management demonstrate internally and externally their commitment to supplier diversity
2.2.3 There is an executive-level champion who is accountable for supplier diversity success

2.2.4 Adequate supplier diversity budget, resources and support staff are established
2.2.5 Business unit and/or departmental supplier diversity advocates are established
2.2.6 Input from supplier diversity advocacy groups is included in supplier diversity development policy and program
2.2.7 Supplier diversity events and seminars are actively supported
2.2.8 Internal and external supplier diversity successes are recognized and supported

2.3 Management Review

The supplier's management reviews the supplier diversity program initiatives at defined intervals sufficient to ensure their continuing suitability and effectiveness in satisfying the requirements of the customer's stated supplier diversity policies and goals. Records of such reviews are maintained.

Key elements for management review include:

2.3.1 There is an executive advisory council/committee composed of key departmental stakeholders to drive continuous improvement in supplier diversity
2.3.2 All levels of management are accountable for supplier diversity performance and performance is measured and reported at a business unit and/or departmental level
2.3.3 Business unit and/or departmental supplier diversity performance reviews are conducted regularly

Element 2 – Planning

Best practice in supplier diversity planning includes a corporate plan, customer specific plans and development plans. Some of the key elements of these plans are described in this section.

3.1 Corporate Plan

The supplier has prepared a supplier diversity plan that defines and documents how the corporate supplier diversity policy will be implemented and how customer requirements for supplier diversity will be met.

Key elements of the corporate plan include:

3.1.1 Supplier diversity goals and measurement are an integral part of the overall corporate business planning process and are linked to other key corporate goals
3.1.2 Supplier diversity performance requirements are included in business unit and/or departmental objectives and budgets
3.1.3 Supplier diversity performance encompasses all aspects of the supply chain and applies to all products and services
3.1.4 The corporate supplier diversity plan is reviewed by executive management on a regular basis
3.1.5 Controls, processes, equipment, fixtures, resources and skills that are needed to achieve the required supplier diversity performance are identified and acquired
3.1.6 Supplier diversity planning, documentation and implementation meet the requirements of the supplier's quality system

3.2 Customer Specific Plans

The supplier has defined and documented how customer specific supplier development plans will be implemented and customer requirements for supplier diversity utilization will be met.

Key Elements of customer specific plans include:

3.2.1 The customer supplier diversity plans are detailed and specific and includes the delineation of products and services to be contracted or subcontracted to diversity suppliers as well as the names of intended contractors, subcontractors, distributors and/or sales channels (VARs)
3.2.2 The customer specific planning activities include long-term and short-term plans with goals for improving customer satisfaction. These can include:

a) Cycle time reduction
b) Customer service improvement
c) Cost reduction or avoidance
d) Delivery cycle reduction
e) Product availability improvement

3.2.3 Customer specific plans, documentation and implementation meet the requirements of the supplier's quality system

3.3 Development Plans

The supplier prepares plans for each contractor, subcontractor, distributor and/or sales channel (VAR) development activity. The plans describe or reference development activities and define responsibility for their implementation. The planning and development activities are assigned to qualified personnel equipped with adequate resources. The plans are updated as the contractor, subcontractor, distributor and/or sales channel (VAR) development evolves.

Key elements of development plans include:

3.3.1 The company has established and maintains contractor, subcontractor, distributor and/or sales channel (VAR) development plans based upon the defined performance goals. The plans include:

a) Plan development and implementation organization structure
b) Plan development and implementation roles and responsibilities
c) Interfaces with internal and external organizations
d) Means for scheduling, tracking, issue resolution and reporting
e) Budgets, staffing and schedules associated with plan activities
f) Methods, standards, documented procedures and tools to be used
g) Customer, user and/or internal organization involvement during the plan development and implementation (e.g., joint reviews, informal meetings and approvals)
h) Specific training required to implement the plans
i) Required certifications
j) Proprietary, usage, ownership, warranty and licensing rights
k) Post-plan implementation analysis

3.3.2 Diversity suppliers are included in all standard sales and/or supplier processes e.g., quality award programs, report cards, etc.
3.3.3 Where applicable, joint supplier improvement team are formed with internal customers and cross-functional organizations
3.3.4 Development plans meet the requirements of the supplier's quality system

Element 3 – Processes

The supplier has clearly defined and documented processes that implement policy and achieve specified goals. These processes assure realization of the corporate plan, customer specific plans and development plans. Some of the key best practice process elements are described in this section.

4.1 Internal Communication

The supplier has established and maintains methods for communicating supplier diversity policy, plans, processes, metrics and results.

Key elements of internal communication include:

4.1.1 Internal customer feedback is regularly solicited and utilized to drive process improvement
4.1.2 Company-wide awareness of supplier diversity is promoted via brochures, videos, newsletters, web site etc.
4.1.3 Supplier diversity information is disseminated to internal customers on a regular basis
4.1.4 On-going supplier diversity education is provided to corporate business units and/or departments
4.1.5 Supplier diversity education is included in new employee orientation
4.1.6 Specialized supplier diversity education is provided to sales, procurement and contracting personnel
4.1.7 Rewards and recognition are provided to personnel for supplier diversity achievement

4.2 External Communication

The supplier has established and maintains methods for communicating supplier diversity policy, plans, processes, metrics and results with customers, distributors, sales channels (VAR) and suppliers.

4.2.1 External customer feedback is regularly solicited and utilized to drive process improvement
4.2.2 Where applicable, joint supplier diversity improvement plans are established with customers, distributors, sales channels and suppliers.
4.2.3 Information is provided on 1) How to do business with the company; 2) Understanding and responding to RFXs; 3) Delivering and measuring quality; 4) Understanding the telecommunications industry; 5) Understanding RFX and/or contracting requirements
4.2.4 Available supplier diversity resources are communicated e.g., training, information and/or funding sources like the NMSDC Business Consortium Fund
4.2.5 Company encourages diversity suppliers to attend external training classes such as Management Development for Entrepreneurs provided by the Anderson School at UCLA, Northwestern's Kellogg Program or Datmounth's Tuck Program
4.2.6 Upon request, diversity suppliers who are not successful in winning business are provided constructive feedback on their proposals

4.3 Customer and Supplier Teaming

The supplier has established and maintains methods for teaming with customers and suppliers for diversity planning, implementation and evaluation.

Some key elements of customer and supplier teaming include:

4.3.1 Customer and supplier feedback is regularly solicited and utilized to drive process improvement
4.3.2 Where applicable, joint supplier diversity improvement plans are established with customers and/or suppliers
4.3.3 There is standardized supplier diversity content in all RFXs and contracts
4.3.4 RFX bids and customer and/or supplier contracts require supplier diversity plans to be submitted with proposed levels of diversity supplier utilization, identification of diversity suppliers to be utilized and specific activities to be provided
4.3.5 End-to-end supply chain processes are reviewed for supplier diversity utilization opportunities that will provide long-term, sustainable and valuable business relationships
4.3.6 Prime suppliers are required to provide quarterly supplier diversity performance reports
4.3.7 Supplier diversity performance is included in supplier evaluations i.e., report cards
4.3.8 When applicable, diversity suppliers are provided with special financial considerations such as loans, extended credit terms, introductions to investment bankers and venture capital sources

4.4 Recruitment

The supplier has established and maintains methods for identifying and recruiting diversity suppliers.

Key elements of diversity supplier recruitment include:

4.4.1 Company representatives attend local and/or national trade fairs and other recruitment events sponsored by supplier diversity organizations such as the National Minority Supplier Development Council (NMSDC), Diversity Information Resources, Women's Business Enterprise National Council (WBENC) or the Association for Service Disabled Veterans (ASDV)
4.4.2 Recruitment resources such as the National Minority Supplier Development Council (NMSDC), Diversity Information Resources, Women's Business Enterprise National Council (WBENC), The Association for Service Disabled Veterans (ASDV) or the California Public Utilities Commission Clearinghouse are used to identify diversity suppliers

4.4.3 Advertisements are placed in supplier diversity related publications to help identify potential diversity suppliers

4.5 Third Party Certification

The supplier has established and maintains methods for verifying that diversity suppliers meet the local diversity supplier qualifications.

Key elements of third party certification include:

4.1.1 There are diversity supplier certification standards established (based on customer and local government requirements)
4.1.2 Where applicable, diversity suppliers are verified through a 3rd party certification agency such as the NMSDC, WBENC, ASDV or the California Public Utilities Commission Clearinghouse
4.1.3 Diversity supplier status is re-verified on a regular basis to assure proper designation

Element 4 – Measurement, Tracking and Reporting

5.1 Measurement, Tracking and Reporting Elements

The supplier has established a tracking system to document and report supplier diversity performance. The supplier diversity performance results are reported internally and externally (where applicable) on a regular basis.

Key elements of measurement, tracking and reporting include:

5.1.1 There are clearly stated supplier diversity performance goals
5.1.2 Performance results are measured against established goals
5.1.3 Supplier diversity performance goals are reviewed and re-calibrated on a regular basis
5.1.4 Supplier diversity utilization records are identified and prepared
5.1.5 Supplier diversity performance tracking systems are designed to capture supplier diversity participation at all levels of the supply chain
5.1.6 Where applicable, supplier diversity performance tracking systems interface with accounts payable, purchasing, e-commerce, information technology and other electronic systems

5.1.7 Supplier diversity performance results are reported to customers based on their specific requirements

5.1.8 Supplier diversity performance information is easily accessible via internal web page or other electronic means

NOTE B: Results tracking can include procurement (1st tier and/or 2nd tier), distributors and/or sales channels (VARs)

NOTE C: Results are reported according to generally accepted diversity reporting standards including purchasing dollars and/or the percentage of total spending

NOTE D: No product service categories or procurement areas are excluded based on diversity company availability

NOTE E: Exclusions of corporate expenditures from the purchasing base, if any, are clearly established and publicly communicated, e.g. employee salaries, taxes etc.

5.2 Audits

The supplier has established and maintains documented procedures for planning and implementing internal diversity supplier program audits to verify whether supplier diversity activities and related results comply with planned methodology and to determine the effectiveness of the supplier diversity policy, planning, processes and metrics.

Key elements of supplier diversity audits include:

5.1.1 The internal supplier diversity audits are scheduled on the basis of the status and importance of the activity to be audited and are carried out by personnel independent of those having direct responsibility for the activity being audited

5.1.2 Results for the audit are reported to executive management so that corrective action and process improvements can be initiated

5.1.3 The results of the audits are recorded and brought to the attention of the personnel having responsibility in the area audited. The management personnel responsible for the area

takes timely corrective action on deficiencies found during the audit

5.1.4 Follow-up audit activities verify and record the implementation and effectiveness of the corrective action.

NOTE F: The results of internal quality audits form an integral part of the input to executive management supplier diversity review activities.

Section 3 – Maturity Assessment Scale

The system for scoring responses to the Diversity Supplier Excellence Assessment is bases upon four evaluation dimensions: a) Policy, b) Planning, c) Processes and d) Measurement, Tracking and Reporting. Specific factors associated with the evaluation dimensions are described in this document in Section 2 – Best Practice.

A Maturity Assessment Form is provided in Attachment A. A completed assessment is provided as a sample beginning on page 12.

6.1 Maturity Levels

Best-In-Class – All elements in implementation and most elements fully implemented
Advanced – Most elements in implementation and some elements fully implemented
Emerging – Some elements beginning implementation

6.2 Scoring

137 points – 204 points	Best-In-Class
69 points – 136 points	Advanced
68 points or less	Emerging

6.3 Maturity Assessment Sample

Element 1 – Policy

Program Element	Weak	Moderate	Strong	Score*
2.1 Supplier Diversity Policy	(x1)	(x2)	(x3)	
2.1.1 Clearly articulated business case			X	3
2.1.2 Documented policy		X		2
2.1.3 Aligned with mission, goals etc.		X		2
2.1.4 Based on business strategy		X		2
2.1.5 All corporate operations included	X			1
2.2 Management Support				
2.2.1 Written CEO Statements				0
2.2.2 Demonstrated commitment	X			1
2.2.3 Executive level champion		X		2
2.2.4 Adequate budget, resources and staff		X		2
2.2.5 Business unit / department advocates		X		2
2.2.6 Input from advocacy groups	X			1
2.2.7 Events actively supported		X		2
2.2.8 Success recognized		X		2
2.3 Management Review				
2.3.1 Executive advisory council			X	3
2.3.2 All management levels accountable		X		2
2.3.3 Performance reviews conducted		X		2

TOTAL	29

* Maximum 48 points (16 elements x 3 levels)

Element 2 - Planning

Program Element	Weak	Moderate	Strong	Score*
3.1 Corporate Plan	(x1)	(x2)	(x3)	
3.1.1 Integral part of planning process			X	3
3.1.2 Included in unit objectives and goals			X	3
3.1.3 Includes all products and services	X			1
3.1.4 Reviewed by executive management		X		2
3.1.5 Resources identified and acquired		X		2
3.1.6 Meets quality system requirements			X	3
3.2 Customer Specific Plans				
3.2.1 Detailed and specific			X	3
3.2.2 Long-term and short-term goals	X			1
3.2.3 Meets quality system requirements		X		2
3.3 Development Plans				
3.3.1 Defined performance goals	X			1
3.3.2 Included in standard processes		X		2
3.3.3 Joint improvement teams	X			1
3.3.4 Meets quality system requirements	X			1

TOTAL	25

* Maximum 39 points (13 elements x 3 levels)

Element 3 - Processes

Program Element	Weak	Moderate	Strong	Score*
4.1 Internal Communication	(x1)	(x2)	(x3)	
4.1.1 Feedback regularly solicited			X	3
4.1.2 Company-wide awareness		X		2
4.1.3 Information disseminated regularly		X		2
4.1.4 On-going education	X			1
4.1.5 Included in employee orientation			X	3
4.1.6 Special education for sales etc.		X		2
4.1.7 Rewards and recognition provided	X			1
4.2 External Communication				
4.2.1 Feedback regularly solicited			X	3
4.2.2 Joint improvement plans		X		2
4.2.3 Business information provided			X	3
4.2.4 Available resources communicated		X		2
4.2.5 External training classes encouraged		X		2
4.2.6 Proposal feedback provided		X		2
4.3 Customer and Supplier Teaming				
4.3.1 Feedback regularly solicited			X	3
4.3.2 Joint improvement plans		X		2
4.3.3 Standard content in RFXs			X	3
4.3.4 Diversity plans required			X	3
4.3.5 End-to-end processes reviewed		X		2
4.3.6 Quarterly performance reports		X		2
4.3.7 Included in supplier evaluations			X	3
4.3.8 Special financial consideration	X			1
4.4 Recruitment				
4.4.1 Trade fairs and events attended			X	3
4.4.2 Identification resources utilized		X		2
4.4.3 Supplier diversity advertisement			X	3
4.5 Third Party Certification				
4.5.1 Certification standards established			X	3
4.5.2 Diversity suppliers verified			X	3
4.5.3 Status re-verified on a regular basis		X		2

TOTAL	63

* Maximum 81 points (27 elements x 3 levels)

Element 4 – Measurement, Tracking and Reporting

Program Element	Weak	Moderate	Strong	Score*
5.1 Reporting Elements	(x1)	(x2)	(x3)	
5.1.1 Clearly stated goals		X		2
5.1.2 Performance measured against goals	X			1
5.1.3 Goals reviewed regularly		X		2
5.1.4 Utilization records prepared		X		2
5.1.5 Tracking captures entire supply chain			X	3
5.1.6 Interfaces with electronic systems			X	3
5.1.7 Results reported as requested	X			1
5.1.8 Information easily accessible			X	3
5.2 Audits				
5.2.1 Regularly scheduled audits	X			1
5.2.2 Reported to executive management			X	3
5.2.3 Timely corrective action		X		2
5.2.4 Follow-up audits preformed	X			1

TOTAL	24

* Maximum 36 points (12 elements x 3 levels)

Rating Summary

Program Element	Maximum	Score
Element 1 – Policy	45	29
Element 2 – Planning	39	25
Element 3 – Processes	81	63
Element 4 – Measurement	36	24
TOTAL	201	141

	Rating	Score
Maturity Level	Best-In-Class	141

137 points – 204 points	Best-In-Class
69 points – 136 points	Advanced
68 points or less	Emerging

Appendix A – Maturity Assessment Form

Element 1 – Policy

Program Element	Weak	Moderate	Strong	Score*
2.1 Supplier Diversity Policy	(x1)	(x2)	(x3)	
2.1.1 Clearly articulated business case				
2.1.2 Documented policy				
2.1.3 Aligned with mission, goals etc.				
2.1.4 Based on business strategy				
2.1.5 All corporate operations included				
2.2 Management Support				
2.2.1 Written CEO Statement				
2.2.2 Demonstrated commitment				
2.2.3 Executive level champion				
2.2.4 Adequate budget, resources and staff				
2.2.5 Business unit / department advocates				
2.2.6 Input from advocacy groups				
2.2.7 Events actively supported				
2.2.8 Success recognized				
2.3 Management Review				
2.3.1 Executive advisory council				
2.3.2 All management levels accountable				
2.3.3 Performance reviews conducted				

TOTAL	

* Maximum 48 points (16 elements x 3 levels)

Element 2 - Planning

Program Element	Weak	Moderate	Strong	Score*
3.1 Corporate Plan	(x1)	(x2)	(x3)	
3.1.1 Integral part of planning process				
3.1.2 Included in unit objectives and goals				
3.1.3 Includes all products and services				
3.1.4 Reviewed by executive management				
3.1.5 Resources identified and acquired				
3.1.6 Meets quality system requirements				
3.2 Customer Specific Plans				
3.2.1 Detailed and specific				
3.2.2 Long-term and short-term goals				
3.2.3 Meets quality system requirements				
3.3 Development Plans				
3.3.1 Defined performance goals				
3.3.2 Included in standard processes				
3.3.3 Joint improvement teams				
3.3.4 Meets quality system requirements				

TOTAL	

* Maximum 39 points (13 elements x 3 levels)

Element 3 - Processes

Program Element	Weak	Moderate	Strong	Score*
4.1 Internal Communication	(x1)	(x2)	(x3)	
4.1.1 Feedback regularly solicited				
4.1.2 Company-wide awareness				
4.1.3 Information disseminated regularly				
4.1.4 On-going education				
4.1.5 Included in employee orientation				
4.1.6 Special education for sales etc.				
4.1.7 Rewards and recognition provided				
4.2 External Communication				
4.2.1 Feedback regularly solicited				
4.2.2 Joint improvement plans				
4.2.3 Business information provided				
4.2.4 Available resources communicated				
4.2.5 External training classes encouraged				
4.2.6 Proposal feedback provided				
4.3 Customer and Supplier Teaming				
4.3.1 Feedback regularly solicited				
4.3.2 Joint improvement plans				
4.3.3 Standard content in RFXs				
4.3.4 Diversity plans required				
4.3.5 End-to-end processes reviewed				
4.3.6 Quarterly performance reports				
4.3.7 Included in supplier evaluations				
4.3.8 Special financial consideration				
4.4 Recruitment				
4.4.1 Trade fairs and events attended				
4.4.2 Identification resources utilized				
4.4.3 Supplier diversity advertisement				
4.5 Third Party Certification				
4.5.1 Certification standards established				
4.5.2 Diversity suppliers verified				
4.5.3 Status re-verified on a regular basis				

TOTAL	

* Maximum 81 points (27 elements x 3 levels)

Element 4 – Measurement, Tracking and Reporting

Program Element	Weak	Moderate	Strong	Score*
5.1 Reporting Elements	(x1)	(x2)	(x3)	
5.1.1 Clearly stated goals				
5.1.2 Performance measured against goals				
5.1.3 Goals reviewed regularly				
5.1.4 Utilization records prepared				
5.1.5 Tracking captures entire supply chain				
5.1.6 Interfaces with electronic systems				
5.1.7 Results reported as requested				
5.1.8 Information easily accessible				
5.2 Audits				
5.2.1 Regularly scheduled audits				
5.2.2 Reported to executive management				
5.2.3 Timely corrective action				
5.2.4 Follow-up audits preformed				

TOTAL	

* Maximum 36 points (12 elements x 3 levels)

Rating Summary

Program Element	Maximum	Score
Element 1 – Policy	45	
Element 2 – Planning	39	
Element 3 – Processes	81	
Element 4 – Measurement	36	
TOTAL	201	

	Rating	Score
Maturity Level		

137 points – 204 points	Best-In-Class
69 points – 136 points	Advanced
68 points or less	Emerging

Appendix B – Glossary

Goal – A target which, when achieved, indicates progress in a preferred direction. A goal is neither a requirement nor a quota.

Diversity Supplier – Within the United States, Diversity Suppliers are companies that are owned by a minority(ies), a service disabled veteran(s) or a woman (women). Outside the United States, the definition of diversity suppliers is determined locally and is based on historically underutilized businesses ownership.

Minority-and Women-Owned Business (MWBE) – Within the United States, these are defined as businesses which have been verified by the National Minority Supplier Development Council (NMSDC), Women's Business Enterprise National Council, California Public Utilities Commission Clearinghouse or other certification agency with comparable standards to be 51% owned, operated and controlled by a minority individual or group or by one or more women; for publicly held businesses, at least 51% of the stock must be owned by one or more minorities or women who are U.S. citizen or legal aliens with permanent residence status.

Service-Disabled Veteran Business Enterprise – These are defined as businesses that satisfy the requirements to be 51% owned, operated and controlled by a service disabled veteran or group. These business must be certified by certifying agency recognized by the purchasing entity such as the California State Office of Small and Minority Business (OSMB).

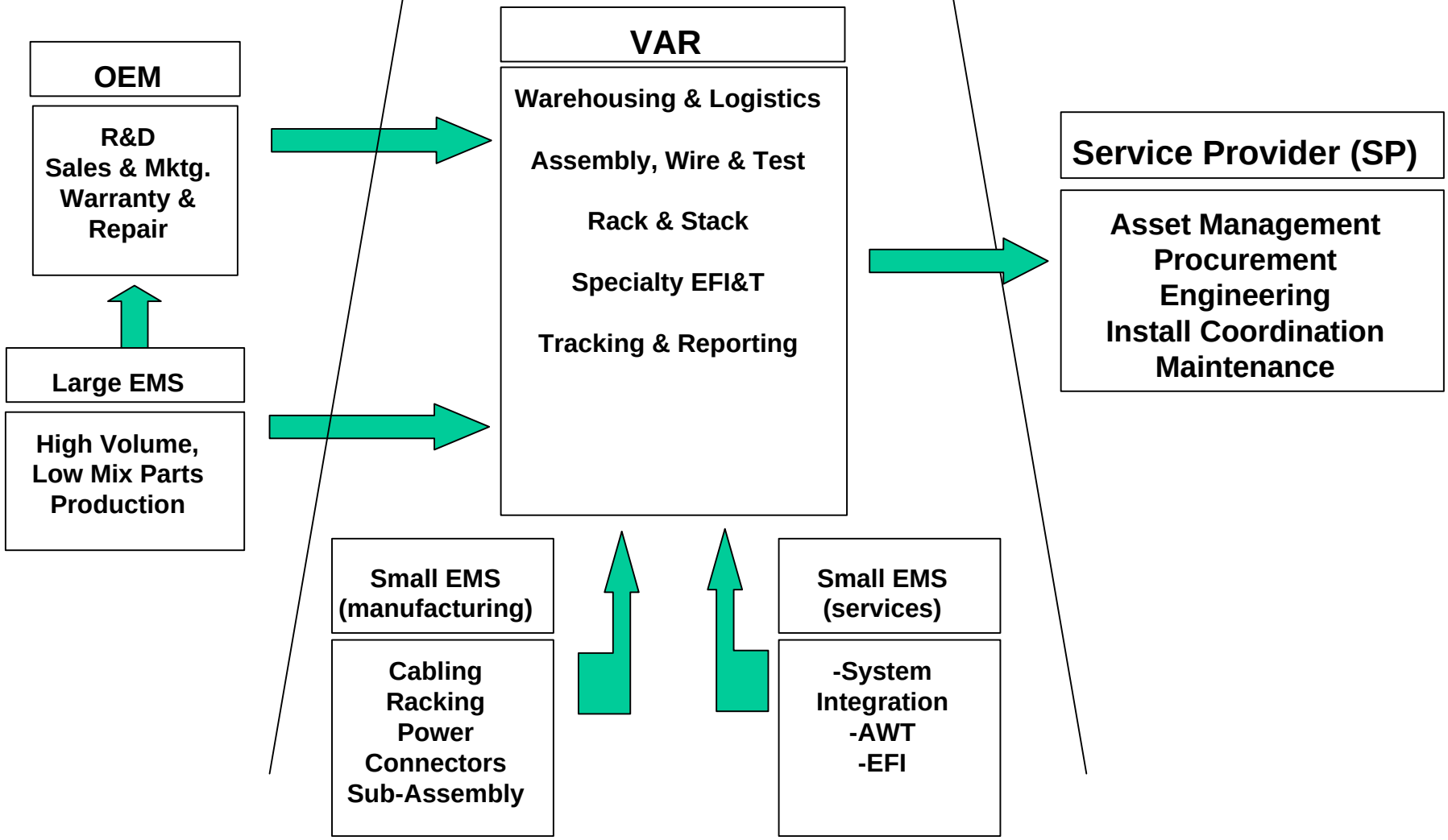
Subcontracting – Any agreement or arrangement between a contractor and any party or person for the furnishing of supplies or services.

Supplier Development – Effort to increase the capability of a supplier toward long-term success through programs such as mentorship, supplier teaming, split awards, etc.

Supplier Recruitment – Effort to inform, educate and enlist potential suppliers for future purchases.

Value-added Reseller (VAR) – A vendor who purchases a product(s) from an original equipment manufacturer (OEM) or other prime supplier and resells the product(s) to its customer(s) after adding value to the basic product by providing presale and/or post-sale services and/or support.

Telecom Supply Chain Model



Top 10 Diversity Spend Product Categories for SBC in 2002

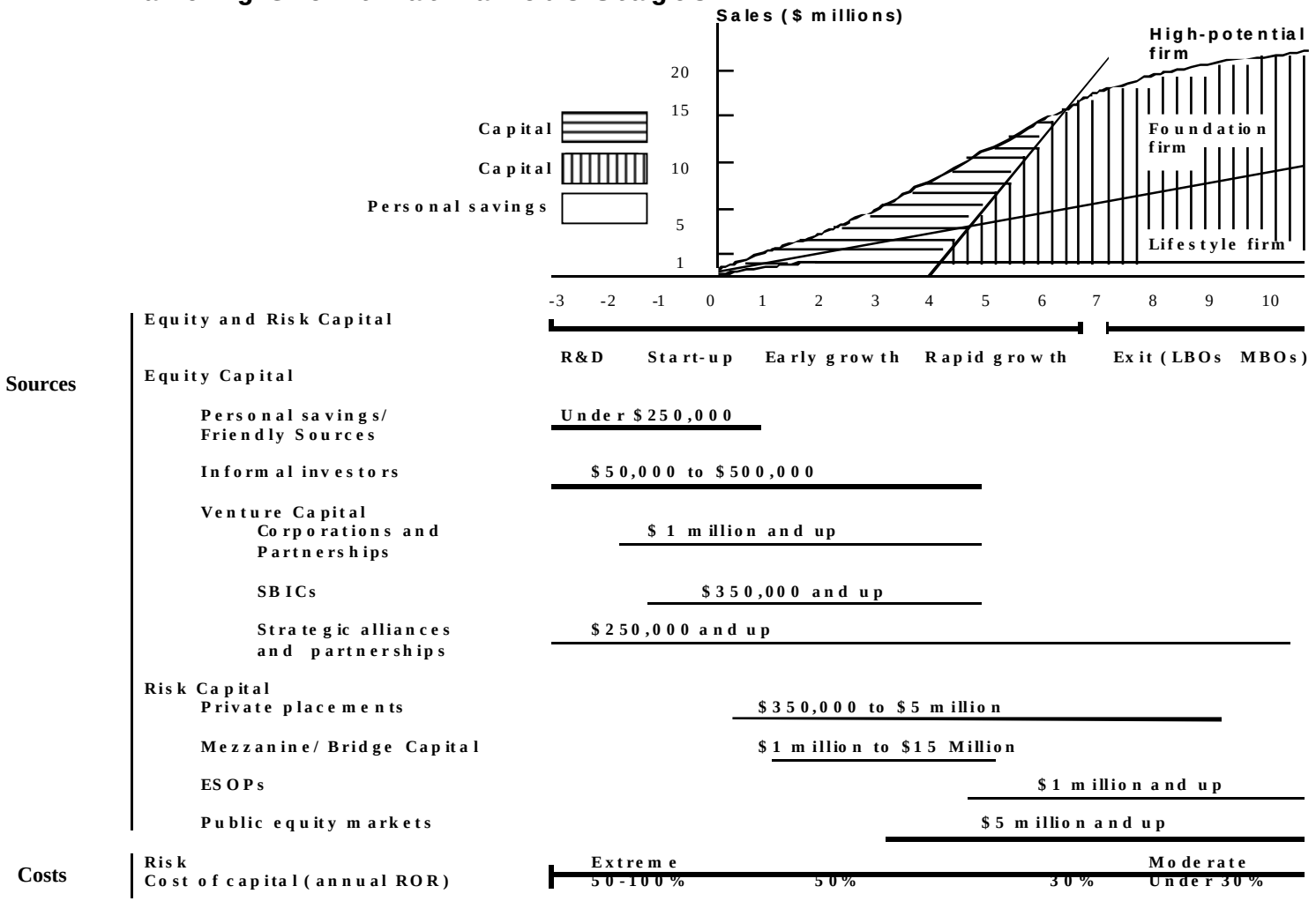
Category	**Total 2002 Diversity Spend**
Transport (Access)	$604,812,437
OSP-Materials (Transmission)	$227,488,704
OSP-Services (Transmission)	$81,762,437
Professional & Temp Services	$70,913,079
Real Estate-Design & Construction	$163,418,186
Motor Vehicles	$89,927,251
Switch	$48,957,783
Desktop Products	$38,902,850
CPE (Customer Premise Equipment)	$59,545,910
Computers	$142,386,427
Total 2002	**$1,528,115,064**
Percent of Total Diversity Spend from Listed Categories	**89%**

Cost Comparison OEM, EMS or VAR Performing Selected Supply Chain Activities

		Customer Specific Configuration	Engineering to Assemble SP Order	Integration of Multiple Products	Assembly and Testing	Logistics	Warehousing and Staging	Inventory Planning and Tracking	Kitting	Recall Management	Invoicing and Collections	Order Consolidationn	Reconcilliations	Electronic Order Interface	Lead Time Reduction	Localized Service	OEM/EMS Production Smoothing	Customized Reporting	Warranty and Returns Processing	**Total Estimated Operating Costs**	**Cost of Alternative: Outsourcing**	**Cost Savings from Outsourcing**
		Site Specific Cust.				Inventory Management					Order Management				Fulfillment			Cust. Serv.			**Cost Savings**	
Access Products	OEM	3.50%				2.50%					1.25%				2.00%			0.25%			9.50%	6.00%	**3.50%**
	EMS	3.00%				2.25%					1.50%				1.00%			0.25%			8.00%	6.00%	**2.00%**
Transport Products	OEM	3.50%				1.88%					0.94%				2.50%			0.38%			9.20%	5.75%	**3.45%**
	EMS	3.00%				1.69%					1.13%				1.75%			0.38%			7.95%	5.75%	**2.20%**
Switch Products	OEM	3.50%				1.25%					0.63%				3.50%			0.56%			9.44%	6.00%	**3.44%**
	EMS	3.00%				1.13%					0.94%				2.75%			0.56%			8.38%	6.00%	**2.38%**

Financing Growth*

Financing Growth at Various Stages



*Adapted from Jeffry A. Timmons New Venture Creation, 3rd edition Irwin, 1990 page 408.

Profile of a Successful Diversity Supplier

The Task Force compiled a profile of some of the characteristics and behaviors of a successful Diversity Supplier, based on detailed site visits, extensive supplier interviews and testimony from Diversity Suppliers.

A business with:

- A structured and effective communication process with OEMs, Service Providers, financial institutions and other key stakeholders
- A balanced approach to capitalizing on immediate, project-based, frequently low margin opportunities, and longer term, high margin opportunities
- The ability to develop new core competencies over time that provide competitive advantages to the Diversity Supplier
- Documented contingency plans that reduce risks associated with circumstances such as contract completion and/or product obsolescence
- Developed management resource and succession plans
- An in-depth understanding of the business cycles associated with the Diversity Supplier's product and service offerings, and the changing needs of its customers
- A documented business plans focused on growth and diversification of the revenue base either through new customer acquisition, new service offerings, or penetration of new industries
- An experienced CFO with established tight financial controls to optimize profits from thin margins, and actively seeks opportunities to finance growth
- A skilled Board of Directors that provides external expertise to supplement the knowledge and experience of the Diversity Supplier
- Active participation in industry professional organizations and other forums that provides access to the advice and counsel of key subject matter experts and seasoned Telecom industry veterans
- Ordering, invoicing and payment IT systems that is fully integrated with OEM and customer systems
- Deployed Quality management plans, processes and systems
- Quality certifications such as ISO and TL9000
- Recognized experts in areas of core competency and achieved applicable technical certifications

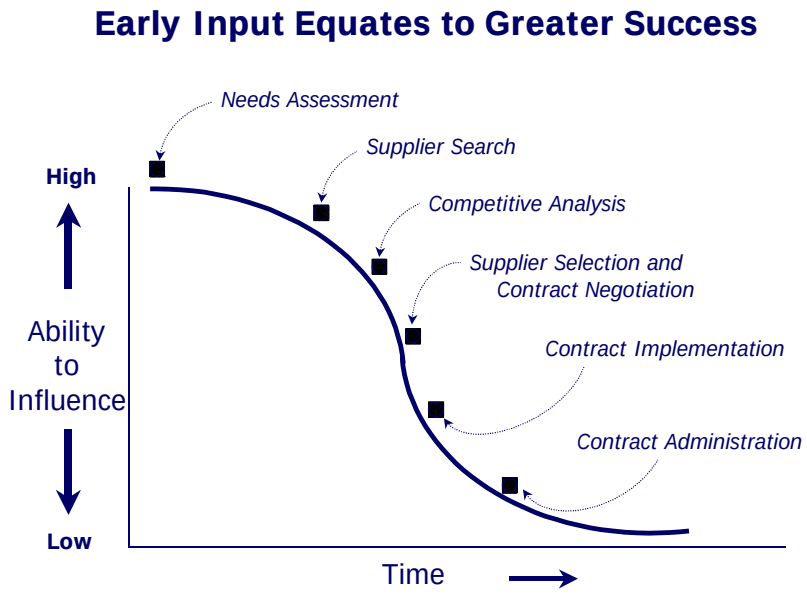
Value Added Reseller (VAR) Best Practices

In addition to the characteristics of successful Diversity Suppliers generally, the Task Force observed Best Practice specific to Value Added Resellers (VARs)

- End-to-end supply chain processes were designed and included in contracts to identify how smaller suppliers can help optimize the supply chain
- Relationships with OEMs and customers were built upon to diversify product offerings and develop sales and marketing alliances
- Contract terms were clearly defined to include effective dispute resolution processes for VAR specific issues as (e. g. excess inventory, late payments to VAR that impact ability to pay OEM)
- Commitments with OEMs and customers were leveraged to facilitate obtaining long term investment (e. g. Plant and Equipment) and short term working capital needs (e. g. inventory) from financial institutions
- Diversified from lower margin, product based offerings, to higher margin, service oriented business that required less capital to grow and sustain
- Sophisticated systems infrastructures were in place that provided demand planning, product shipment and inventory tracking capabilities in additional to ordering, invoice and payment capabilities
- Performance targets (e.g. delivery intervals, inventory turns, order quality, customer satisfaction) were clearly defined and were visible to all parties through web enabled tools
- Counsel from experienced mentors was an effective avenue to develop product expertise and improve communication with OEMs

TITLE: Sample Supplier Diversity Sourcing Process Steps
RECOMMENDATION 1: Integrate Supplier Diversity planning into the sourcing process
PURPOSE: To incorporate supplier diversity throughout each step in the sourcing process to fully leverage unique opportunities of small business in the Telecom supply chain

The following diagram represents how supplier diversity considerations can and should be incorporated into every step of the contracting process. An example of a procurement contracting process follows.



I. Objective

This document describes:

A. Our Company's Supplier Diversity goals and Program implementation (Minority Business Enterprises ("MBE"), Women Business Enterprises ("WBE") and Disabled Veteran Business Enterprises ("DVBE"), collectively referred to as "M/WBE/DVBE").

B. Our Company's policy, objectives associated with these programs and how the Company's procurement processes help meet these objectives.

II. Supplier Diversity Policy

A. It is the policy of our Company to promote, increase and improve the quality of the overall participation of M/WBE/DVBE's and small business enterprises in the Company's purchases of materials and services.

B. Maximum practicable opportunity shall be given to M/WBE/DVBEs to participate as suppliers of materials and services to our Company.

C. Our Company also encourages subcontracting opportunities for M/WBE/DVBE's by requiring Supplier Diversity Participation Plans from the Company's prime suppliers.

III. Our Company's Supplier Diversity Goals

A. Our Company goals are as follows:

- XX% - MBE
- XX% - WBE
- XX% - DVBE
- Only purchases with companies who have been certified by a company approved certification agency may be reported toward these goals.
- To ensure goals/objectives are achieved, the Procurement Leadership Team serves as an advisory board and reviews all key Supplier Diversity business development initiatives.

IV. Competitive Advantages

A. The Supplier Diversity Program is an integral part of our Company's strategic advantage, in an increasingly competitive marketplace. These Programs are designed to serve our Company and all its subsidiaries and affiliates.

B. Public and Private Sector customers are increasingly demanding Supplier Diversity Plans and Results from their strategic suppliers. Our account teams rely heavily on the Supplier Diversity Results provided by our Company to differentiate our products from our competitors. M/WBE/DVBE's help the Company meet the needs of its diverse customer base and maintain its competitive edge by providing quality materials and services. Promoting the participation of a diverse supplier base not only provides good business solutions, it also cultivates customer loyalty, bidding advantages and public policy support in the communities our Company serves.

C. The Company participates in competitive quotes to provide services for federal and state agencies. These customers have aggressive Supplier Diversity and small business purchasing requirements. Private sector customers also require that our proposals and quotes include Supplier Diversity Participation Plans. The Company's direct Agreements with M/WBE/DVBE's, combined with the Company's prime suppliers' results, are essential to our Company's competitive quotes to governmental and private sector customers.

V. Supplier Diversity Manager's and Contract Manager's Responsibilities

A. The Contract Manager along with the Supplier Diversity Manager have critical responsibilities in meeting our Company's Supplier Diversity Programs' policy objectives and targeted goals.

B. Supplier Diversity must be addressed in every step of the contracting process. When following your Procurement Contracting Process, include Supplier Diversity activities as follows in sections VI through X.

VI. Needs Assessment

A. From client procurement plans to spot buying, Supplier Diversity participation **must** be assessed and analyzed whenever considering a client's procurement needs.

B. Discuss with the client the value of Supplier Diversity participation in our Company's Supply Chain and the importance of achieving the Company's Supplier Diversity goals.

C. Assess current levels of Supplier Diversity participation in relation to both the particular materials and services and in relation to the current prime suppliers Supplier Diversity results.

D. Evaluate the potential effect of our Supplier Diversity Results when renewing existing agreements, executing new amendments and extending expiring contracts as compared to initiating new procurement arrangements.

E. Ensure that the approved supplier diversity language is in all contracts (including renewals and extensions). Take this opportunity to increase the participation of diversity suppliers whether as prime suppliers, Value Added Resellers ("VARs"), subcontractors or partners in a strategic alliance. Every effort should be made to avoid decreasing Supplier Diversity participation.

F. Consider all possible opportunities for M/WBE/DVBEs to provide some or all of the material and services under consideration.

VII. Supplier Search

A. The supplier search is the initial step towards reaching the Company's Supplier Diversity goals. Every effort should be made to ensure that the diversity companies are given the opportunity to compete. The Contract Managers should work with the Supplier Diversity Managers who are responsible for the specific materials and Services.

B. Use the following tools and resources provided by the Supplier Diversity Organization to identify M/WBE/DVBE suppliers who can supply the material or service:

- The Supplier Diversity database will identify M/WBE/DVBE suppliers who are currently doing business with the Company, whether as a prime supplier or as subcontractors
- M/WBE/DVBE Profiles
- Other Contract Managers who have achieved success in developing M/WBE/DVBE suppliers

C. Create Strategies to optimize Supplier Diversity Participation

- At times, potential M/WBE/DVBE suppliers may be encountered who can only perform certain aspects of an Agreement or only in a limited geographical area**. <u>Do not automatically exclude them.</u>** Consider whether the business can be awarded to more than one supplier. For example, a small M/WBE/ DVBE may be awarded a portion of the business and a larger supplier the rest. The greatest value of supplier consolidation might be achieved by awarding a larger supplier 80-90% of the business, with 10-20% going to an M/WBE/DVBE business.
- Give M/WBE/DVBE suppliers sufficient notice of the required scope of procurement so that they have the opportunity to form consortiums/alliances with other M/WBE/DVBE suppliers or prime suppliers and more effectively participate in a procurement opportunity that they could not win alone.

D. Develop a close relationship with M/W/DVBEs

- When appropriate, develop a close working relationship with a few M/WBE/DVBE's and encourage ongoing communications. The Supplier Diversity Manager and the Contract Manager are responsible for providing coaching and mentoring to diversity suppliers, helping these enterprises to understand industry standards, the Company's procurement standards, how best to market to a large Corporation, the kinds of capabilities the Company is looking for and possible subcontracting and VAR opportunities.
- Additionally, help M/WBE/DVBE suppliers improve their capabilities, as well as their ability to competitively quote on future projects.

<u>VIII. Competitive Analysis:</u>

A. Ensure M/WBE/DVBE suppliers receive proper consideration during this phase:

B. When preparing the Request for Proposal ("RFP") or Request for Quotation ("RFQ"), specific and well developed Supplier Diversity Participation Plans which achieve our Company's numerical goal of XX% or higher, should be clearly identified and submitted with each bidder's response.

C. This is the stage when the Contract Manager has the greatest opportunity to influence the vigor with which the prime suppliers will pursue M/WBE/DVBE subcontractors or VARs. Potential suppliers and competing bidders will present their strongest plan when they believe that it will help them in the competitive selection process. They look to the Supplier Diversity Managers and Contract Manager for direction on the significance of Supplier Diversity goal achievement of XX% or higher, if there is an opportunity for a VAR solution or greater participation in this project. Competing companies which believe that detailed Supplier Diversity plans are essential to a successful bid response will

analyze their end-to-end supply chain to identify the optimum opportunity for including a diversity business partner.

D. Non-Competitive Awards:

- During the financial analysis process, consider the cost of the material or service, as well as the cost of the RFP or RFQ process, to determine if a Non-Competitive Award may be appropriate.
- When a Non-Competitive Award is justified, it provides an excellent opportunity to consider a qualified M/WBE or DVBE supplier.

E. Decision Matrix Process:

- The final award selection from the group of finalists is based on the selection team's evaluation of the Best Overall Value in the particular situation. A matrix system by itself may not always provide a complete assessment, and it is easy to make the mistake of thinking that a matrix system may be more comprehensive or precise than it really is.
- After completing the Decision Matrix, consider factors for which no points may have been assigned. For example, selection considerations outside of the Decision Matrix might include factors such as strategic value and contribution to quality initiatives. The Contract Manager should also consider Supplier Diversity participation, whether through ownership status or through a Prime Supplier Participation Plan. Adding this management judgment step to the selection analysis better ensures that the selected supplier provides the Best Overall value to our Company.

IX. Supplier Selection and Contract Negotiation

A. Supplier selection and contract negotiation is the next significant step in achieving good Supplier Diversity results. Supplier Diversity utilization should be finalized before the Agreement is executed. Suppliers will cooperate to find resources to meet the Company's needs for Supplier Diversity utilization, if accomplished before the Agreement is executed. More importantly, the financial model being developed by the supplier must include Supplier Diversity participation before a quote or price can be submitted.

B. Consider Supplier Diversity participation, and strive to negotiate a diversity plan to reach the company's goal of XX or higher, in combination with other selection criteria during the evaluation process. When measuring the value of each qualified supplier, consider the supplier's contribution to attaining the Company's Supplier Diversity goals.

C. Assure detailed Supplier Diversity Prime Supplier Participation Plans and specific Supplier Diversity goals are included in the Agreement. When negotiating, also ensure that the supplier has a clear and definite plan to achieve the goals. **If the finalists have not yet identified M/WBE/DVBE subcontractors, and business solution partners and/or VARs and what parts of the Agreement they will perform, then the supplier selection and**

contract negotiation should continue until they do. The development of Supplier Diversity participation does not happen without focused business planning, and the prime suppliers must take specific action to make sure M/WBE/DVBE suppliers have a significant role.

D. Let M/WBE/DVBE bidders know as soon as possible when they are no longer being considered for a quote. Because M/WBE/DVBE suppliers are often small businesses, they need to know when to redirect their attention to other potential business. Early notification also permits M/WBE/DVBE bidders to be considered as subcontractors, VARs or business solution partners. When appropriate, encourage them and the winning bidder to consider working together in a subcontractor, VAR or business solution partner relationship.

E. While it is typically not practical for a Contract Manager to hold debriefing sessions with all bidders, in certain circumstances it may be appropriate**. Please note that when an M/WBE/DVBE supplier requests a debriefing session, the Company should provide constructive feedback.** Not only is this a part of the coaching and mentoring that the Company wants to provide M/WBE/DVBE suppliers, it is also required by the California Public Utilities Commission. The Contract Manager should contact Supplier Diversity for assistance when presented with such a request.

X. Contract Implementation and Administration

A. This step emphasizes the value of a close working relationship with participating M/WBE/DVBE suppliers.

B. For winning bidders, offer information and coaching as necessary to help them be successful. Guide them on how to optimize their new or continued relationship with our Company. Make sure that they are connected with the appropriate Company personnel and processes that will help them successfully meet their contractual obligations. The Supplier Diversity Manager and the Contract Manager can be an invaluable mentor for M/WBE/DVBEs and should continue to foster a supportive environment for M/WBE/DVBE suppliers.

C. Monitor progress toward achieving Supplier Diversity goals. Access Supplier Diversity results via the Supplier Diversity Results system.

D. Nominate promising M/WBE/DVBEs for the Supplier Partner Program (SPP). This will encourage M/WBE/DVBE suppliers to continue the development of high standards, while exhibiting the Company's support for the Supplier Diversity Programs.

E. Nominate non-M/WBE/DVBE suppliers who procure from or partner with M/WBE/DVBEs for the SPP. Non-M/WBE/DVBEs who develop VARs or subcontracted work to M/WBE/DVBEs can serve as prime examples to other non-M/WBE/DVBE suppliers.

F. Suppliers must have an up-to-date Supplier Diversity Participation Plan, meeting or exceeding the diversity goal in order to be considered for any SPP Award.

- Ensure that all Prime Supplier Quality and Performance Reports include a read-out on their diversity results achievement and corrective action plans if necessary.
- Ensure that prime suppliers are following through on their Prime Supplier Participation Plans. The prime suppliers should be sending their Annual Prime Supplier Participation Plan and Quality reports to the Supplier Diversity Organization. Praise good results and work with them to improve poor results. Advise the suppliers that these metrics are reviewed regularly with upper management. This is an important step because the suppliers are looking for signs that the Company actually intends to follow through on the achievement of Supplier Diversity goals.

In addition, the Supplier Diversity and the Contract Manager have the following responsibilities.

XI. Mentoring Activities

A. Explore Supplier Diversity developmental opportunities with the Supplier Diversity Organization.

- Assist in the continuing success of M/WBE/DVBE suppliers.
- Assist prime suppliers in developing M/WBE/DVBE subcontractors and VARs or business solution partners.
- Mentor and coach M/WBE/DVBEs.
- Identify M/WBE/DVBEs who can join the Company's SPP.
- Encourage supplier participation in various Supplier Diversity Programs, e.g., nominate M/WBE/DVBEs for attendance at higher education programs such as the UCLA Management for Entrepreneurs Program, Northwestern University's Executive Management Education Program, and Dartmouth Minority Business Executive Program.
- Provide information on financial assistance and development to Businesses that need additional resources not met by traditional financial lending institutions, e.g. CEDLI (California Economic Development Lending Initiative) and Business Consortium Fund, Inc (BCF), etc.

XII. Referral/Inquiry

A. Respond to referrals to help M/WBE/DVBE suppliers understand our Company's contracting processes, qualifications and expectations.

B. In addition to information and coaching that the Supplier Diversity Manager and the Contract Manager may provide, M/WBE/DVBEs should be directed to

the Company's Supplier Diversity Organization for business development assistance and other help, as needed.

C. Supplier Diversity Organization's Responsibilities:

- The Supplier Diversity Organization is the group within our Company's Procurement Department that develops the strategic direction and oversees the implementation of our Company's Supplier Diversity Programs and is responsible for Diversity Policy.

D. The Supplier Diversity Organization is responsible for the following primary and support activities and services:

- Assist Contract Managers in all aspects of Supplier Diversity, with particular emphasis on developing strategies for Supplier Diversity goal achievement in all of our Company's Agreements.
- Attend Supplier Diversity and small business events to promote our Company's commitment to its Supplier Diversity Programs and identify potential M/WBE/DVBE suppliers.
- Maintain active list of Diversity Suppliers in a data repository.
- Obtain current Diversity Participation Plans and place these plans into the data repository.
- Monitor performance of the Diversity Participation Plans.
- Coordinate with the Contracting Methods Group to maintain and update the contractual exhibits and appendix's associated with our Company's Diversity Plan/Reports.
- Actively participate in Contracting Director meetings and Cross Functional Teams meetings.

XIII. Supplier Diversity Managers

A. Develop Supplier Diversity Participation Plans within specific material and service areas and work closely with M/WBE/DVBE's who seek to provide those materials and services to our Company.

B. Assist the Company's Cross-Function Teams and Contract Managers in developing and implementing Supplier Diversity solutions; assist the Company's prime suppliers in improving their Supplier Diversity Participation Plans and results, including subcontracting and VAR plans.

C. Coach and mentor the Company's M/WBE/DVBE suppliers.

D. Develop Diversity strategies, which will assist in meeting our Company's Diversity goals.

E. Maintain Supplier Diversity Plan database, which includes all active participation plans, financials, dollars award by our Company.

F. Track and report results via the Supplier Diversity database and website.

G. Provide training on our Company's Supplier Diversity Program.

H. Provide Contract Manager **with early** communications if a Diversity Supplier is encountering problems, such as billing, payment, late invoices, shipping, financial and/or technical.

I. Maintain positive relationships with numerous stakeholder and advocacy groups who are interested in our Company's Supplier Diversity initiatives and results.

J. Develop and submit our Company's Supplier Diversity Annual Plan and performance results to the regulatory agencies.

K. Support our Company's Marketing teams in developing quote proposals to private and public sector customers who, like us, require Supplier Diversity participation.

L. Report results to upper management.

XIV. Calculating Supplier Diversity Results

A. In order to ensure the highest level of integrity in the Company's Supplier Diversity Programs, our Company only counts purchases from companies that are independently certified to be 51%-owned and operated by a woman, minority or disabled veteran.

XV. Prime Supplier Participation Program

A. Our Company encourages and assists the Company's prime suppliers in developing detailed and specific plans to increase their utilization of M/WBE/DVBE suppliers. These plans and the prime suppliers' goals are incorporated into the Agreement with our Company. The Prime Supplier Participation Program:

- Expands opportunities for M/WBE/DVBEs to participate in our Company's supply chain as a business solution partner. The optimal time for increasing opportunities for Supplier Diversity participation is during the process of supply chain analysis and/or reengineering.
- Focuses on the role the Company's prime suppliers play in creating competitive advantage through the development of a diverse supplier base.
- Incorporates subcontracting. (Subcontracting is: when a supplier either outsources a part of the business with our Company to another firm or when the supplier purchases materials or services to be used in fulfilling the Agreement with our Company.)
- One way prime suppliers meet Supplier Diversity requirements for Agreements greater than $XXX.

- Incorporates VARs and business solution partners, which are terms used to describe a strategic relationship with another company that is integrated into a prime supplier's end-to-end supply chain.

B. Increasingly, the Company's largest suppliers are focusing on core competencies and outsourcing significant aspects of their production, marketing and delivery. By developing and including an M/WBE/DVBE business solution partner, a prime supplier may be able to provide materials and services "faster, better or cheaper" to our Company.

C. Our Company informs prime suppliers that a Supplier Diversity Participation Plan is a factor which will be considered in the quote evaluation process. In assessing prime supplier's utilization of M/WBE/DVBEs, we will recognize Participation Plans that include subcontracting, VAR or other creative business solutions.

D. Under the Prime Supplier Participation Program, prime suppliers:

- Have an Agreement (valued at $XXX or more) to provide materials or services to our Company or one of its subsidiary companies or affiliates.
- Play a role in the Company's combined success by including M/WBE/DVBEs in the production and delivery of materials and services provided to our Company.
- Find ways to optimize their supply chain and improve their performance by utilizing M/WBE/DVBEs as business partners.
- Implement their own effective Supplier Diversity Program that contain these six key elements:
    1) Goals
    2) Corporate Commitment of its Leadership
    3) Action Plans to Work Toward Goals
    4) Tracking and Reporting Processes
    5) Continuous Improvement System
    6) Submit Annual Plan and Quarterly Results to the Supplier Diversity Organization.

XVI. Supplier Diversity Required Clauses and Appendices

A. Within the provisions of the RFP or RFQ, our Company notifies prospective bidders that Supplier Diversity participation is encouraged and that a Prime Supplier Diversity Participation Plan will be required. Agreements should contain the supplier's specific goals for Supplier Diversity subcontracting or VAR participation.

XVII. Employee Advocates and Outreach Ambassadors

A. Our Company's commitment to grow our business with M/WBE/DVBEs does not reside within the Procurement organization alone. Many Officers have designated Supplier Diversity Organizational Advocates. Their job is to ensure that their organization strives to achieve the Company's diversity targets. They monitor results and act as a liaison between their organization and our Supplier Diversity Programs. Outreach Ambassadors are a team of employee volunteers who represent the Company at trade fairs and outreach events. The Outreach Ambassadors are knowledgeable about the Supplier Diversity mission and share program information with customers, advocacy groups, business councils, etc.

XVIII. Recognition Program

A. The Supplier Diversity Organization hosts the Supplier Diversity Achievement Award event, honoring our employees for their innovative approaches to increasing opportunities for M/WBE/DVBEs to participate in our Company's businesses. The Contract Managers are encouraged to nominate candidates for recognition at this event. Additional recognition is given to Procurement employees through the Company's quarterly newsletter, "Diversity Matters" and the DVBE Advocate Award.

XIX. Employee and Client Group Training

A. All new Contract Managers should receive mandatory Supplier Diversity Programs training. A Supplier Diversity Business Development Manager is assigned to work with each Contract Manager and help them to develop Supplier Diversity participation within the materials and services they procure for our Company.

B. Supplier Diversity Training Reference, brochures, videos, newsletters and a hotline number should be broadly available to our Clients and/or Employees.

C. The Supplier Diversity Programs intranet website is also a key source of current information for employees Company-wide.

TITLE: Sample Supplier Diversity Essentials Checklist
RECOMMENDATION 1: Integrate Supplier Diversity planning into the sourcing process
PURPOSE: To facilitate Supplier Diversity sourcing process through an easy-to-use job aid

SAMPLE SUPPLIER DIVERSITY ESSENTIALS CHECKLIST

1. Set Plan of Action for M/WBE and DVBE participation in every major procurement event, whether a Customer Procurement Plan, a bid, a spot buy, a Master Agreement or specific contract. Work with your Supplier Diversity Manager to identify qualified, certified diversity suppliers and to develop strategies to meet Supplier Diversity goals.

2. Ensure requests for proposals (RFQs and RFPs) include M/WBE and DVBE bidders whenever possible and that all bidders, in order for a bid to be deemed responsive, submit Supplier Diversity participation plans.

3. Ensure that finalists in a competitive bid have submitted detailed and specific Prime Supplier Diversity plans before entering into an award decision. Review received plans with your Supplier Diversity Manager to determine that a “bona fide” plan has been submitted.

4. Ensure that all contracts and amendments over $XX have M/WBE and DVBE goals, standard clauses and exhibits including a detailed and specific Annual Plan for achieving those goals, before the contract signature. Forward Annual Plans to the Supplier Diversity group for monitoring progress.

5. Coordinate with internal clients, purchasing and other supply chain stakeholders to develop a supplier diversity implementation plan that is integrated with existing processes, methods and procedures.

6. Monitor the Supplier Diversity performance of your key Prime Suppliers to ensure that they are achieving goals or are demonstrating commitment to achieve the goals over a realistic period of time. Conduct periodic VAR development and quality review meetings with members of THE CONTRACTING COMPANY, the VAR and Prime Supplier to ensure successful implementation of the VAR solution and to identify potential problems or performance deficiencies before they become serious.

7. Explore Supplier Diversity developmental opportunities with your Supplier Diversity Manager as soon as a procurement event commences. Early supplier diversity planning is critical to success.

8. Select a few M/WBEs and DVBEs in your portfolio to coach and mentor.

9. Identify M/WBEs and DVBEs to participate in your Supplier Quality Program.

10. Nominate M/WBEs and DVBEs to attend university entrepreneurial management programs sponsored by your company.

TITLE: Sample Decision Matrix Factors
RECOMMENDATION 1: Integrate Supplier Diversity planning into the sourcing process
PURPOSE: To assess the unique value provided by diversity suppliers when awarding contracts

Sample Decision Matrix Factors

A Decision Matrix is:

- A tool developed by the evaluation team with assistance from the Contract Manager. It should list the key factors, specifications and requirements that will be considered in selecting a supplier;
- Variable from project to project—i.e., no single matrix format applies to all situations—and the team should develop the most appropriate Decision Matrix tool for analyzing the supplier responses;
- Completed and analyzed by the Contract Manager and evaluation team, using the information received from potential suppliers.

The following factors can be considered in the development of a Decision Matrix:

- Develop a matrix of the factors that are important, in addition to price; and
- "Weight" those factors by assigning a total number of points attainable for each factor, according to what is most important for the specific need. For example, if delivery is most important, that factor should have the highest number of total points attainable and the supplier that can best meet the required delivery schedule would receive the highest number of points in that category. Mechanized systems are available to assist with the formatting and computation of points.
- The following components can be included in the Decision Matrix:
  - Price
  - Warranty and return policy
  - Defect rate
  - Commitment to M/WBE–DVBE participation
  - Percent of M/WBE-DVBE participation
  - Supplier's dependence on Company's business
  - Quality of the material/service
  - Delivery schedule

- Supplier's financial stability
- Willingness to sign the Company's model contract terms
- Product performance
- First cost
- Process cost
- Life cycle costs
- Total Cost of Ownership ("TCO"): TCO reflects the economic impact over time of all relevant and significant costs associated with the acquisition, use, maintenance and disposal of materials and services
- Features
- Design
- System compatibility
- Supplier capability
- TL9000 and/or ISO certification
- Material or service's strategic value to the Company
- Potential contributions to strategic direction of the Company
- Potential contributions to the Company's quality initiatives
- The management strength of the company
- Ability to control overhead costs
- Emphasis on providing quality materials and services
- Support services,
- Technical depth and abilities

TITLE: Sample Supplier Diversity RFP Clauses
RECOMMENDATION 2: Require Supplier Diversity Plan in RFPs
PURPOSE: To clarify that Supplier Diversity participation is required, and that the supplier's diversity responses will be evaluated to determine best value and winner of bid

Sample Supplier Diversity RFP Clauses

It is the policy of (Company) to promote and increase the participation of minority, women and disabled veteran business enterprises in its purchasing and contractual business. Maximum practicable opportunity shall be given to minority, women and disabled veteran business enterprises to participate as suppliers and contractors to (Company). To achieve this goal, (Company) encourages additional opportunities for minority, women and disabled veteran business enterprises by requiring MBE/WBE/DVBE supplier diversity plans from our primary suppliers.

As part of your response, please indicate if your firm is a minority, women or disabled veteran business enterprise, by ethnic group, if applicable. Also, please develop and submit a supplier diversity plan which would include the use of minority, women and/or disabled veteran business enterprises in fulfilling the obligations which would be assumed if you were to be awarded the contract under this RFP. (Company's) suppliers are critical to our success in achieving diversity goals of (__%) MBE, (__%) WBE, and (__%) DVBE. A supplier diversity plan should include, but not be limited to:

a. Subcontracting is the general term used when your company either outsources a part of your contract with (Company) to another firm or when your company purchases products/services that will be used in fulfilling your contract with (Company).

b. A Value Added Reseller (VAR) arrangement is the term used to describe a strategic relationship with another company who will add value to your products or your supply chain and then sell those products directly to (Company).

c. Identifying diversity suppliers by name, the estimated percentage of the dollar quotation that will be awarded, and a timeline for implementation of your supplier diversity solution to MBE/WBE/DVBEs in order to fulfill your contract obligation.

d. The principal goods and/or services to be provided by each identified MBE/WBE/DVBE.

e. A statement agreeing to maintain, if awarded the resulting contract, all necessary documents and records to support your efforts to achieve the estimated MBE/WBE/DVBE supplier diversity goals.

f. Identity of the individual, acting in the capacity of MBE/WBE/DVBE coordinator for your company who will administer the MBE/WBE/DVBE supplier diversity plan, submit summary reports to (Company) and cooperate in any studies or surveys as

may be required by (Company) in order to determine the extent of compliance by you with the supplier diversity plan

Supplier submitting a MBE/WBE/DVBE plan will be responsible for identifying, soliciting and qualifying MBE/WBE/DVBE subcontractors and/or Value Added Resellers.

Falsification or misrepresentation of your status as an MBE/WBE/DVBE; or falsification or misrepresentation of the MBE/WBE/DVBE status of a subcontractor utilized by you will constitute grounds for cancellation of any contract resulting from this RFP.

The Supplier Diversity response will be considered in our final decision. A Supplier Diversity plan submitted without the details described above will not be acceptable. Additional assistance in preparing your supplier diversity plan is available upon request.

TITLE: Sample Supplier Diversity Plan
RECOMMENDATION 3: Integrate Supplier Diversity plans in contracts
PURPOSE: To include specific and detailed plans for participation of diverse suppliers in the supply chain

National MWBE Program

Telpro Products VAR

Development Plan

PCN001.00.0

Sponsor: Steve Schilling, Group Vice President,

Major Accounts, Public Carrier Networks

Signatures on File

Table of Contents

1.0 General

Northern Telecom ("Nortel") and Southwestern Bell Corporation ("SBC") are committed to developing minority-owned and disabled veteran-owned business enterprise ("MWBE-DVBEs") in the telecommunications industry and have agreed to cooperate in the development of MWBE-DVBEs in the telecommunications area. In this regard, Nortel and SBC are developing Telpro Products, Inc., ("Telpro") as a VAR for the resale of PRI-ISDN.

Telpro will initially service the California (Pacific Bell) area and will expand to other SBC areas as agreed to by Telpro, SBC, and Nortel. For background information on Telpro see Appendix B.

1.1 Case for Action

"I wish to take this opportunity to thank you and your MWBE team for presenting Pacific Bell with a customer-focused solution to the concerns expressed by Ross Ireland in his letter to you March 21, 1997. By solving some of the delivery interval problems in the switching arena with a minority-owned Value Added Reseller ("VAR"), you will be meeting two of SBC's most critical business requirements.

"I was truly pleased to present Nortel with our first Quality Partner M/WBE-DVBE Business Development Award in April. Congratulations! We selected Nortel not only for what you have accomplished in the past with Telamon in the transport arena but also because you have listened to our request for a switching solution that involves an M/WBE."

Steve Welch, Vice President, Procurement, SBC

From a letter to Bob Graham, MAVP, SBC Region, July 1997

1.1.1 Telpro VAR development Justification

- The combination of Pacific Telesis with Southwestern Bell represents a major domestic customer for Nortel products and services.
- Pacific Bell business increase of approx. 20% in 1996 over 1995.
- Potential double digit growth for the next 2-3 years resulting from deregulation
- Internet service providers creates demand for shorter service delivery
- Higher competition in the telecom supply environment
- Significant market dynamics in providing services to the end customers (Homes & Businesses)

- Pressures on the internal cost of doing business for customers and suppliers
- Pacific Bell Customer satisfaction required to be 95% +

1.2 Scope

This document presents the intended role of a VAR within the framework of current and increasing business between Nortel and SBC in the sale of ISDN product lines and potentially other products.

Nortel shall retain responsibilities for product development, marketing, technical support, and warranty and repair (except for defects attributable to the VAR).

1.3 Vision

Increase market share by delivering product to the customers faster than our competitors with improved service and quality while maintaining Nortel and customer costs.

1.3.1 PRI Goals

- Increase Customer's desire to order models by developing customer specific models in conjunction with regional sales and the customer.
- Leverage the Customer's desire to do business with MWBEs in their local areas.
- Reduce delivery intervals by using an MWBE VAR as part of an overall plan to reduce the delivery interval (CI to K) from the current Nortel Direct interval of 8 weeks to a goal of 4 weeks
- Encourage customers to maintain long-term business relationships with our VARs.
- Maintain customer costs. Past experience indicates that the costs for value-added services can, over time, be off-set by internal cost savings. We will evaluate new processes in terms of total price structure benefits to incur no increase to the customer.
- Provide equal or better quality. All work performed by the VAR must meet Nortel and Pacific's quality standards and will be certified and audited accordingly.
- Increase service and product flexibility. Having an alternate source will enable more flexibility in emergency situation for other jobs.

1.4 Benefits

1.4.1 To Pacific Bell

- Improved ability to meet customer turn-up commitments
- Reduced exposure to competitive loss
- Increased revenues from new customer services

- Reduced standard delivery interval
- Increased flexibility for model and order customization
- Improved availability of product components
- Improved forecasting and planning processes
- Reduced cost through increased order management automation
- Improved ability to meet MWBE goals

1.4.2 To Nortel

- Meet MWBE contractual commitments
- Meet Pacific Bell's shorter delivery intervals
- Identify additional Telpro marketing opportunities
- Improved customer satisfaction
- Allow signing of large multi-year contracts
- MWBE provide additional customer incentive to buy Nortel products and services

1.5 Short-term Delivery

Pacific Bell has requested a 4-week (CI-K) interval for PRI and BRI. Pacific Bell requires a short interval because they are in direct competition with AT&T, MCI, Sprint, and others and will loose customers in some cases if ISDN is not available by the end of 1997. The potential application for a reduced interval for BRI and PRI is therefore very significant.

In an effort to meet Pacific Bell’s requirements, Nortel is doing the following:

- Nortel Direct is currently working to maintain 8 week intervals available for frame level models.
- Forward deploying PRI materials via Merchandise Orders as a temporary method of meeting the customers needs for a four-week lead time. This is giving the region experience at working to shorter intervals, in preparation for the MWBE/VAR process.
- Developing Telpro as a VAR for the PRI Product Line with a goal of reducing the delivery interval (CI to K) from 15 to 4 weeks.

1.5.1 Delivery Interval Reduction

ORDERING METHOD	DELIVERY INTERVAL
Standard Orders (1 - 5 frames)	**15 weeks (CI to K)**
Nortel Direct Order (1 - 5 frames)	**8 weeks (CI to K)**
Telpro Order (1 - 5 frames)	**4 weeks (CI to K) (GOAL)**

1.5.2 Order Eligibility

1.5.2.1 **Engineering Eligibility Requirements**

- **90 Day Forecast**. In order to accomplish the reduced intervals, Telpro will have to have a 90 day forecast of the units required. Forecasting will also enable Nortel to ramp-up the factory and reduce any impact due to individual component shortages. It will also enable Nortel to foreword deploy to Telpro.

- **Purchase Order**. Telpro will require the Purchase Order / D512 at CI so that equipment can ship early enough to accomplish the reduced intervals.

- **Frame Level Models**. Pacific Bell will order specific frame level models as established with Telpro.

- **One Page Ordering Form**. A one page CI form will be used for ordering.

- **PRI Only**. If a job includes more than PRI, the PRI portion may not be able to be as rapidly deployed due to the additional complexities in the manufacturing, engineering, and installation.

- **Class A Changes**. No Class A changes will be allowed on the Telpro PRI jobs.

- **Office Readiness**. In order to provide the reduced intervals that are being requested, the Central Offices cannot require substantial additional equipment, engineering, and installation work activities beyond a basic PRI job. For ENET offices the following is required: Network adds that require MS links and Memory are outside this process; fuse locations must be available on existing PDCs; space must be available in the existing line-up; DSX or DACS termination information must be available at CI for DTCI and LGCI adds. (No DSX port availability requires space for new DSX panel.)

- **Customer Coverage**. In scheduling and planning the job, Nortel and Pacific Bell will have to agree upon the installation schedule. In order to install on DTCI, Nortel needs 40 - 60 hours of continuous coverage. If there is time in the agreed upon interval where coverage cannot be provided, Nortel will have to extend the installation interval. (This assumes that Pacific Bell continues to require “coverage” of Nortel activities in the Central Offices.)

1.5.2.2 **General Eligibility Requirements**

- **Job Start Gate**. Telpro will need all customer information at the day of the CI. The CI date will be the date when all customer information is provided.

- **Generic MOP**. In a reduced interval situation, Telpro, Nortel, and Pacific will need to agree upon a streamlined generic MOP.

1.6 Associated Documents

PCN002.00.0 PRI VAR Process

PCN001.A01 VAR Selection Process

PCN001.A02 Telpro Products Background

PCN001.103 Telpro Test One Evaluation Criteria

1.7 Responsibility

This document is the foundation for the long-term development of Telpro as Nortel's VAR to Pacific Bell for Switching Products. It will be updated and revised as required based on our actual experience as a "road map" for future VAR development.

Development of this document has relied upon a cross-function and cross-corporation team consisting of representative from many different organizations within Nortel, representatives from Telpro, and representatives from Pacific Bell. Each of the organizations represented has a stake in the success of the Telpro Products VAR Development Plan.

1.7.1 Telpro Training and Support

In order to assure Telpro's success as Nortel's VAR to Pacific Bell, Nortel will provide the following training and support:

- EDI processing

- Configuration and Assembly

- Testing

- Quality Assurance

- Reports preparation

- Customer Service

- ISO9000 Certification

- Quality Certification
- Order processing
- Engineering
- Inventory management
- Continuous Process Improvement

1.8 Frequency of Review

This document is to be reviewed by the Process Sponsor or delegates along with Nortel and Telpro at intervals of no more than one (1) year from the date of issue.

1.9 Acronyms/Definitions

Disabled Veteran Business Enterprise ("DVBE") - These are business concerns certified by the California State Office of Small and Minority Business ("OSMB"). The DVBE must be: (1) a sole proprietorship at least 51% owned by one or more disabled veterans; or (2) a publicly-owned business in which at least 51% of the stock is owned by one or more disabled veterans; or (3) a subsidiary which is wholly owned by a parent corporation, but only if at least 51% of the voting stock of the parent corporation is owned by one or more disabled veterans; or (4) a joint venture in which at least 51% of the joint venture's management and control and earnings are held by one or more disabled veterans. The DVBE must also be a resident of the State of California. The management and control of the daily business operations are by one or more disabled veterans. For the purposes of this definition, a disabled veteran is a veteran of the military, naval, or air service of the United States with a service-connected disability.

Minority-Owned Business Enterprise ("WBE") - This is a business enterprise that is at least 51% owned by a minority individual or group; or, in the case of any publicly owned business, at least 51% of the stock of which is owned by one or more minority groups, and whose management and daily business operations are controlled by one or more of those individuals.

Value-Added Reseller (VAR) - A typical value added reseller is a vendor who purchases a product or product components such as computer hardware or telecommunications equipment from an original equipment manufacturer (OEM) or other prime supplier and then resells the product to its customer after adding value to the basic product by providing additional services and/or support.

Woman-Owned Business Enterprise ("WBE") - This is a business enterprise that is at least 51% owned by a woman or women; or, in the case of any publicly owned business, at least 51% of the stock of which is owned by one or more women, and whose management and daily business operations are controlled by one or more of those individuals.

1.10 Quality Records

The following information shall be retained as a Quality Record.

- <quality record> shall be retained for a period of <time> by <responsible party>.
- <quality record> shall be retained for a period of <time> by <responsible party>.

2.0 Development Process

1. Identify MWBE opportunity areas
2. Identify the MWBE that is best qualified for the opportunity area (see Appendix A)
3. Transfer technology to the MWBE to assure they have all the tools necessary to be successful
4. Manage the MWBE development through a series of stages (new product or service areas) and phases (new functions or responsibilities)
5. Evaluate each MWBE development Quarterly

2.1 Opportunity Areas

The following areas were explored as possible Switching MWBE opportunity areas:

- Local area custom configurations that could include:
    - detail engineering
    - procurement services
    - customer service
    - configuration and/or assembly
    - installation
    - testing
    - maintenance
- Local area final configuration and assembly that could include:
    - rack and stack
    - cabling
    - staging
    - testing
- Office specific engineering drawing updates
- Modeled configuration of frames to meet short-term delivery requirements

Primary Rate Interface (PRI) Integrated Services Digital Network (ISDN) was identified as the best initial opportunity for VAR for switching products.

2.2 Telpro Selection

1. Statewide search conducts of available MWBE databases
2. RFI developed by joint team with Sales, Field Operations, Strategic Marketing, and Contracting
3. 22 responses received
4. 5 companies selected for on-site evaluation
5. Team review of finalist qualifications
6. Consensus selection of Telpro
7. Review and consensus with Pacific Bell

2.3 Telpro Development

Long-term, Nortel plans to develop Telpro as its Switching products VAR for SBC. Telpro's development will be managed through a multistage process. In Stage One, Telpro will assume responsibility for the PRI products. In later stages of the development process, the Telpro may become the value-added reseller of other selected Nortel products. The additional products and/or value-added services to be provided by the VAR will be mutually determined by Nortel, Pacific, and the Telpro.

Telpro's possible participation in additional activities such as installations services and engineering will be considered in later phases of Stage One. The decision to move forward with these activities and the implementation timing will be determined jointly by Nortel, Pacific Bell, and Telpro.

Additional Switching products, such as BRI, and trunks, will be considered for later development stages. The decision to move forward with these activities and the implementation timing will be determined jointly by Nortel, Pacific Bell, and Telpro. See the figure below.

Each development stage will be divided into phases. Each phase will introduce a more complex set of requirements, services, and/or operations. Completion of all phases within a developmental stage will be required before moving to the next stage.

2.3.1 Development Stages/Phases

Stage One -- PRI Product Line

Phase One -- Develop business processes and product de-configuration abilities:

- **Order management**
- **Documentation**
- **Material stocking**

- **Product de-configuration**
- **Delivery coordination**
- **Product packaging**
- **Product shipment**
- **Marshaling**

Phase Two - Develop telecommunications service abilities:

- **Engineering**
- **Installation**

Stage Two - Other Product Line that may include:

- **BRI Product Line**
- **Trunks**

2.3 Process Testing

During the Fourth Quarter of 1997 and the First Quarter of 1998, Telpro processes will be tested and evaluated on a continuous improvement basis. The PRI VAR process is described in a separate document (see PCN002.00.0).

Process testing will be conducted on "real" orders placed on Telpro by Pacific Bell. Telpro Test One Evaluation Criteria has been establish (see Appendix C). Additional test criteria will be developed based on the results of Test One.

Appendix A: VAR Selection Process

1.0 Selection Team

The selection of a Minority-and-Women-owned-Business-Enterprise (MWBE) Value-Added-Reseller (VAR) was made up of a cross-functional team consisting of representatives from:

- Marketing
- Regional Sales
- Engineering
- Installation
- Quality
- Supplier Management
- Finance

2.0 Selection Procedure

An RFI was developed by a joint Nortel team including: Sales, Field Operations, Strategic Marketing, Contracting, and Manufacturing.

2.1 Selection Procedure

1. Statewide search conducted of available databases

2. RFIs issued

3. Responses received

4. Companies selected by the team for on-site evaluation

5. Joint team review of the evaluations

6. Team consensus agreement to the selection of Telpro

7. Review with and consensus from Pacific Bell

2.2 Selection Criteria

- Financial rating (D&B, etc.)
- Data Tracking
- Customer Service
- Equipment
- Material Handling
- Testing/Assembly/Manufacturing
- Quality Program

- Documentation/Standards
- Delivery/Performance
- Personnel
- Products/Services
- Telecommunications
- Electronics
- EF&I
- Manufacturing
- Distributor
- Assembly
- Installation
- Reseller
- Location
- Accessibility
- Geographic location
- Warehouse space
- Manufacturing
- Assembly
- Stocking

2.3 VAR Required Services

- accept orders
- track orders
- return a Purchase Order Acknowledgment (POA) to customer via Electronic Data Interface (EDI)
- offer Customer Service Representation (CSR)
- pick order
- assemble order (if required)
- test assembly (if required)
- prepare shipping documents
- maintain an adequate drawing and documentation control system
- ship order
- invoice to customer
- maintain inventory at required levels to support customer needs through:
- inventory strategy
- forecasting
- place replenishment orders onto Nortel and/or OEMs via EDI
- accept Nortel's POA via EDI

- receive replenishment orders
- VAR must have the physical location to support the aforementioned tasks
- VAR is required to supply the metrics stated in the standard

Appendix B: Telpro Products Background

1.0 Telpro Vision

- Be a world class leader within the telecommunications industry providing quality products and services.
- Realize revenue increases of 50% each year through the year 2000.
- Achieve a net profit of 15% (before taxes) every year.
- Deliver our products and services so that our customers are 100% satisfied.
- Interact with our suppliers so that they are 100% satisfied.
- Annually review our goals and strategies.
- Attract, develop and retain a high quality work force by providing a challenging and rewarding work place.

2.0 Telpro Background

- Home office is located in Oakland, CA.
- Distribution facility established in Sacramento
- Founded in 1990
- Recognized MWBE "Value Added Reseller" (VAR)
- Other customers: Lucent, Bell South, Brooks Fiber, GST, Southwestern Bell, and Tupen Corporation.
- YTD sales and associated percentages:

  YTD Sales: $2.87 million.
  1996 Sales: $10.3 million.

- Telpro / Pacific Bell number of orders:

  26 / Aug. 94 355 / Sept. 95

- Telpro number of employees:

  5 / 1990 34 / 1995

3.0 Telpro Strengths

- Focused on customer service / Quality
- 100% incoming/outgoing material inspection
- Continuous Improvement Feedback to both supplier and customer
- Scheduled to completed ISO9002 certification in 1997
- Regular communication between Telpro, Nortel, and Pacific Bell

- Strong technical and business expertise within the management team especially in the telecommunications area
- Low cost structure which translates into competitive priced products and services to be offered to our customers a solid financial plan that provides the company adequate financial resources for successful operation
- rapid response infrastructure to meet customer's real time needs
- 5 year business plan updated periodically
- Telpro Products currently has a quality control process in place as well as a quality improvement team.

Appendix C: Telpro Test Evaluation Criteria

1.0 Ordering

1.1 Order Receiving

1.1.1 Qualification/selection criteria process followed correctly

1.1.2 PRI identifier recorded on worksheet and Schedule Request correctly

1.1.3 Quote and Schedule Request completed correctly

1.1.4 Schedule Request forwarded to Sales Support correctly

1.1.5 IR's filled out and tracked correctly

1.1.6 Installation inquires answered correctly

1.1.7 Job information memorandums placed and filed correctly

1.1.8 Emergency orders handled correctly

1.2 Order Scheduling

1.2.1 Equipment scheduled correctly

1.2.2 Scheduling/coordinating with installation services completed correctly

1.3 Order Accepting

1.3.1 CI conducted correctly

1.3.2 Job schedule communicated to Telpro correctly

1.3.3 Job priced correctly

1.3.4 IRM equipment managed correctly

1.3.5 Job schedule communicated to Pacific Bell correctly

1.3.6 Product shipped to Telpro correctly

2.0 Engineering

2.1 Information Verifying

2.1.1 Information input into COT correctly

2.2 Specifying

1.2.1 CI captured correctly

1.2.2 Engineering frames/spares in computer aided design systems captured as Telpro provided correctly

1.2.3 Materials to be engineered identified correctly

1.2.4 777 material specified correctly

1.2.5 NT-ACCESS updated correctly

1.2.6 Purchase order received correctly

1.2.7 Order Management prime notified correctly

1.2.8 Pricing verified correctly

2.3 Specification and Drawing Release

2.3.1 Specs/drawings shipped to Telpro correctly

2.3.2 NTP's/IM's shipped correctly

3.0 Provisioning

3.1 Spec Receiving

3.1.1 Specifications received correctly

3.1.2 MOP's handled correctly

3.1.3 Documentation handled correctly

3.1.4 Miscellaneous equipment procured correctly

3.2 Configuring

3.2.1 Frame configured correctly

3.2.2 Systems requirements (labeling, updates to CORR, config. Instructions) handled correctly

3.2.3 Equipment packed correctly

3.2.4 Tools/equipment maintained correctly

3.2.5 Quality standard maintained correctly

3.2.6 Work skill standards maintained correctly

3.3 Marshaling

3.3.1 Miscellaneous equipment received correctly

3.3.2 Miscellaneous equipment stored correctly

3.3.3 Order completeness verified correctly

3.3.4 Vendor supplied material (cable, doc, IRM) identified correctly

3.3.5 Miscellaneous equipment shipped to Telpro vs. RTP correctly

3.3.6 Miscellaneous equipment stored correctly

3.3.7 Miscellaneous equipment selected correctly

3.3.8 Order consolidated correctly

3.3.9 Equipment and material staged correctly

3.4 Shipping

3.4.1 Packing list and labeling correct

3.4.2 Short shipments/shortages cleared correctly

3.4.3 Date/location of delivery recorded correctly

3.4.4 Delivery equipment services handled correctly

3.4.5 Delivery specifications (air-ride truck, etc) handled correctly

3.4.6 Equipment and materials handled correctly

3.4.7 Equipment and materials loaded correctly

3.4.8 Delivery service contacted/scheduled correctly

3.4.9 Product delivered correctly

3.5 Telpro/PB Invoicing

3.5.1 Job information memorandums completed correctly

3.5.2 Job priced correctly

3.5.3 MOA completed correctly

3.5.4 EDI requirement followed correctly

3.5.5 Material information collected correctly

3.5.6 Pacific Bell invoiced correctly

3.5.7 BVAPP requirements met correctly

3.5.8 Invoice paid correctly

4.0 Installing

4.1 Schedule Coordinating

4.1.1 IJC scheduled correctly at CI time

4.1.2 MOP completed correctly based on CI, 77A, and floor plan

4.1.3 MOP approved correctly by TAC correctly

4.2 Specification Reviewing

4.2.1 IJC held 1 week before installation H date correctly

4.2.2 Order checked to see if order criteria is met correctly

4.3 Installation Completing

4.3.1 Installation completed correctly

4.3.2 ICN completed correctly

5.0 Replenishing

5.1 Forecasting

5.1.1 Forecast received from Pacific Bell correctly

5.1.2 Forecast managed so that the factory is not “double driven” correctly

5.1.3 Inventory verified against forecast correctly

5.1.4 Consumption tracked against forecast correctly

5.1.5 Interval from order receipt to delivery maintained correctly

5.1.6 Forecast provided to Nortel correctly

5.2 Inventory Adjusting

5.2.1 Minimum and maximum inventory levels maintained correctly

5.2.2 Inventory levels and vintages maintained correctly

5.2.3 Change control managed correctly

5.2.4 Below baseline material returned correctly

5.2.5 Purged pack or packs on stop-shipment returned correctly

5.2.6 Damaged material returned correctly

5.2.7 Excess material returned correctly

5.3 Material Stocking

5.3.1 Stock monitored against orders correctly

5.3.2 Equipment ordered from Nortel correctly

5.4 Nortel to Telpro Invoicing

5.4.1 Telpro to Nortel order input (MO or Stock Remote process) handled correctly

5.4.2 Bulk orders fulfilled correctly

5.4.3 Bulk orders invoiced correctly

5.4.4 Bulk orders paid correctly

Appendix D: Telpro Test Matrix

	Test One	Test Two
1.0 Ordering		
1.1 Order Receiving		
1.1.1 Qualification/selection correct		*
1.1.2 PRI identifier recorded correctly		*
1.1.3 Schedule Request completed correctly		*
1.1.4 IR's filled out/tracked correctly		*
1.1.5 Installation inquires answered correctly		*
1.1.6 Job information memorandums placed and filed correctly		*
1.1.7 Schedule Request forwarded correctly		*
1.1.8 Emergency orders handled correctly		*
1.1.5 Schedule Request verified and completed		*
1.2 Order Scheduling		
1.2.1 Equipment scheduled correctly		*
1.2.2 Scheduling/coordination complete correctly		*
1.3 Order Accepting		
1.3.1 CI conducted correctly		*
1.3.2 Job schedule communicated correctly		*
1.3.3 Job priced correctly		*
1.3.4 IRM equipment handled correctly		*
1.3.5 Job schedule communicated correctly		*
1.3.6 Product shipped correctly		*
2.0 Engineering		
2.1 Information Verifying		
2.1.1 Information in COT		*
2.2 Specifying		
2.2.1 CI captured correctly		*
2.2.2 frames/spares capture in computer aided design systems correctly		*
2.2.3 Materials to be engineered identified correctly		*
2.2.4 777 material specified correctly		*
2.2.5 NT-ACCESS updated correctly		*
2.2.6 Purchase order received correctly	*	*
2.2.7 Order Management prime notified correctly		*
2.2.8 Pricing verified correctly		*
2.3 Specification and Drawing Release		
2.3.1 Specs/drawings shipped to Telpro correctly	*	*
2.3.2 NTPs and IMs shipped correctly	*	*
3.0 Provisioning		
3.1 Specifications receiving		
3.1.1 Specifications received correctly	*	*
3.1.2 MOP's handled correctly	*	*
3.1.3 Miscellaneous equipment procured correctly		*

3.2 Configuring		
3.2.1 Equipment configured correctly	*	*
3.2.2 Systems requirements handled correctly	*	*
3.2.3 Equipment packed correctly	*	*
3.2.4 Tool/equipment maintained correctly		*
3.2.5 Work skill standards maintained correctly		*
3.3 Marshalling		
3.3.1 Miscellaneous equipment received correctly	*	*
3.3.2 Miscellaneous equipment stored correctly	*	*
3.3.3 Order completeness verified correctly	*	*
3.3.4 Vendor supplied material identified correctly	*	*
3.3.5 Miscellaneous equipment shipped correctly	*	*
3.3.6 Miscellaneous equipment stored correctly	*	*
3.3.7 Miscellaneous equipment selected correctly	*	*
3.3.8 Order consolidated correctly	*	*
3.3.9 Equipment and material staged correctly	*	*
3.4 Shipping		
3.4.1 Packing list and labeling correct	*	*
3.4.2 Short shipments/shortages cleared correctly		*
3.4.3 Date/location delivery recorded correctly	*	*
3.4.4 Delivery equipment services handled correctly		*
3.4.5 Delivery specifications handled correctly	*	*
3.4.6 Equipment and materials handled correctly	*	*
3.4.7 Equipment and materials loaded correctly	*	*
3.4.8 Delivery services contacted/scheduled correctly	*	*
3.4.9 Product delivered correctly	*	*
3.5 Telpro/Pacific Bell Invoicing		
3.5.1 Job information memorandums completed correctly		*
3.5.2 Job priced correctly		*
3.5.3 MOA completed correctly		*
3.5.4 EDI requirement followed correctly		*
3.5.5 Material information collected correctly	*	*
3.5.6 Pacific Bell invoiced correctly	*	*
3.5.7 BVAPP requirements met correctly	*	*
3.5.8 Invoice paid correctly	*	*
4.0 Installing		
4.1 Schedule Coordinating		
4.1.1 IJC scheduled correctly		*
4.1.2 MOP completed correctly		*
4.1.3 MOP approved by TAC correctly		*
4.2 Specification Reviewing		
4.2.1 IJC held 1 week before H correctly		*
4.2.2 Order criteria checked correctly		*
4.3 Installation Completing		
4.3.1 Installation completed correctly		*
4.3.2 ICN completed correctly		*

5.0 Replenishing

5.1 Forecasting

5.1.1 Forecast from Pacific Bell to Telpro correctly *
5.1.2 Factory not "double driven" correctly *
5.1.3 Inventory verified against forecast correctly *
5.1.4 Consumption tracked against forecast correctly *
5.1.5 Order to delivery interval maintained correctly *
5.1.6 Forecast provided to Nortel correctly *

5.2 Inventory Adjusting

5.2.1 Minimum and maximun maintained correctly *
5.2.2 Inventory and vintages maintained correctly *
5.2.3 Change control managed correctly *
5.2.4 Below baseline material return *
5.2.5 Purged and stop-shipment returned correctly *
5.2.6 Damaged material returned correctly *
5.2.7 Excess material returned correctly *

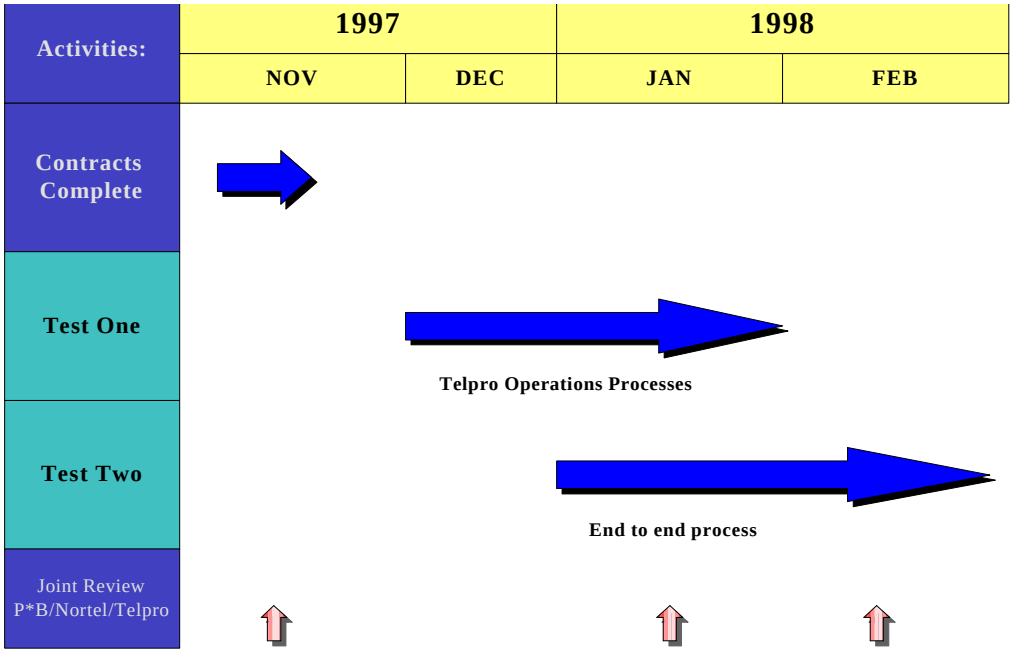
5.3 Material Stocking

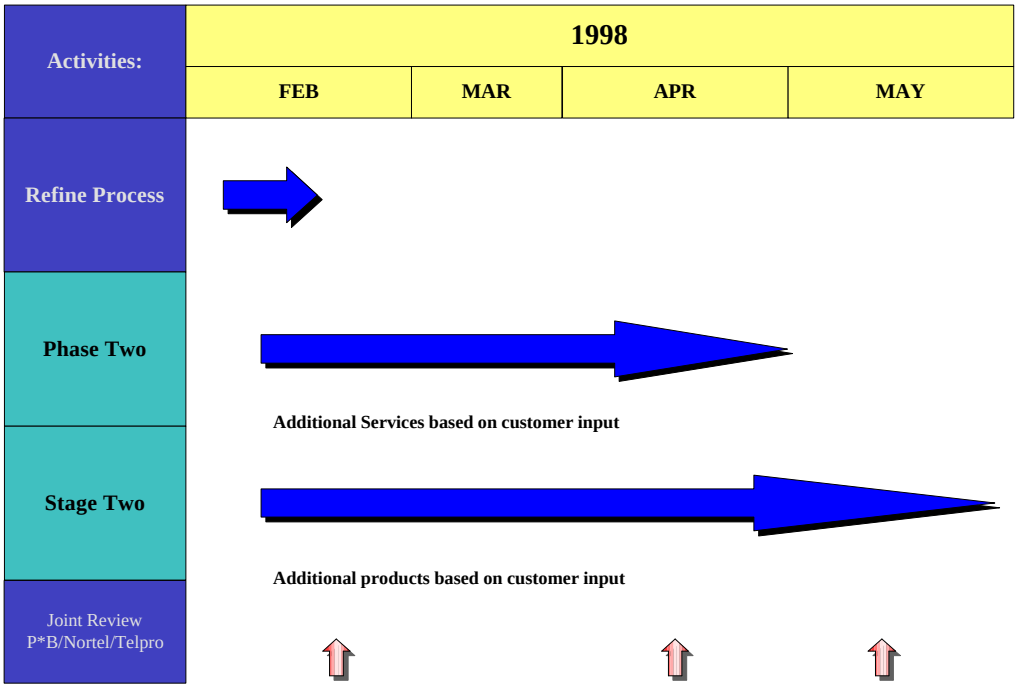
5.3.1 Stock monitored against orders correctly *
5.3.2 Equipment ordering on Nortel correctly *

5.4 Nortel to Telpro Invoicing

5.4.1 Telpro to Nortel order input handled correctly *
5.4.2 Bull orders fulfilled correctly *
5.4.3 Bulk orders invoiced correctly *
5.4.4 Bulk orders paid correctly *

Appendix E: Time Line





TITLE: SBC's Guide for Prime Supplier Participation Program
RECOMMENDATION 4: Require Supplier Diversity Plans in contracts
PURPOSE: A sample guide to prime suppliers for establishing, tracking and achieving a Supplier Diversity program

SBC's Guide to the Prime Supplier Participation Program

A How-to Book for Supplier Diversity Programs

SBC's Guide to the Prime Supplier Participation Program

Table of Contents

Section 1. The Prime Supplier Participation Program

The SBC Supplier Diversity Program is designed to serve all of SBC including SBC West, SBC Southwest, SBC Midwest, and SBC SNET. This new Supplier Diversity Program integrates the best practices of all the affiliates of SBC and is designed to meet the needs of our local business communities, our customers and our suppliers.

One very important part of our program is the new Prime Supplier Participation Program. Formerly called the Minority, Women, and Disabled Veteran Business Enterprise (M/W/DVBE) Subcontracting Program. Our new program focuses on the role that you, our suppliers, play in creating competitive advantage through a diversified supplier base.

In this booklet, we have included the information you will need to fulfill your role as one of our valued suppliers. We have also simplified the reporting process to make your participation in this worthwhile effort easy and rewarding.

We hope you will take the time to read this important information and, most importantly, that you will use it as a guide to creating, maintaining, and growing your own Supplier Diversity Program. We look forward to seeing your progress as we continue to grow our business relationship together.

SBC would like all of our Prime Suppliers to participate in this important initiative. As your customer, we expect nothing less than high quality goods and services, delivered on time, at the lowest cost, and that our suppliers support our business goals. We believe that our Supplier Diversity Program is an important business initiative that provides SBC with a competitive advantage in the increasingly competitive telecommunications marketplace.

Prime Suppliers are those companies who have a contract or purchase agreement to provide goods or services to SBC or one of its subsidiary companies:

“Goods” may include items such as telecommunications equipment or components, fiber optic equipment, central office switches, computer equipment or software, office supplies, furniture, and vehicles. Goods include every type of product that our company purchases from another company.

“Services” may include activities such as consultant services, training, architecture, surveying, legal, medical, accounting, transportation, delivery, courier, landscaping and maintenance, building maintenance, engineering, testing, repairs, and installation. Services include every type of work that is performed by another company at our request.

SBC’s Commitment to Supplier Diversity

We, at SBC, are committed to our Supplier Diversity Program. We have a long history of program growth that is based on both the sound business value that diversity suppliers have added to our products and processes, on our increasingly diverse customer base, and on our commitment to grow together with the communities we serve. We believe that a cross cultural, ethnic and gender diverse supplier base for our purchases and for those purchases made by our suppliers will help us best serve our diverse customer base.

We believe our Prime Suppliers want to support our initiatives and want to contribute to the

successful achievement of our goals. We are committed to continuous improvement in our program design and to assisting our Prime Suppliers in this program.

What Does "Supplier Diversity" Mean?

Supplier Diversity means achieving a base of suppliers which includes qualified Minority, Women and Disabled Veteran Businesses (M/W/DVBEs), as well as non-M/W/DVBE suppliers.

Minority Business Enterprises (MBEs) include businesses which have been verified by an SBC recognized agency to be at least 51% owned, operated and controlled by a minority individual or group. Minority includes, but is not limited to: Asian Americans, Black Americans, Hispanic Americans, Native Americans and other groups defined as disadvantaged by the Small Business Administration. Foreign-owned firms operating in the U.S. are not included in these definitions.

Women Business Enterprises (WBEs) include businesses which have been verified by an SBC recognized agency to be at least 51% owned, operated and controlled by a woman or women.

Disabled Veteran Business Enterprises (DVBE) include businesses which have been certified by the Association for Service Disabled Veterans or the California State Office of Small and Minority Businesses who are either a sole proprietorship at least 51% owned by one or more disabled veterans; or a publicly owned business, at least 51% of the stock owned by one or more disabled veterans; or a subsidiary which is wholly owned by a parent corporation, but only if at least 51% of the voting stock of the parent corporation is owned by one or more disabled veterans; or a joint venture in which at least 51% of the joint venture's management and control and earnings are held by one or more veterans. A disabled veteran is a veteran of the military, naval or air service of the United States with a service-connected disability.

Prime Supplier's Role

1) Implement a Supplier Diversity Program
2) Submit an Annual Plan to SBC
3) Submit Quarterly Results to SBC

Our Prime Suppliers play a key role in our continued success. This booklet is designed to provide you with the tools, tips and techniques to complete these three responsibilities.

Section 2. Establishing Your Supplier Diversity Program

Introduction

A Supplier Diversity Program is the visible commitment your company makes to incorporate the products and services of qualified vendors, including minority, women and disabled veteran businesses into the delivery of goods and services to your customers. Well designed programs are extensions of your company's mission statement or purpose.

For example, a well designed and executed safety program would enable your employees to produce your products and services without the disruption and cost of lost time due to on-the-job accidents. An effective training program would provide the knowledge and skills your employees need to effectively meet your customer's expectations and increase sales.

An effective Supplier Diversity Program would provide the tools and resources to enable your company to work with a diverse group of subcontractors, contract manufacturers, channel partners and value added resellers to provide goods and services you provide to SBC.

What Constitutes a Program?

All programs have at least 5 key elements:

- Goals
- Corporate Commitment of Leadership Team
- Action Plans to Work Toward Goals
- Tracking And Reporting Process
- Continuous Improvement System

In the following sections, we will explore each of these key program elements as it applies to establishing your Supplier Diversity Program.

Goals

A goal is a specified purpose or point to be reached. "Goal" means a target which, when achieved, indicates progress in a preferred direction. A goal is neither a requirement nor a quota.

Corporate Commitment of Your Leadership

Every business has a thousand and one high priority items to manage. The priority objectives that are accomplished and the ones that get over-looked depend on the level of commitment demonstrated by the company's leadership. Business owners, corporate officers and senior management must communicate to their employees the commitment to and value of your Supplier Diversity Program.

Here are some basic ways in which your leadership can demonstrate its commitment:

- ⇒ Include Supplier Diversity Program goals in your company's mission statement
- ⇒ Review your progress, both successes and areas for improvement, during internal performance reviews, annual corporate-wide meetings
- ⇒ Get involved - demonstrate your understanding of the Supplier Diversity Program by engaging in brainstorming sessions with your supplier managers to stimulate improved results
- ⇒ Ensure that you do not discriminate against any qualified supplier
- ⇒ Publicize your Supplier Diversity Program results within your company along with other important results such as sales goals, profit levels, revenue targets, etc.
- ⇒ Publicly recognize individuals who have contributed to the success of your Supplier Diversity Program
- ⇒ Publicly recognize M/WBE and DVBE suppliers, and other small suppliers, for their contributions to your company's success
- ⇒ Include articles in your company newspaper about your Supplier Diversity Program and link it to the expectations of your customers
- ⇒ Identify a prominent executive level steward accountable for your company's program success
- ⇒ Dedicate time on your calendar for review of Supplier Diversity Program issues, both successes and areas for improvement

Developing a Plan for Success

A plan to work towards your goals can be quite complex or relatively simple. Either way, for a plan to be effective, at a minimum, it must contain five elements:

- ⇒ Your plan should be linked to clear objectives with a stated time table. You need to know where you are going and when you need to be there
- ⇒ Your plan should provide a credible means to work towards the stated goal
- ⇒ Your plan should contain specific action steps
- ⇒ Your plan should be linked to specific measurements that can be used to evaluate success. In other words, how you can measure your progress
- ⇒ Your plan must have the endorsement and approval of senior management to commit the necessary resources and time

Specific information on how to prepare and submit your annual plan is contained in Section 3.

Tracking and Reporting Process

Many people cringe at the thought of measurements and reports, but business success depends upon tracking and reporting the results of our business initiatives. Results tracking and reporting can help us attain our goals and celebrate our successes. In order to report Supplier Diversity Program key results, your company must collect the following Supplier Information each month:

- ⇒ Total amount of actual sales to each SBC affiliate (e.g., SBC West, SBC Southwest, SBC Midwest, and SBC SNET)
- ⇒ Information on suppliers (Subcontractors or Value Added Resellers) your business used in providing goods and services to each SBC company
  - name, address and telephone number
  - ethnic and gender code of each supplier (obtained from MBE and WBE suppliers)
  - DVBE verification status (obtained from supplier)
- ⇒ Total amount of purchases made by your company to each MBE, WBE and DVBE supplier

The above supplier information is used to calculate the following Supplier Diversity Program key results:

Total Purchase Dollars: For the month, what is your total revenue from each affiliate of SBC (e.g. total revenue you received from SBC Southwest, total revenue from SBC West, etc.). This is the total amount of sales your company made to each affiliate of SBC.

Subcontracting Dollars: For the month, what is the total dollar amount of purchases you made from MBE, WBE and DVBE companies for goods or services in support of your sales to an SBC affiliate.

Value Added Reseller Dollars: For the month, what is the total dollar amount of your products that were sold to each affiliate of SBC through a MBE, WBE or DVBE Value Added Reseller.

Keeping track of your purchases from MBEs, WBEs and DVBEs is one part of an effective results system. Using the results to achieve your goals is the other part. We have found through years of program development that employees want to achieve the company's goals. The challenge is keeping the goals in front of you as you perform your job in order to maximize every opportunity for success.

Here are some of the ways companies have used tracking and results processes to achieve their goals:

- ⇒ Publish your program results monthly
- ⇒ Discuss your results with your team and staff
- ⇒ Integrate your Supplier Diversity Program plan with your internal training program
- ⇒ Analyze your results to identify areas where your business needs the most

improvement

- ⇒ Compare your results with other companies to stimulate new and creative ideas
- ⇒ Discuss your results with your SBC contract manager and Supplier Diversity business development manager

In addition to the internal value tracking and results reporting will bring to your company, as a Prime Supplier of SBC or one of its affiliates, you are required to submit quarterly results outlining your accomplishments. The process is simple and if you have gathered the Supplier Information and the Key Measurements outlined above, you will have no trouble submitting your results. Detailed information on results reporting to SBC is contained in Section 5.

Continuous Improvement Measures

Every program should include a plan to monitor and improve its effectiveness. Your continuous improvement measures needs to include a way to assess how effective your program is. Although not the focus of this booklet, here are some of the ways to perform this important task:

- ⇒ Set up a tracking report that monitors your results each month. Are you getting closer to achieving your goals?
- ⇒ Ask your suppliers for feedback on their experiences with your Supplier Diversity Program. Do they find it easy to work with?
- ⇒ Ask your customers if your Supplier Diversity Program is meeting their expectations
- ⇒ Network with other companies to get new ideas on program development
- ⇒ Look at your most successful results and try to replicate the process in other areas of your business
- ⇒ Look at your data to spot trends and take action before a serious problem emerges
- ⇒ Do you have a mentoring program to work with all your suppliers to improve the quality of goods and services they provide to you?
- ⇒ Are your purchasing and marketing personnel trained in Supplier Diversity Program management?
- ⇒ Have you implemented brainstorming sessions to proactively look for ways to improve your results?

Section 3. Preparing and Submitting Your Annual Plan

Step 1 Estimate Your Projected Sales

Your Supplier Diversity Program Plan is based on the projected sales you anticipate you will make to SBC or its affiliates during the upcoming year. To identify this figure, you will need to talk with your SBC customer regarding their future purchases. In addition, you will want to review your past history of sales to validate the volume of future sales. You are trying to determine what your annual sales will be for the next year.

For example, based on discussion with the customer and previous sales history, you project selling 1,000 widgets at $100 each. Your projected annual sale is $100,000 for the upcoming year.

Step 2 Establish Your SDP Goals

There are three separate goals that you will need to establish:

⇒ 1) Your purchases from minority business enterprises (MBEs)

⇒ 2) Your purchases from women business enterprises (WBEs)

⇒ 3) Your purchases from disabled veteran business enterprises (DVBEs)

How are these goals set? There are many ways to establish participation goals. To be effective, business advisors say the goals should be both realistic and stretch goals. If you have a contract with an SBC company, your contract should contain your company's participation goals. Examples of goals are:

⇒ 15% of your sales to SBC or its' affiliates to MBEs

⇒ 5% of your sales to SBC or its' affiliates to WBEs

⇒ 1.5% of your sales to SBC or its' affiliates to DVBEs

Following this example, if your projected sales to SBC or one of its' affiliates (SBC West, SBC Southwest, SBC Midwest, and SBC SNET) for the upcoming year is $100,000; your goals would be:

- MBE - 15% or $15,000
- WBE - 5% or $5,000
- DVBE - 1.5% or $1,500

Step 3 Develop Your Action Plan

Now that you have established your Supplier Diversity Participation goals in Step 2, you need to determine how you will achieve those goals. You can achieve Supplier Diversity Program results in two ways:

1) By purchasing from qualified, certified M/W/DVBE suppliers (Subcontracting)

2) By selling your product to a qualified, certified M/W/DVBE supplier who adds value to your product then sells that product to an SBC affiliate (Value Added Reseller relationship)

In this step, you will decide how much of each goal will be achieved through subcontracting and how much through a Value Added Reseller (VAR) relationship. Let's begin by understanding these two types of participation methods.

WHAT IS SUBCONTRACTING?

Subcontracting is the general term used when your company either outsources a part of your contract with SBC to another firm or when your company purchases products/services that will be used in fulfilling your contract with SBC.

For example, if your company purchases a connector from an MBE and uses that connector in the manufacture of widgets sold to SBC, you are subcontracting. In this example, if the connector is 10% of the price of the widget, your Subcontracting Plan would be 10% MBE.

It is important to remember, only purchases which can be directly connected to the products or services sold to SBC can be reported. We call this "contract specific" subcontracting.

For instance, if your company hires an MBE firm to conduct market research on the stock market for your firm's general investments, no portion of that service can be reported to SBC since the service was not specifically connected to your contract with SBC.

There are many, many ways to subcontract with M/W/DVBEs. If your firm is providing Goods to SBC, here are just some of the ways you can fulfill your goals through subcontracting:

- purchase parts that go into the widgets from an M/W/DVBE
- hire an M/W/DVBE firm to assemble part of the widgets
- outsource the printing of widget labels to an M/W/DVBE firm
- hire an M/W/DVBE firm to deliver the widgets to SBC
- hire an M/W/DVBE firm to write and document your product support information and user's guide
- hire an M/W/DVBE to perform product testing on the widgets

If your firm is providing a Service to SBC, you might find subcontracting opportunities in other areas such as:

- hire an M/W/DVBE firm to perform some part of the project's research
- outsource the printing of the report to an M/W/DVBE firm
- purchase your office supplies to be used on the project from an M/W/DVBE
- outsource the report reproduction and assembly work
- hire the services of a professional to support the services you provide (for example, architect, attorney, surveyor, medical, accounting)
- hire a business consultant for a portion of your contract

WHAT IS A VALUE ADDED RESELLER ARRANGEMENT?

Value Added Reseller (VAR) Arrangement is the term used to describe a strategic relationship with another company who will add value to your products and then sell those products directly to SBC. Many companies already have VARs as business solution providers or another channel of product marketing and distribution.

Your firm may manufacture 80% of the widget then sell the product to an M/W/DVBE firm who completes the manufacturing (20%), packages the product, and ships it to SBC. As you might imagine, this can be complex to initially set up and your company, the VAR you select and SBC must all agree that a valuable and viable business solution is produced by this relationship.

Another VAR arrangement is one where your firm completes the entire manufacture of widgets and sells them to an M/W/DVBE distributor who performs the warehousing and distribution services and makes the sale of widgets to SBC.

A third type of VAR arrangement is one where your firm completes the entire manufacture of widgets and sells them to an M/W/DVBE who performs the site preparation services, installs and tests the widgets and also trains SBC personnel on its usage.

In all three of these arrangements, 100% of the VAR sales to SBC would be reported to SBC as part of your Supplier Diversity effort.

Many prime suppliers use a VAR for 100% of their business with SBC because they have found that partnering with a smaller supplier in these ways adds tremendous value to their business proposition.

DETERMINE YOUR SUBCONTRACTING AND VAR GOALS

For each Supplier Diversity Goal identified in Step 2, you will want to identify what portion will be achieved through subcontracting and what portion through the establishment of a VAR arrangement.

Step 4 Identify Opportunities for Subcontracting and VAR Arrangements

Now that you know what your purchasing goals are, you are ready to identify the specific purchase opportunities for subcontracting or VAR arrangements.

Examine your product/service development and delivery flow. Start with aspects of that flow where there might be an opportunity to improve business processes. Could a smaller firm help deliver goods or services for you faster, cheaper or better customized for SBC? Would it improve your business to have a local partner who could handle logistics and delivery? To do this, you will need to do some research to identify the specific purchase areas that you will focus on during the year.

Take another look at the suggestions for subcontracting some of the widget work. Look for similar products that you can purchase from qualified M/W/DVBEs in your processes. Look for similar services that a qualified M/W/DVBE can provide.

We have found that every business has numerous opportunities to purchase goods and services from M/W/DVBEs.

⇒ Identify Your Purchase Requirements. Talk to your accounting department to find out what companies are receiving payments from your company for the products and services you are delivering to SBC.

– List all the parts, raw materials, supplies you will purchase

– List the services you will need
- training
- installation
- printing
- delivery
- warehousing
- testing
- consultants
- professional services (architects, lawyers, surveyors, graphic artist)

– List the manufacturing equipment or material you will purchase
- tools
- bins
- conveyer belts
- safety equipment
- test equipment

– List the general administrative products and services directly tied to the products and services you provide to SBC.
  - office supplies
  - office equipment
  - computer equipment and supplies
  - professional services (legal, accounting, consultants, training)

⇒ Find out how much you are buying from these firms, both the quantity of products or services and the total dollars spent. Also, find out when your next purchases will be and who in your company will be making the purchase decisions.

⇒ Now you are ready to identify M/W/DVBE suppliers that can provide the products or services you will soon be purchasing. There are several groups or organizations that can provide assistance in locating an M/W/DVBE supplier that matches your purchasing opportunities.

Your business is unique and will have it's special opportunities for Subcontracting or VAR arrangements. Remember, the more time you spend on the planning phase, the easier it will be to implement your plan later on.

Your Annual Plan should tell us four things:

⇒ 1) what you project your annual sales to SBC and its affiliates will be

⇒ 2) what goals you have established for MBEs, WBEs and DVBEs

⇒ 3) what detailed and specific plans you have to achieve your results

⇒ 4) what exactly your M/WDVE partners will be doing and who they are

To simplify your annual plan, we have developed a simple form for you to use. A copy of this form is contained is the Appendix of this booklet.

Step 5 Submit Your Annual Plan to SBC

Your initial detailed Annual Plan should be included as an Exhibit in your contract with SBC. All subsequent Annual Plans for upcoming years are due to the SBC Supplier Diversity Program by January 15th.

Completed Annual Plans for any of the SBC affiliate companies may be emailed, mailed, or faxed to:

♦ Mailing Address: Supplier Diversity Program
2600 Camino Ramon, 1E050
San Ramon, Ca 94583
Attention: Prime Supplier Participation Program

♦ FAX Number is: 925 867-4414
♦ Email Address: sbcsd@msg.pacbell.com

Section 4. Achieving Your Results

Once you have completed your detailed Annual Plan, you will already have taken many of the steps necessary to achieve results. Here are some suggestions to help you achieve maximum results.

Internal Research

⇒ Review Your Existing Supplier List. Find out if some of the suppliers you are already doing business with are certified Minority, Women or Disabled Veteran Business Enterprises. Compare the list of your suppliers with the list of certified suppliers from the SBC recognized certifying agencies.

Outreach Program

⇒ Ensure that your Suppliers are certified. If some of your suppliers are owned by minority, women or disabled veterans, encourage them to complete the certification process by contacting the organizations listed in the Appendix of this booklet. Remember, only purchases with companies who have been certified by an SBC-recognized agency are to be reported in your results to SBC.

⇒ Contact Potential Suppliers Once you have identified a few suppliers that seem to provide what you need, take some time to contact them. You will most often find M/W/DVBE businesses are eager to do business with you and can meet your requirements. In addition, many times you will find using a small business can increase the quality of your product, decrease turnaround time, and assist you in achieving your Supplier Diversity Program goals. See the Appendix to this booklet on How to Locate M/W/DVBEs for further assistance in contacting potential suppliers.

Mentoring and Development Program

⇒ Communicate

- Be realistic and clear about your requirements and time frames
- Be realistic about your opportunities
- Be flexible whenever possible
- Look for purchases which match the supplier's current capabilities
- Clarify whether you can offer a sustainable, long-term business partnership

⇒ Invest in the development of M/WBEs & DVBEs

- Assist in the development of new processes
- Introduce and share financial network with your potential partner
- Support your diversity partner during the implementation phase

Section 5. Submitting Your Quarterly Results

The SBC Supplier Diversity Program staff track and monitor Subcontracting and VAR results each quarter. These reports provide vital information on our mutual efforts to diversify our supplier base. We also use this information to plan our Supplier Diversity Program activities for the upcoming months in order to maximize purchasing opportunities. In addition, each year we are required to submit reports to certain Public Utilities Commissions outlining our annual results for the preceding year. We include the Quarterly Results that have been reported to us by each of the prime suppliers.

SBC Subsidiary's Purchases from M/W/DVBEs	+	Prime Supplier's Subcontracting Results	+	Prime Supplier's VAR Results	=	SBC Subsidiary's Total Supplier Diversity Program Results

As you can see, the only way we will know about your achievements is through your company's efforts to fill out and submit your Quarterly Results.

Quarterly Results Reports identify the amount of purchases you made with certified suppliers during the quarter under report. We ask for quarterly reports so we can gauge our progress and identify areas where suppliers may need more assistance. However, if you do not include a purchase in one quarter, you may include it in your next quarter's results. Just be sure not to double count your results.

Who must file a Quarterly Report?

All Prime Suppliers who have a contract(s) over $500,000 for goods or services with SBC or any of its affiliates are required to submit Quarterly Reports identifying your Supplier Diversity Program performance.

When are the Quarterly Reports Due?

The Quarterly Reports are to be submitted to the SBC Supplier Diversity Program ***no later than the second Friday of the month following the close of the quarter.***

Which Forms Are You Required To File?

A separate form is used to report Quarterly Results for SBC West, SBC Southwest, SBC Midwest, and SBC SNET or for any other SBC subsidiary/affiliate. Copies of these forms have been included in separate document documents.

Calculating Your Participation Achievement for The Quarter

Remember, only suppliers who have been certified by SBC recognized agencies are to be included in your results. The recognized agencies can be found in the Appendix to this booklet.

> Minority Business Enterprises (MBE) include businesses which have been verified by an SBC recognized agency to be at least 51% owned, operated and controlled by a minority individual or group. It is presumed that minority includes, but is not limited to, Asian Americans, Black Americans, Hispanic Americans, Native Americans and other groups defined as disadvantaged by the Small Business Administration. Foreign-owned firms operating in the U.S. are not included in these definitions.
>
> Women Business Enterprises (WBE) include businesses which have been verified by an SBC recognized agency to be at least 51% owned, operated and controlled by a woman or women.
>
> Disabled Veteran Business Enterprises (DVBE) include businesses which have been certified by the California State Office of Small and Minority Businesses, or the Association for Service Disabled Veterans who are either a sole proprietorship at least 51% owned by one or more disabled veterans; or a publicly owned business, at least 51% of the stock owned by one or more disabled veterans; or a subsidiary which is wholly owned by a parent corporation, but only if at least 51% of the voting stock of the parent corporation is owned by one or more disabled veterans; or a joint venture in which at least 51% of the joint venture's management and control and earnings are held by one or more veterans. A disabled veteran is a veteran of the military, naval or air service of the United States with a service-connected disability who is a resident of California.

You will need to determine five key results. If you have collected your Supplier Information, as described in Section 2, Establishing Your Supplier Diversity Program and Section 4, Achieving Your Results, calculating your Quarterly Results will be easy.

Step 1 Calculate Your Actual Revenues:

For the specified period, what is your total revenue from the subsidiary of SBC (e.g. total revenue from SBC Southwest or total revenue from SBC West, etc.). This is the total amount of sales your company made to the affiliate of SBC. Remember to use a separate form for each SBC subsidiary you did business with during the Quarter.

Step 2 Calculate Your Actual Participation:

Subcontract Dollars
For the specified period, what is the total dollar amount of purchases you made from certified MBEs, WBEs and DVBEs for goods or services in direct support of your sales to an SBC subsidiary. Only report subcontracting that can be directly traced to the specific product and services sold to SBC.

Value Added Reseller Dollars:
For the specified period, what is the total dollar amount of your products that were sold to the SBC subsidiary through a MBE, WBE or DVBE Value Added Reseller.

MBE, WBE and DVBE Participation results:
Add the subcontracting dollars and the VAR dollars to determine your Total MBE, WBE, and DVBE Supplier Diversity Results for the Quarter.

Calculate the Percent of Total Purchases. Divide the Total Supplier Diversity Results by the Total Purchase Dollars to determine the percent of participation.

Step 3 Submit Your Quarterly Results:

Completed Quarterly Results for any of the SBC subsidiary companies may be emailed, mailed, or faxed to:

- Mailing Address: Supplier Diversity Program
  2600 Camino Ramon, 1E050
  San Ramon, Ca 94583
  Attention: Prime Supplier Program Manager

- FAX Number is:925 867-4414
- E-mail: sbcsd@msg.pacbell.com

WHERE TO GET ASSISTANCE

If you have questions about completing your Quarterly Results forms, please contact our Prime Supplier Participation Program Manager at sbcsd@msg.pacbell.com
You can also reach us via letter at the above address.

APPENDIX

1. SBC-RECOGNIZED CERTIFICATION AGENCIES
2. ANNUAL PLAN
3. QUARTERLY REPORT
4. HOW TO LOCATE M/W/DVBEs
5. FREQUENTLY-ASKED QUESTIONS

SBC-Recognized Agencies

SBC has standardized its requirements to insure a uniform quality for certification as a minority, women or disabled veteran owned business and to create greater efficiency in the verification and access to certifications.

Listed below are the main certification agencies that SBC will recognize:

For vendors serving SBC West (CA) and its affiliates:

CPUC Clearinghouse – ***applies to all SBC companies*** 1670 Pine Street San Francisco, Ca 94108	
Type of certification:	Minority and Women owned business certifications
Supplier Processing Fee:	No fee to vendor
Validation Period:	Valid for 3 years. ***(Vendors certified by other clearinghouse-approved agencies, such as the NMSDC will have a shortened Comparable Agency Verification filing process)***
Telephone:	• Northern California – 800-359-7998 • Southern California – 800-869-7385 • Outside California – 800-359-7998
Web Address:	http://www.cpuc.ca.gov
Office of Small Business Certification and Resources (OSBCR) 1531 I Street, 2nd Floor Sacramento, CA 95814-2016	
Type of certification:	Disabled Veteran Business Certification -***only for California businesses.***
Supplier Processing Fee:	No fee to vendor
Validation Period:	Up to 3 years
Telephone:	916-322-5060
Web Address:	http://www.osmb.dgs.ca.gov
Association for Service Disabled Veterans (ASDV) 110 Maryland Ave, NE #100 Washington, DC 20002	
Type of certification:	Disabled veteran business certifications ***for businesses located outside of California***
Supplier Processing Fee:	$138, site visit, if required, would have additional cost
Validation Period:	Valid for 1 year
Telephone:	650-949-3751
Web Address:	http://www.asdv.org/home_body.htm

For vendors serving other SBC companies:

CPUC Clearinghouse 1670 Pine Street San Francisco, Ca 94108	
Type of certification:	Minority and Women owned business certifications
Supplier Processing Fee:	No fee to vendor
Validation Period:	Valid for 3 years. ***(Vendors certified by other clearinghouse-approved agencies, such as the NMSDC will have a shortened Comparable Agency Verification filing process)***
Telephone:	• Northern California – 800-359-7998 • Southern California – 800-869-7385 • Outside California – 800-359-7998
Web Address:	http://www.cpuc.ca.gov
National Minority Supplier Development Council (NMSDC) ***and all of its affiliated regional councils*** 1040 Avenue of Americas, 2nd Floor New York, NY 10018	
Type of certification:	Minority-owned business certifications-regional/national
Supplier Processing Fee:	Fee to vendor
Validation Period:	Valid for 1year
Telephone:	212-944-2430
Web Address:	http://www.nmsdcus.org
Women's Business Enterprise National Council (WBENC) ***and all of its affiliated councils*** 1156 15th street, N. W., Suite 1015 Washington, D.C. 20005	
Type of certification:	Women-owned business certifications
Supplier Processing Fee:	Fee to vendor
Validation Period:	Valid for 1 year
Telephone:	202-872-5515
Web Address:	http://www.wbenc.org
Association for Service Disabled Veterans (ASDV) 110 Maryland Ave, NE #100 Washington, DC 20002	
Type of certification:	Disabled veteran business certifications
Supplier Processing Fee:	$138, site visit, if required, would have additional cost
Validation Period:	Valid for 1 year
Telephone:	650-949-3751
Web Address:	http://www.asdv.org/home_body.htm
Cherokee Nation Tribal Employment Rights Office (TERO) PO Box 948 Tahlequah, OK 74465	
Type of certification:	Minority owned business certification
Supplier Processing Fee:	Processing fee for granted certifications
Validation Period:	Valid for 1 year
Telephone:	Within Oklahoma: 800-256-0671 Outside Oklahoma: 918-456-0671
Web Address:	http://www.cherokee.org/services/humanemptraining.asp

PRIME SUPPLIER MBE/WBE/DVBE PARTICIPATION PLAN

PRIME SUPPLIER MBE/WBE/DVBE PARTICIPATION PLAN

YEAR REPORTING:

PRIME SUPPLIER NAME: _____
ADDRESS: _____
_____
COMPANY E-MAIL: _____
TELEPHONE NUMBER: _____

DESCRIBE GOODS OR SERVICES BEING PROVIDED UNDER THIS AGREEMENT:

DESCRIBE YOUR M/WBE-DVBE OR SUPPLIER DIVERSITY PROGRAM AND THE PERSONNEL DEDICATED TO THAT PROGRAM

THE FOLLOWING, TOGETHER WITH ANY ATTACHMENTS, IS SUBMITTED AS AN MBE/WBE/ DVBE PARTICIPATION PLAN.

1. GOALS

A. WHAT ARE YOUR MBE/WBE/DVBE PARTICIPATION GOALS?

MINORITY BUSINESS ENTERPRISES (MBEs) _____

WOMAN BUSINESS ENTERPRISES (WBEs) _____

DISABLED VETERAN BUSINESS ENTERPRISES (DVBEs) _____

B. WHAT IS THE ESTIMATED ANNUAL VALUE OF THIS CONTRACT WITH:

SBC Midwest _____
SBC West _____
SBC Southwest _____
SBC SNET _____

Other SBC Affiliate
Note: Indicate dollar award(s) as it applies to this contract (I.e., SBC West, Southwest, and/or Affiliate).

C. WHAT ARE THE DOLLAR AMOUNTS OF YOUR PROJECTED MBE/WBE/DVBE PURCHASES:

MINORITY BUSINESS ENTERPRISES (MBEs) _____

WOMAN BUSINESS ENTERPRISES (WBEs) _____

DISABLED VETERAN BUSINESS ENTERPRISES (DVBEs) _____

SEE MBE/WBE/DVBE CANCELLATION CLAUSE IN AGREEMENT FOR DEFINITIONS OF MBE, WBE, AND DVBE

2. LIST THE PRINCIPAL GOODS AND SERVICES TO BE SUBCONTRACTED TO MBE/WBE/DVBEs OR DELIVERED THROUGH MBE/WBE/DVBE VALUE ADDED RESELLERS

DETAILED PLAN FOR USE OF M/WBEs-DVBEs AS SUBCONTRACTORS, CONTRACT MANUFACTURERS, DISTRIBUTORS, CHANNEL PARTNERS & VALUE ADDED RESELLERS

For every product and service you intend to use, provide the following information. (attach additional sheets if necessary)

Company Name	Classification (MBE/WBE/DVBE)	Products/Services to be provided	$ Value	Date to Begin

3. SELLER AGREES THAT IT WILL MAINTAIN ALL NECESSARY DOCUMENTS AND RECORDS TO SUPPORT ITS EFFORTS TO ACHIEVE ITS MBE/WBE/DVBE PARTICIPATION GOAL(S). SELLER ALSO ACKNOWLEDGES THE FACT THAT IT IS RESPONSIBLE FOR IDENTIFYING, SOLICITING AND QUALIFYING MBE/WBE/DVBE SUBCONTRACTORS, DISTRIBUTORS AND VALUE ADDED RESELLERS.

4. THE FOLLOWING INDIVIDUAL, ACTING IN THE CAPACITY OF MBE/WBE/DVBE COORDINATOR FOR SELLER, WILL:

   ADMINISTER THE MBE/WBE/DVBE PARTICIPATION PLAN,
   SUBMIT SUMMARY REPORTS, AND
   COOPERATE IN ANY STUDIES OR SURVEYS AS MAY BE REQUIRED IN ORDER TO DETERMINE THE EXTENT OF COMPLIANCE BY THE SELLER WITH THE PARTICIPATION PLAN.

NAME: _____
TITLE: _____
TELEPHONE NUMBER: _____
AUTHORIZED SIGNATURE: _____
DATE: _____

M/WBE-DVBE QUARTERLY RESULTS REPORT
FOR THE FOLLOWING SBC AFFILIATE:

Note: *Subcontracting Results should reflect ONLY M/WBE-DVBE dollars directly traceable to sales DURING THE REPORT QUARTER.*

Results must be reported individually for each SBC subsidiary.

THIS SUMMARY REPORT SHOULD BE E-MAILED TO: **SBCSD@msg.pacbell.com**

Authorized signed copy should be mailed to: PRIME SUPPLIER PROGRAM MANAGER
2600 CAMINO RAMON, ROOM 1E050
SAN RAMON, CA 94583 FAX # (925)867-4414

Note: *Questions and/or requests for assistance may be referred to the Prime Supplier Program Manager at SBCSD@msg.pacbell.com*

1. REPORTING COMPANY:

Company Name:
Address:
City, State, Zip:
Contact Name:
Title:
E-mail:
Date:
Telephone:

Signature:

2. CONTRACT/ WORK ORDER NUMBER:

(If available)

3. REPORT QUARTER:

This report reflects the utilization of Minority Business Enterprise/ Woman Business Enterprise/Disabled Veterans Enterprise participation for period

through

(Please indicate dates)

PARTICIPATION GOAL

4.

	Annual Goal		
Percent of Total Sales	MBE	WBE	DVBE

PARTICIPATION ACHIEVEMENT

5.

	Actual for Quarter		
	MBE	WBE	DVBE
Dollars paid by Prime Supplier to Subcontractors			

Total Dollars Paid to Prime Supplier by SBC

SBC - SUBCONTRACTING RESULTS

6. M/WBE-DVBE SUBCONTRACTOR(S) Ethnic/Gender: Total Dollars:

Name:
Address:
City, State, Zip:
Telephone:
Goods or Services:

Certifying Agency:

If other please specify:

To add additional subcontractors, copy the entire light gray area and paste directly below this line.

How to Locate M/W/DVBEs

1. Association for Service Disabled Veterans at 650-949-3751

2. California Public Utilities Commission Clearinghouse to obtain a list of M/WBE suppliers at 415 703-3191 or contact one of the SBC-Recognized Agencies

3. Local Chambers of Commerce:

   Business Associations such as

   a. Asian Business Association
   b. Black Business Association
   c. Latin Business Association
   d. National Association of Women Business Owners
   e. National Center for American Indian Enterprise Development
   f. Purchasing Councils

4. Other Ways to Locate Suppliers:

   a. Publicize your opportunities to the MW/DVBE business community
   b. Place an advertisement in trade and focus papers
   c. Attend trade shows and technical conventions
   d. Become a member of regional or national development groups such as: National Minority Supplier Development Council (NMSDC)
      Women's Business Enterprise National Council (WBENC)
      Association for Service Disabled Veterans (ASDV)

5. Benchmark with other companies to increase your Supplier Diversity Program skills and share supplier lists and best practices.

SBC Supplier Diversity Prime Supplier Program

FREQUENTLY-ASKED QUESTIONS

1. ***What is the Prime Supplier Program?***

The Prime Supplier Program (PSP) is an integral component of SBC's ability to achieve at least 21.5% M/WBE-DVBE diversity participation. Only with the support and cooperation of our prime suppliers will SBC be able to meet and exceed its goals. Moreover, the PSP is a way to assist other corporations in meeting their supplier diversity goals.

2. Does my company have to participate in the PSP? If so, how do we participate?

If your company has one or more contracts with SBC which ***cumulatively*** are worth at least $500,000, you must participate in the PSP.

Companies participating in the PSP must submit to SBC at the beginning of each calendar year an annual plan which identifies how they will contribute to meeting SBC's 21.5% diversity achievement goal. Moreover, companies participating in the PSP must submit quarterly reports to SBC ***no later than the second Friday after the close of the previous quarter.***

For assistance with developing your company's annual plan or submitting quarterly reports, please refer to the Prime Supplier Participation Guide, available at the SBC Supplier Diversity Web Site **(www.sbcsupplierdiversity.com)**

3. How does SBC define a "quarter" (i.e., when will my company have to submit quarterly reports)?

SBC's reporting quarters are from January through March, April through June, July through September and October through December. This means that quarterly reports are due no later than the second Friday after the close of the previous quarter.

4. How does the PSP assist my company?

When you submit your annual plan to SBC for review and approval, we can help identify potential suppliers who may be able to act as Value Added Resellers (VARs) or Subcontractors for your business. By using VARs and/or Subcontractors to assist in the execution of your contract (with manufacturing, delivery, service, etc.), your company can provide better, faster and more cost efficient service to SBC. Thus, by utilizing VARs and/or Subcontractors, your company not only helps SBC achieve its business objectives, but moreover, your company derives the benefit of improved contract performance as well as achieving your own diversity goals.

5. What is the difference between a VAR and a Subcontractor?

A VAR relationship can only exist if your company is an *Original Equipment Manufacturer (OEM).* As an example, say your company manufactures widgets in Ohio and the product is to be shipped to Pacific Bell in California. Let us also say that the manufacturing of those widgets has a ten-step process. It may take your company more time to complete those 10 steps and then deliver the product to SBC West than it would if you completed 7 of those steps and then utilized a VAR in California to complete the final 3 steps and deliver the product. The *Value Add* in this case is faster product manufacturing, faster delivery, and perhaps reduced shipping costs to SBC West.

Because VARs are direct service or product providers to SBC, SBC pays VARs directly.

Subcontractors, or *second-tier suppliers*, are companies that help our prime suppliers in meeting contract-specific goals, but do not provide direct service or goods to SBC, and therefore are paid directly by your company and not SBC. For example, let us say that your company has a contract to do construction work for SBC. In order for you to meet the terms of the contract, you may need to hire a trucking firm to haul goods and supplies for you. Since your company pays the trucking firm directly, you are subcontracting some of the work to be able to deliver on your original contract with SBC.

6. What constitutes a diverse company that will help to meet SBC's M/WBE-DVBE goals? Will any VARs or Subcontractors my company utilizes count toward M/WBE-DVBE Prime Supplier Participation goals?

To ensure the integrity of our diversity reporting, only VARs and Subcontractors whose diversity status can be verified via an SBC-recognized agency will be able to be counted toward diversity achievement. Some of these SBC-recognized agencies include the California Public Utilities Commission (CPUC) and the National Minority Supplier Development Council (NMSDC) and its affiliates. A complete list of recognized agencies is included with the Prime Supplier Participation Guide.

Please note that due to variations in state regulations, certain SBC subsidiaries require that diversity certification be verified by specific entities. For example, in California (SBC West territory), in order for a diverse company to count toward M/WBE-DVBE participation goals, that company must be certified by the CPUC. Therefore, even if that diverse company was certified by the NMSDC, we would not be able to count those results in California, unless that company were dual-certified by the CPUC as well. Again, the Prime Supplier Participation Guide lists which certification agencies are accepted by each SBC subsidiary.

7. My company does business with multiple SBC subsidiaries, for example, SBC West, SBC Midwest and SBC Services. Do I have to submit individual quarterly reports for each subsidiary?

SBC needs to track results of its subsidiaries separately, and therefore, we need your company to report by affiliates. This can be accomplished with separate reports or one report with a separate section for each affiliate.

8. Should my company be submitting CUMULATIVE data on our quarterly reports?

Preferably, NO! SBC needs to track results by quarter, and therefore, all numbers and figures in the quarterly reports should be for the reporting quarter in question only. If, however, this stand-alone quarter data reporting is not feasible or counter productive with your own process, then proceed with the submission of your **clearly-stated or presented** cumulative data.

9. My company has a contract with SBC to provide widgets, yet we can't find any M/WBE-DVBE companies who can act as VARs or Subcontractors. If my company utilizes a diverse-owned janitorial company, and if SBC represents 30% of my overall revenues, can I report 30% of my business with the janitorial company toward M/WBE-DVBE participation goals?

NO! SBC only counts "contract-specific" diversity achievement, that is, diversity achievement that contributes to a direct service or good for which SBC has contracted with your company. "Commodity results", as shown in the example above, DO NOT count toward diversity achievement.

10. What information should the quarterly reports contain?

The quarterly reports should list the amount of revenues you have received during that quarter from the SBC subsidiary for which you are reporting. For example, if your company has revenues from SBC West in the amount of $1M and from SBC Midwest in the amount of $1.5M, your quarterly report submission for SBC West should state that your revenues for the quarter were $1M (not $2.5M).

Additionally, your quarterly reports should include the certified VARs and/or subcontractors you utilized for the SBC subsidiary in question during the quarter. Any VARs and/or subcontractors listed should include contact information, the diversity status (i.e., Minority, Woman or Disabled Veteran) and the revenues being claimed for M/WBE-DVBE purposes (in the case of a VAR, the amount of revenue the VAR reports to you as having been paid by the SBC subsidiary in question; in the case of a subcontractor, the amount of revenue you paid to that subcontractor.)

12. How will SBC verify and validate the numbers my company submits on quarterly reports?

In the case of the amount of revenue your company claims to have received from a particular SBC subsidiary during the quarter, we will verify that data against our accounts payable system reports. Similarly, we will follow the same procedure for verifying VAR spend, since SBC pays VARs directly.

In the case of Subcontracting spend, SBC Supplier Diversity will conduct random audits to verify the information reported on quarterly reports.

13. My company is already a diverse-certified firm. Do we still have to submit an annual plan and quarterly reports?

If your company has one or more contracts with SBC which equal at least $500,000, then YES, you must still submit an annual plan and quarterly reports. SBC believes in and encourages further diversity participation from all of our prime suppliers, even if your company is already a diverse-certified firm.

14. How is the SBC-recognized agency list generated?

The current SBC-recognized agency list is a hybrid of the agency listings the various telephone companies had at the time of each merger. A set of criteria was used to condense the list. As an example, the ease of use (i.e. one-line access) and service levels being provided by the agencies were considered to produce the current list.

15. It is expensive to get re-certified. Can expenses be charged back to SBC?

The answer is NO! We do recognize that re-certification entails some administrative costs. Getting certified with the CPUC Clearinghouse, however, ***is free and is valid for three years***. SBC is one of the seven California utility companies who pay for the administration of the CPUC Clearinghouse. SBC's commitment to the Public Utilities Commissions in the states we report is that 100% of the dollars that we include in our results are certified by the SBC-recognized agencies. The comparable agency verification process often expedites any additional certification requirements. It is recommended that suppliers opting for a second certification consider the CPUC Clearinghouse since there is no additional cost involved and certification is valid for three years.

16. Is it true that SBC's recognized agencies have more formal and rigorous approval process than others?

YES! SBC agencies are nationally recognized agencies with rigorous certification processes. Their certification processes have been acknowledged as acceptable by MWBE/DVBE business communities all across the nation. Rigorous certification processes ensure the diversity status of the businesses that choose to market as an MWBE or DVBE.

TITLE: Supplier Diversity Participation Contract Clauses – Sample #1
RECOMMENDATION 4: Require Supplier Diversity Plans in contracts
PURPOSE: To establish Supplier Diversity participation goals and reporting requirements

MBE/WBE/DVBE (and Appendices)

a. Supplier commits to goals for the participation of MBE/WBE and DVBE firms (as defined in the Section entitled "MBE/WBE/DVBE Cancellation") as follows: _% MBE annual participation; _% WBE annual participation; and _% DVBE annual participation. These goals apply to all annual expenditures by any entity pursuant to this Agreement with Supplier.

b. Attached hereto and incorporated herein as Appendix _ is Supplier's completed Participation Plan outlining its MBE/WBE/DVBE goals and specific and detailed plans to achieve those goals. Supplier will submit an updated Participation Plan annually by the first week in January. Supplier will submit MBE/WBE/DVBE Results Reports quarterly by the end of the first week following the close of each quarter, using the form attached hereto and incorporated herein as Appendix _. Participation Plans and Results Reports will be submitted to the Supplier Diversity Program Manager.

MBE/WBE/DVBE CANCELLATION

a. Supplier agrees that falsification or misrepresentation of, or failure to report a disqualifying change in, the MBE/WBE/DVBE status of Supplier or any subcontractor utilized by Supplier, or Supplier's failure to comply in good faith with any MBE/WBE/DVBE utilization goals established by Supplier, or Supplier's failure to cooperate in any investigation conducted by (Company), or by the (Company's) agent, to determine Supplier's compliance with this Section, will constitute a material breach of this Agreement. In the event of any such breach, the (Company) may, at its option, Cancel this Agreement upon thirty (30) days notice. Supplier acknowledges and agrees that the (Company's) right to Cancel is absolute and unconditional, and (Company) shall not be subject to Liability, nor shall Supplier have any right to suit for damages as a result of such Cancellation.

b. MBEs/WBEs are defined as businesses which satisfy the requirements of paragraph c. below and are either certified as MBEs/WBEs by a certifying agency recognized by the (Company).

c. MBEs/WBEs must be at least fifty-one percent (51%) owned by a minority individual or group or by one or more women (for publicly-held businesses, at least fifty-one percent (51%) of the stock must be owned by one or more of those individuals), and the MBEs/WBEs' management and daily business operations must be controlled by one or more of those individuals, and these individuals must be either U.S. citizens or legal aliens with permanent residence status. For the purpose of this definition, minority group members include male or female Asian Americans, Black Americans, Filipino Americans, Hispanic Americans, Native Americans (i.e., American Indians, Eskimos, Aleuts and Native Hawaiians), Polynesian Americans, and multi-ethnic (i.e., any combination of MBEs and WBEs where no one specific group has a fifty-one percent (51%) ownership and control of the business, but when aggregated, the ownership and control combination meets or exceeds the fifty-one percent (51%) rule). "Control" in this context means exercising the power to make policy decisions. "Operate" in this context means actively involved in the day-to-day management of the business and not merely acting as officers or directors.

d. DVBEs are defined as any business concern that satisfies the requirements of paragraph e. below.

e. The DVBE must be (i) a non publicly-owned enterprise at least fifty-one percent (51%) owned by one or more disabled veterans; or (ii) a publicly-owned business in which at least fifty-one percent (51%) of the stock is owned by one or more disabled veterans; or (iii) a subsidiary which is wholly owned by a parent corporation, but only if at least fifty-one percent (51%) of the voting stock of the parent corporation is owned by one or more disabled veterans; or (iv) a joint venture in which at least fifty-one percent (51%) of the joint venture's management and control and earnings are held by one or more disabled veterans. In each case, the management and control of the daily business operations must be by one or more disabled veterans. A disabled veteran is a veteran of the military, naval or air service of the United States with a service-connected disability. "Management and control" in this context means exercising the power to make policy decisions and actively involved in the day-to-day management of the business and not merely acting as officers or directors.

PRIME SUPPLIER MBE/WBE/DVBE PARTICIPATION PLAN

YEAR REPORTING:

PRIME SUPPLIER NAME: _____
ADDRESS: _____

_____

E-MAIL: _____
TELEPHONE NUMBER: _____

DESCRIBE GOODS OR SERVICES BEING PROVIDED UNDER THIS AGREEMENT:

DESCRIBE YOUR M/WBE-DVBE OR SUPPLIER DIVERSITY PROGRAM AND THE PERSONNEL DEDICATED TO THAT PROGRAM

THE FOLLOWING, TOGETHER WITH ANY ATTACHMENTS IS SUBMITTED AS AN MBE/WBE/DVBE PARTICIPATION PLAN.

1. GOALS

A. WHAT ARE YOUR MBE/WBE/DVBE PARTICIPATION GOALS?

MINORITY BUSINESS ENTERPRISES (MBEs) % _____

WOMAN BUSINESS ENTERPRISES (WBEs) % _____

DISABLED VETERAN BUSINESS ENTERPRISES (DVBEs) % _____

B. WHAT IS THE ESTIMATED ANNUAL VALUE OF THIS CONTRACT WITH:

Affiliate name _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Note: Indicate dollar award(s) as it applies to this contract by affiliate.

C. WHAT ARE THE DOLLAR AMOUNTS OF YOUR PROJECTED MBE/WBE/DVBE PURCHASES:

MINORITY BUSINESS ENTERPRISES (MBEs) $ _____

WOMAN BUSINESS ENTERPRISES (WBEs) $ _____

DISABLED VETERAN BUSINESS ENTERPRISES (DVBEs) $ _____

SEE MBE/WBE/DVBE CANCELLATION CLAUSE IN AGREEMENT FOR DEFINITIONS OF MBE, WBE, AND DVBE

2. LIST THE PRINCIPAL GOODS AND SERVICES TO BE SUBCONTRACTED TO MBE/WBE/DVBEs OR DELIVERED THROUGH MBE/WBE/DVBE VALUE ADDED RESELLERS

DETAILED PLAN FOR USE OF M/WBEs-DVBEs AS SUBCONTRACTORS, CONTRACT MANUFACTURERS, DISTRIBUTORS, VALUE ADDED RESELLERS

For every product and service you intend to use, provide the following information. (attach additional sheets if necessary)

Company Name	Classification (MBE/WBE/DVBE)	Products/Services to be provided	$ Value	Date to Begin

3. SELLER AGREES THAT IT WILL MAINTAIN ALL NECESSARY DOCUMENTS AND RECORDS TO SUPPORT ITS EFFORTS TO ACHIEVE ITS MBE/WBE/DVBE PARTICIPATION GOAL(S). SELLER ALSO ACKNOWLEDGES THE FACT THAT IT IS RESPONSIBLE FOR IDENTIFYING, SOLICITING AND QUALIFYING MBE/WBE/DVBE SUBCONTRACTORS, DISTRIBUTORS AND VALUE ADDED RESELLERS.

4. THE FOLLOWING INDIVIDUAL, ACTING IN THE CAPACITY OF MBE/WBE/DVBE COORDINATOR FOR SELLER, WILL:

   ADMINISTER THE MBE/WBE/DVBE PARTICIPATION PLAN,
   SUBMIT SUMMARY REPORTS, AND
   COOPERATE IN ANY STUDIES OR SURVEYS AS MAY BE REQUIRED IN ORDER TO DETERMINE THE EXTENT OF COMPLIANCE BY THE SELLER WITH THE PARTICIPATION PLAN.

NAME: _____

TITLE: _____

TELEPHONE NUMBER: _____

AUTHORIZED SIGNATURE: _____

DATE: _____

M/WBE-DVBE QUARTERLY RESULTS REPORT
FOR THE FOLLOWING AFFILIATE:

(Results must be reported individually for each Subsidiary)

Report Quarter

Please indicate dates:

This summary report should be e-mailed to:
Authorized signed copy can be mailed or faxed to: Supplier Diversity Program Manager
Street
City, State Zip Code
Fax:

1. Reporting Company

Name:
Address: Phone:
E-mail:
City/ST/Zip
Contact Name Title:
Contract/Work
Signature: Order Number:

2. Participation Annual Plan Goal

	MBE	WBE	DVBE
Percent of Total Sales			

3. Participation Achievement

Note: Subcontracting Results should reflect ONLY M/WBE-DVBE dollars directly traceable to payments DURING THE REPORT QUARTER

	MBE	WBE	DVBE
Dollars paid by Prime Supplier to Subcontractors			

Total Dollars Paid to Prime Supplier by Customer

	MBE	WBE	DVBE
Dollars paid to VAR's by customer			

% participation (total VAR $ plus sub-contracting $) / total customer payments

MBE	WBE	DVBE

4. VAR and Subcontracting Results

Name:
Address: Total Dollars
City, State, Zip:
Telephone: Ethnic Gender:
Goods/Services:
Certifying Agency:

Name:
Address: Total Dollars:
City, State, Zip:
Telephone: Ethnic Gender:
Goods/Services:
Certifying Agency:

TITLE: Supplier Diversity participation contract clauses – Sample #2
RECOMMENDATION 4: Require Supplier Diversity Plans in contracts
PURPOSE: To establish Supplier Diversity participation goals and multi-tier reporting requirements

MINORITY, WOMEN, AND DISABLED VETERAN OWNED BUSINESS ENTERPRISE PARTICIPATION

It is COMPANY'S policy that certified Minority Women, and Disabled-Veteran Business Enterprises (MWDVBEs) shall have the maximum practicable opportunity to participate in the performance of agreements. SUPPLIER agrees to use its good faith efforts to carry out this policy to the fullest extent consistent with the efficient performance of this AGREEMENT. SUPPLIER agrees to conduct a program, which will enable MWDVBEs to be considered fairly as subcontractors/suppliers/resellers under this AGREEMENT. SUPPLIER agrees to participate in COMPANY'S Flow Down Program.

FLOW-DOWN PROGRAM

SUPPLIER agrees to utilize Minority, Women and Disabled Veteran Business Enterprises (MWDVBE's) at the direction of COMPANY as First Tier Unique suppliers/subcontractors and to abstain from counting dollars paid as part of SUPPLIER'S Diversity reports. SUPPLIER also agrees to proactively solicit MWDVBE's as Second Tier suppliers/subcontractors in the fulfillment of this agreement. SUPPLIER agrees to incorporate good faith efforts to include (XX%) spend with diversity suppliers/subcontractors.

Finally, SUPPLIER agrees to work with COMPANY to identify any areas for MWDVBE participation in the supply chain as a SUPPLIER Channel Partner for COMPANY to purchase from directly where it makes business sense to do so.

REPORTING REQUIREMENTS

SUPPLIER shall submit to COMPANY reports of transactions with third party certified MWDVBEs in such manner and at such time as COMPANY may prescribe. Such periodic reports shall state separately for Minority, Women, and Disabled - Veteran Businesses the work, which is attributable to COMPANY. Nothing in this Article shall affect or diminish the SUPPLIER'S obligation as set forth in ARTICLE #51 - SUPPLIER EMPLOYEES AND SUBCONTRACTORS.

Acceptable Certifications:

National Minority Supplier Development Council Regional Affiliates (NMSDC)

Women's Business Enterprise national Council Regional Affiliates (WBENC)

California Public Utilities Commission Clearing House

SBA

Ethnic Codes and Definitions - In general, a minority business is defined as one, which is at least fifty-one- (51.0%) percent owned, controlled and operated by an ethnic or racial minority group member. All of the following ethnic codes fall under the classification of Minority Business Enterprise (MBE), except for Non Minority Women-Owned (WF), which is Women Business Enterprise (WBE).

Ethnic Codes:

BF	African-American Female
BG	African-American Group
BM	African-American Male
DV	Service-Disabled Veteran (Not a minority code.)
FF	Filipino Female
FG	Filipino Group
FM	Filipino Male
HF	Hispanic Female
HG	Hispanic Group
HM	Hispanic Male
IF	Asian-Indian Female
IG	Asian-Indian Group
IM	Asian-Indian Male
JM	Hasidic (Jewish) Male (State of New York only.)
MF	Mixed Minority Female
MG	Minority Group
MM	Mixed Minority Male
NF	Native American Female
NG	Native American Group
NM	Native American Male
OF	Asian-Pacific Islander Female
OG	Asian-Pacific Islander Group
OM	Asian-Pacific Islander Male
WF	Non-Minority Women-Owned

The following groups are considered minorities for Minority Business Enterprises (MBE) as defined by Federal Acquisition Regulations (FARs): African-American means all persons having origins in any of the Black racial groups. Asian-Pacific American means all persons having origins in Japan, China, Philippines, Vietnam, Korea, Samoa, Guam, the U.S. Trust Territory of the Pacific Islands (Republic of Palau), the Northern Mariana Islands, Laos, Kampuchea (Cambodia), Taiwan, Burma, Thailand, Malaysia, Indonesia, Singapore, Brunei, Republic of the Marshall Islands, or the Federated States of Micronesia. Asian-Indian American means all persons having origins in India, Pakistan, Bangladesh, Sri Lanka, Bhutan, or Nepal. Hispanic-American means all persons having origins in Mexico, Puerto Rico, Cuba, Central, Latin or South America, Portugal, or other Spanish culture or origins. Native-American means American Indians, Eskimos, Aleuts, and native Hawaiians. Hasidic Jews (State of New York only.) Non-minority American means all persons not covered by the definition of American minority (MBE) groups above. Women Business Enterprises (WBE) are at least fifty-one-(51.0%) percent owned, controlled and operated by women who are not racial or ethnic minorities. Non-minority women-owned businesses are reported separately from minority businesses.

FORMS – EXHIBITS A-D

Exhibit A – SCDI Utilization Statement

Exhibit B – Good Faith Effort Review

Exhibit C – Flow-Down Program Reporting Format

Exhibit D – Request for Approval of Change

Exhibit A

[COMPANY] SUPPLY CHAIN DIVERSITY INITIATIVE
FLOW-DOWN PROGRAM
M/W/DVBE UTILIZATION STATEMENT

INSTRUCTION SHEET

PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE COMPLETING THE REQUIRED [COMPANY] SUPPLY CHAIN DIVERSITY INITIATIVE STATEMENT**.** THESE INSTRUCTIONS ARE DESIGNED TO ASSIST IN THE PREPARATION AND SUBMISSION OF A DETAILED AND COMPLETE M/W/DVBE UTILIZATION STATEMENT.

CONTRACTORS/CONSULTANTS ARE REQUIRED TO SUBMIT AN M/W/DVBE UTILIZATION STATEMENT IDENTIFYING M/W/DVBE FIRMS TO BE UTILIZED IN ACHIEVING [COMPANY] 'S M/W/DVBE GOAL ON ALL CONTRACTS. SHOULD THE M/W/DVBE GOAL NOT BE ACHIEVED, THE [COMPANY] SUPPLY CHAIN DIVERSITY INITIATIVE OFFICE WILL REVIEW AND CONSIDER THE CONTRACTOR'S GOOD-FAITH EFFORTS IN AWARDING SUBCONTRACTS/PURCHASES TO M/W/DVBEs PRIOR TO CONTRACT AWARD AND EXTENSIONS.

A. Contractors are required to make sincere efforts in attempting to achieve or exceed [COMPANY] 's applicable M/W/DVBE utilization goal. The M/W/DVBE participation will be monitored throughout the duration of the contract.

B. **The Utilization Statement** should be prepared by the company's M/W/DVBE Coordinator or designee. **The Utilization Statement** must be signed and dated by an authorized company official. The Coordinator or designee should have a working knowledge as to the project's subcontracting and supplier activities (actual and anticipated). This individual shall be a key figure in directing the contractor's M/W/DVBE activities.

C. All contractors are to complete the project identification part (Section A) regardless of M/W/DVBE utilization goal achievement. All subcontracting activities anticipated and/or actual, shall be identified in Section B.

D. Should there be subcontracting opportunities, yet the contractor **not** achieve [COMPANY] 's goal, complete all applicable sections of the **M/W/DVBE Utilization Statement** describing efforts made to achieve the M/W/DVBE goal and provide detailed support of good-faith efforts made in attempting to identify and award subcontracts and/or related purchases.

E. [COMPANY] requires all M/W/DVBE firms to be certified as such by a [COMPANY] approved certification agency. The contractor is responsible for submitting, along with the required M/W/DVBE Utilization Statement, a properly completed Certification Affidavit for its proposed M/W/DVBE subcontractors/suppliers .

F. [COMPANY] reserves the right to approve the addition or deletion of subcontractors/suppliers through the [COMPANY] 05 form. In the event that an M/W/DVBE subcontractor is replaced, the contractor must make a good-faith effort to involve and utilize another M/W/DVBE subcontractor/supplier.

M/W/DVBE UTILIZATION STATEMENT

SUPPLY CHAIN DIVERSITY INITIATIVE OFFICE

SECTION A – PROJECT IDENTIFICATION SECTION

Project Title _____

Contract Amount _____ Company Name _____

Subcontract and/or Supplier Opportunities? Yes _____ No _____

[COMPANY] M/W/DVBE Goal _____% Contract Anticipated M/W/DVBE Goal _____%

**IF SUBCONTRACTING OPPORTUNITIES ARE ANTICIPATED,
SECTION B MUST BE COMPLETED**

If no subcontracting opportunities are anticipated, please explain and submit this page only. (Attach additional pages if necessary.)

_____

_____

_____

_____ Date: _____
Print Name

_____ Phone: _____
Signature/Title

SECTION B – PROJECT M/W/DVBE UTILIZATION

THE [COMPANY] SUPPLY CHAIN DIVERSITY INITIATIVE GOAL IS EXPRESSED AS A PERCENTAGE OF THE **TOTAL DOLLAR AMOUNT** OF THE PRIME CONTRACT AWARDED TO M/W/DVBEs. THE GOAL IS APPLICABLE FOR THOSE AREAS WHICH THE PRIME CONTRACTOR WILL SUBCONTRACT OR PURCHASE MAJOR SUPPLIES NECESSARY IN THE PERFORMANCE OF THE CONTRACT.

1. List **all** actual and anticipated subcontracts and/or material purchases to be utilized on the project. *(Use additional listing if necessary.)*

TRADE AREA	ESTIMATED $ AMOUNT	SUBCONTRACTOR/SUPPLIER	M/W/DVBE YES	M/W/DVBE NO

2. Anticipated M/W/DVBE utilization in total dollars $_____

3. Overall M/W/DVBE utilization percentage _____%

4. Anticipated M/W/DVBE utilization in this contract will occur:

   Throughout _____ Beginning 1/3 _____ Middle 1/3 _____ Final 1/3 _____

IF M/W/DVBE GOAL IS UNACHIEVABLE, SECTION C MUST BE COMPLETED

[COMPANY] credits only those M/W/DVBEs that have been certified by [COMPANY] approved certification agencies.

Please Note: All changes, additions, or deletions occurring during the life of this contract relative to the use of the listed subcontractors/supplier, M/W/DVBE or otherwise, must be reported to the [Company] Supply Chain Diversity Initiative Office for review and approval on form [COMPANY]-LSCDI- 04 prior to execution. Failure to provide and receive approval could result in withheld or denied payment.

Exhibit B

SECOND-TIER REPORT FORMAT

Certified MWDVBE Supplier	Ethnic Code	Supplier Contact	Supplier Phone #	Product /Service	[Company] Order #	Pricing Category	Jan. '03 Spend	Feb. '03 Spend	Mar. '03 Spend	PAYMENTS YTD
TOTALS							**0**	**0**	**0**	**$0**

Exhibit C

GOOD-FAITH EFFORT REVIEW

TO BE COMPLETED ONLY IF [COMPANY]'S SUPPLY CHAIN DIVERSITY INITIATIVE GOAL WILL NOT BE ACHIEVED

THE FOLLOWING ITEMS ARE **MINIMALLY** CONSIDERED AS GOOD-FAITH EFFORTS AND DEMONSTRATE SPECIFIC INITIATIVES MADE IN ATTEMPTING TO ACHIEVE THE M/W/DVBE PARTICIPATION GOAL.

1. Have you requested and obtained a copy of the Certification Affidavit of M/W/DVBE firms?
   Yes _____ No _____

2. Were any identified M/W/DVBEs solicited for contract participation? Yes _____ No _____

3. Provide listing of interested M/W/DVBEs with whom solicitation was made:

NAME OF FIRM	CONTACT PERSON	TELEPHONE NO.	DATE

4. Was the [Company] Supply Chain Diversity Initiative Office contacted for assistance?
   Yes _____ No _____

   Date/person contacted and assistance sought: _____

   _____

   _____

5. Identify M/W/DVBE support agencies/associations contacted for M/W/DVBE solicitation (Minority Chambers of Commerce, Purchasing Councils, contractor groups, etc.). Please attach copies of solicitation letters of assistance and/or describe personal contact made. (Attach page detailing information if necessary.)

   _____

   _____

6. What was the time requirement for bid submission? _____

7. List all M/W/DVBE bids received but rejected. (Use additional listing detailing information if necessary.)

NAME	DATE	TRADE AREA	IF NOT, WHY NOT?

11. Discuss any effort(s) aimed at involving M/W/DVBEs.
    a. Identify any specific efforts to divide work, in accordance with normal industry practice, to allow maximum M/W/DVBE participation.

    _____

    _____

    _____

    b. Joint ventures, requesting second-tier M/W/DVBE subcontracts, etc.

    _____

    _____

    c. List all other good-faith efforts utilized. Please elaborate.

    _____

    _____

Please Note: This good-faith effort statement is subject to [Company] Supply Chain Diversity Initiative Office approval.

Exhibit D

REQUEST FOR APPROVAL OF CHANGE
TO ORIGINAL CERTIFIED LIST OF SUBCONTRACTORS

The Contractor, _____, performing work on a project known as _____, requests approval of the following addition(s) and/or deletion(s) on the M/W/DVBE Utilization Statement ([COMPANY] 01 form) as originally submitted as part of the bid on the above-named project.

Check (?) one block for each transaction

CHANGE

ADD	DELETE	COMPANY NAME	TRADE	M/W/DVBE STATUS	DOLLAR AMOUNT

JUSTIFICATION

CERTIFICATE OF AFFIDAVIT

The above information is true and complete to the best of my knowledge and belief. I further understand and agree that this certification shall become a part of my contract with [Company].

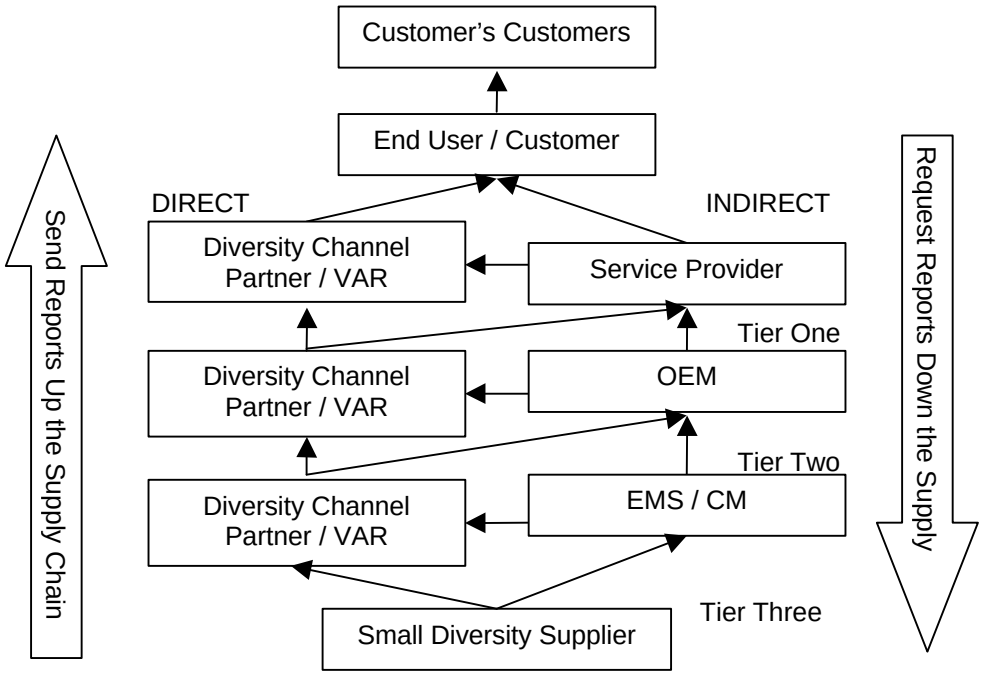
Name and Title of Signer: _____
(Please print or Type)

Signature: _____ Date: _____

Approved: _____
[Company] Supply Chain Diversity Initiative Manager

TITLE: Diversity Participation Reporting process
RECOMMENDATION 4: Require Supplier Diversity participation reporting in contracts
PURPOSE: Provide visibility to all opportunities up and down the supply chain to report diversity participation and require reporting at least one level up and two levels down

Diversity Spending Reporting Process



TITLE: Sample Guide to How to Analyze a Deal
RECOMMENDATION 5: Design and verify diversity business value proposition
PURPOSE: Methods to examine your supply chain to identify purchase opportunities for subcontracting or VAR arrangements

Sample Guide to How to Analyze a Deal

To analyze a deal for Supplier Diversity opportunities requires bringing together a team of subject matter experts to diagram the entire supply chain, from the OEM all the way to the end user customer. Ideally, this team would be comprised of experts from appropriate groups within both the Service Provider [end users and Supplier Diversity Business Development Manager] and the OEM and/or EMS. Very often, this team of Subject Matter Experts ("SMEs") is charged with solving a real business problem (i.e., reduced time to market of a new product, improved delivery intervals, improved quality of product performance, etc.).

The first step in the process is to identify those areas where diversity suppliers can perform -- either as competitively or more competitively than existing solutions. The SMEs might begin with identifying areas where there are quality issues or where customer satisfaction ratings are not high. Another consideration is to examine those areas that are not the core focus of the OEM or the Service Provider. For example, System Integration, Warehousing, Distribution, may not be a core competence of either OEM or Service Provider and may create an ideal opportunity for reduced cost and improved quality by outsourcing these functions to a company specializing in these functions.

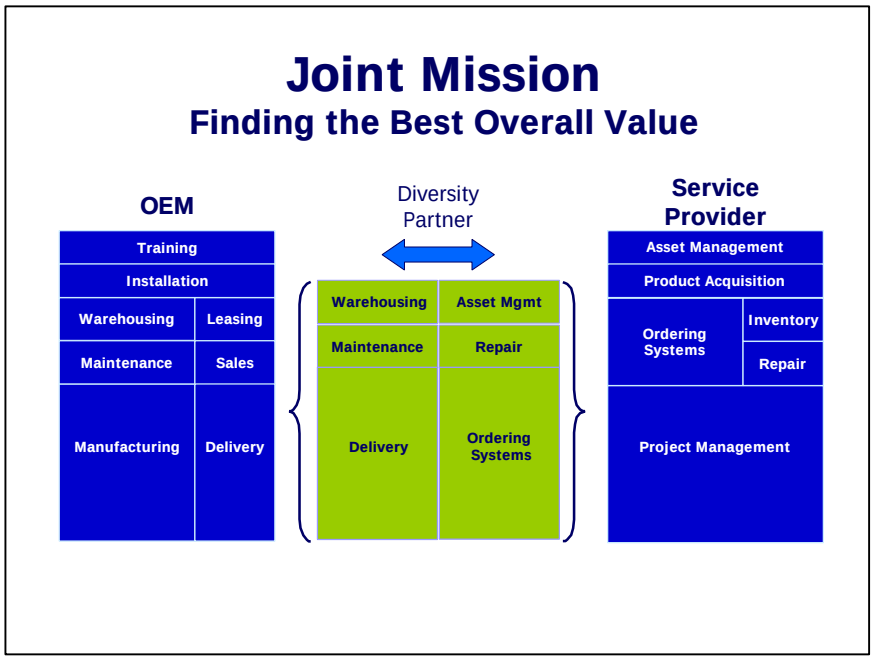
The team should also examine linkages, identifying handoffs, opportunities for customization or possibilities of systems integration. Those opportunities should be marked as areas for further study and development. These activities may occur as early in the process stream as R&D, Product Development and Securing Raw Material. There may also be opportunities in the downstream process, for example, Post Sales Support.

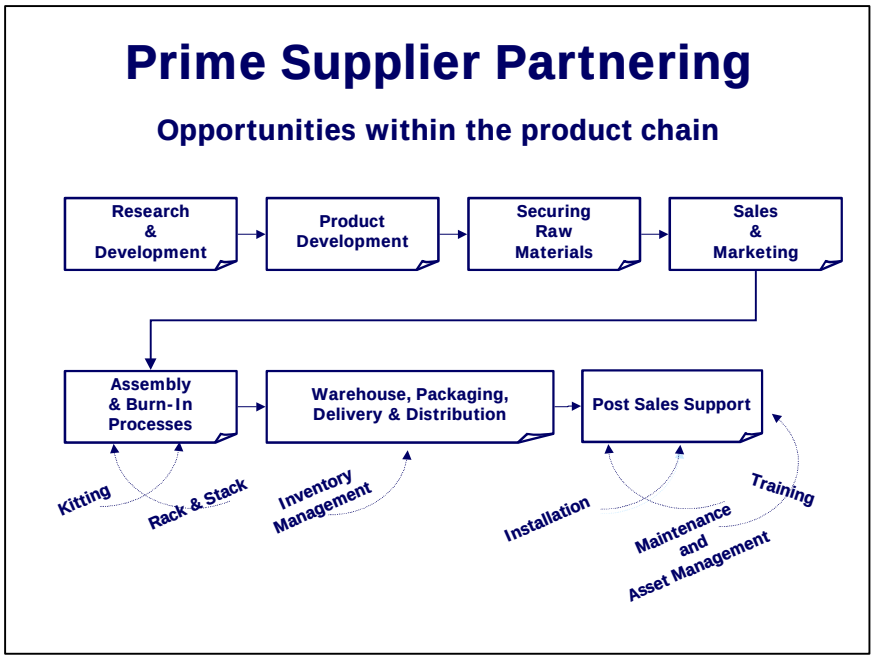
The next step is to research those opportunities to determine specifically what may be involved to implement the solution. Examples of items to research include, but are not limited to:

- Skill sets needed (e.g., Project Managers, Engineers, Installers or Sales Force)
- Resources needed (e.g., EDI, facilities, E-commerce, etc.)
- Certifications needed (e.g., ISO, TL9000, Cisco, etc.)
- Geographical requirements

A complete financial analysis, examining cost models involved in any business initiative is also vital when the team is evaluating a deal for potential supplier diversity involvement. The team should also carefully research costs of providing the identified elements in the supply chain and assess whether diversity suppliers are as competitive or even more cost competitive for those functions.

The flow diagrams below might be used to address the following *example* of a business challenge:





In this case, to meet increasing competition, the Service Provider wanted to introduce a competitive new product to market in an extremely short interval. The OEM's current capacity could not meet the unanticipated increase in demand and the OEM was also challenged to meet the new delivery dates (from six weeks to five days).

Engineering, Operations, Strategic Sourcing (contracting and purchasing) and Supplier Diversity Managers were assembled to develop a flow diagram of all affected processes. After the team examined the end to end process, the solution included the OEM transferring warehousing, maintenance and delivery to the Diversity Supplier. The Service Provider also found efficiencies in asset management, repairs and improvement in the order management by transferring these functions to the Diversity Supplier. Project management and implementation consulting services were also incorporated in this solution.

The follow-up review to determine how well the project met objectives concluded that overall costs were reduced; cycle time was reduced from six week to three days and the Service Provider was able to meet time-to-market requirements.

TITLE: Critical Supplier Diversity Contract Terms and Conditions – Sample #1
RECOMMENDATION 6: Develop contracts that mitigate risks to small businesses
PURPOSE: To develop contracts that reduce risk to small businesses and protect large businesses from potential supply chain disruptions

1. INITIAL PROGRAM IMPLEMENTATION

With respect to each Product provided pursuant to the Product Schedule(s) under this Agreement, an implementation program shall be jointly developed by the parties for the proper and timely receipt, processing, and overall performance in fulfillment of the Orders by Company. Such implementation program shall include recommendations to the ordering entities within Customer on order placement, any specific training of Company by OEM and the establishment of any special procedures between Company and OEM to process such Orders, including submission of Orders and other documents to OEM via EDI.

2. PROGRAM REVIEWS AND PERFORMANCE STANDARDS

As described in a Product Schedule, Company and OEM shall meet on a regular basis to review adequacy and efficiency of Company's and OEM's facilities, methods, and other matters as may be mutually agreed.

3. ACCEPTANCE, WARRANTIES AND REMEDIES

3.1 Within xxx (#) business days of receipt of any Products from OEM, Company shall examine such Products for any loss or damage that may have occurred during transit and for any other Product deficiencies and submit a written report to OEM describing the nature of such damage, in sufficient detail to enable OEM to make a claim therefore under any applicable insurance coverage it may have for such damage. Product shall be deemed accepted by Company if no such report is received by OEM within xxx (#) business days after Company's receipt of such Product.

3.2 Both parties will cooperate with one another in the investigation of the causes of any product deficiencies and each party will absorb its own expenses incurred in any preliminary investigation. If it is determined that the deficiency was attributable to OEM, then OEM will reimburse Company for expenses authorized by OEM which Company directly incurred to remedy such deficiency. Should a more extensive investigation by OEM be requested by Customer or Company, the expenses for such an investigation in connection therewith shall be estimated by OEM in advance and expenses incurred by OEM shall be borne by Company at OEM's actual documented costs.

4. INSPECTION AND QUALITY

4.1 OEM may, upon reasonable notice to Company, inspect Company's facilities where the Products are stored and handled, and Products which have been configured or assembled by Company to assure compliance with OEM's quality and other standards for which Company is responsible.

4.2 Company and OEM mutually agree to cooperate in process quality improvement including attainment of annual improvement goals for delivery and Customer responsiveness.

4.3 Company shall take such steps as are necessary to maintain ISO 9002 quality requirements and certification.

5. REPURCHASE

5.1 In the event Company terminates this Agreement, then, upon Company's written request, made no later than thirty (30) days after the effective date of such termination or suspension, OEM shall repurchase the Products which remain in Company's inventory, subject to the following conditions: (i) that each such Product must have been ordered or shipped to Company during the twelve (12) month period immediately preceding the termination or suspension, (ii) that each such Product is in its original sealed box, and (iii) that the total dollar amount of such repurchases by OEM shall not exceed (specified amount) of the cumulative dollar amount of Product ordered or shipped to Company for its inventory during the twelve (12) month period immediately prior to the date of the notice of termination or suspension. OEM shall repurchase each Product at the Price paid by Company for such Product without a restocking charge. Payment shall be made to Company thirty (30) days from the later of the date of OEM receipt of Company's invoice for such repurchase or the receipt of such repurchased Product.

5.2 In the event that the parties jointly determine and agree that an overstock condition of certain Products exists in Company's inventory, then within ten (10) days of such determination and not more often than once each calendar quarter, OEM will, unless otherwise mutually agreed by the parties, elect to accept return of such overstocked Products up to a (specified amount) per calendar quarter of the total dollar amount of such Products ordered or shipped to Company during the preceding twelve (12) month period, provided that each such Product is OEM current version of the Product, each such Product is in its original sealed box, and each such Product has not been in Company's inventory for more then twelve (12) months. Such returns shall not be subject to any restocking charge.

6. DEFAULT

Either party may, at any time, upon ninety (90) days written notice suspend its performance under or terminate this Agreement without cause, and without liability, penalty or obligation. In the event of such suspension by OEM for a period exceeding one hundred twenty (120) days or such termination by OEM, OEM will repurchase Products for which OEM has been paid, or take possession of the Products in Company's inventory for which OEM has not been paid.

7. GENERAL PROGRAM STANDARDS

7.1 As applicable, OEM and Company will respond to the other party promptly within two (2) business days on claims of quality issues, errors, problems or issues, and if mutually deemed necessary by the parties, implement an action plan to remedy such deficiencies at the agreed upon intervals.

7.2 Except as otherwise set forth in the relevant Product Schedule, Company shall provide to OEM the following reports:

a) Weekly Orders Received Report
b) Monthly Point Of Sale and True-Up Reports
c) Monthly Operations Review Report
d) Open Purchase Order and Product Shortage Report (as requested)
e) Quarterly Financial Statements (certified by Company's C.F.O. or Company's Auditors) upon request by OEM

7.3 Except as otherwise set forth in the relevant Product Schedule, OEM shall provide to Company a quarterly Regional Sales Forecast for each Product.

7.4 Both parties shall cooperate to determine any additional reporting processes and/or requirements that the parties deem necessary.

7.5 Company shall maintain a documentation system in accordance with the requirements of ISO 9002.

8.0 QUARTERLY PROGRAM REVIEWS

8.1 Approximately one week following the end of each calendar quarter, OEM and Company shall conduct quarterly reviews to evaluate the previous quarter performance of both parties and review other contractual responsibilities as set forth under this Agreement. Items to be reviewed shall include but not be limited to the following:

i) Status of Inventory Plan
ii) Quality / Performance metrics
iii) Product Sales Levels

8.2 In addition to evaluating quarterly performance, the parties shall utilize the joint quarterly reviews to consider any other plans, processes and / or recommendations that may increase or improve the success of the program between OEM and Company.

TITLE: Critical Supplier Diversity Contract Terms and Conditions – Sample #2
RECOMMENDATION 6: Develop contracts that mitigate risks to small businesses
PURPOSE: To develop contracts that reduce risk to small businesses, and protect large businesses from potential supply chain disruptions

1. INVENTORY RETURN AND ROTATION PRIVILEGE

At the request of either party, OEM and VAR will conduct periodic reviews to assess VAR inventory and mutually agree on adjusting VAR's purchase orders to OEM, provided VAR inventory meets OEM's forecast for COMPANY orders. VAR may request return of products that were purchased under this Agreement for return on a quarterly basis. Additionally, VAR will provide OEM with a detailed description of the reasons for all return requests. Such returns would only include Products purchased in the preceding 3-month period. The returns will be exchanged for future purchases or returned for credit, as mutually agreed upon by both parties.

2. OBSOLETE INVENTORY PROTECTION

VAR may return obsolete products purchased for resale to COMPANY. Obsolete products are defined when COMPANY notifies OEM in writing that COMPANY will no longer purchase such product or OEM has decided that the product will no longer be produced. OEM will make arrangements to purchase any inventory items from VAR that become obsolete. OEM will notify VAR at least thirty (30) days prior to the official announcement of new products that would render all or part of VAR's inventory an obsolete product(s). Within that thirty (30) day period, VAR will use commercially reasonable efforts to sell the obsolete products and return all unsold obsolete products to OEM by the end of the thirty (30) day period. At the expiration of the thirty (30) day period, OEM will purchase from VAR the obsolete product at the invoice price paid by VAR when purchasing from OEM the obsolete products returned.

3. INVENTORY PROTECTION UPON TERMINATION

Upon termination of this Agreement, OEM shall pay VAR for such products and components purchased by VAR to support inventory levels requested by OEM to support COMPANY's forecast or allow for the return of said products.

4. ORDER CANCELLATION PROTECTION

In the event COMPANY cancels an order for products from the VAR, then VAR may cancel it's related purchase order(s) previously accepted by OEM and return to OEM such products as have been delivered to VAR. VAR must make such cancellation within fifteen (15) days of VAR's receipt of COMPANY's cancellation. In the event COMPANY terminates its agreement attributable to VAR's performance, VAR's right to cancel Orders and/or return products shall be as stated above, however, OEM may assess a fifteen percent (15%) order cancellation charge.

5. LIQUIDATED DAMAGES PROTECTION

In the event VAR is reasonably assessed liquidated damages by COMPANY for late delivery of products to COMPANY pursuant to VAR's contract with COMPANY, for reasons attributable solely to OEM, OEM may be liable to VAR for such liquidated damages, in accordance with the following: a) OEM must agree that such liquidated damages were properly assessed by COMPANY (and VAR shall provide OEM with access to its contract with COMPANY, VAR's books and records, and other information OEM deems necessary to validate COMPANY's claim of entitlement to such damages), b) OEM's liability for such liquidated damages in the aggregate and on a per event basis will not exceed the amount, if any, OEM would have been liable to pay COMPANY.

TITLE: Critical Supplier Diversity contract terms and conditions – Sample #3
RECOMMENDATION 6: Develop contracts that mitigate risks to small businesses
PURPOSE: To develop contracts that reduce risk to small businesses, and protect large businesses from potential supply chain disruptions

CONDUCT OF BUSINESS

Manufacturer agrees not to sell Products directly to any of Distributor's customers.

Or [select either top or bottom]

Manufacturer agrees not to sell Products directly to any of Distributor's customers except at the published prices established for that customer base.

PRICE CHANGE NOTIFICATION

Distributor will purchase Products in U.S. Dollars from the price list attached hereto as Exhibit A. Manufacturer may change its prices from time to time, but only after furnishing Distributor with updated prices at least thirty (30) days prior to the effective date of the price change. The price of the Product will be the price in effect on the date of the purchase order.

WARRANTY

From the date of Distributor's shipment to customer, or Manufacturer's shipment to Distributor's customer if Drop-Shipped, Manufacture warrants that Material bearing the Manufacturer's name will conform to published specifications and will be free from substantial defect in material and workmanship under normal use.

MANUFACTURE DISCONTINUED GOODS AND PRODUCT REVISIONS

To facilitate Distributor's optimum management of inventory, Manufacturer will provide Distributor with copies of all Product Change Notices ("PCN"') affecting Products held in its inventory and in the event that mandatory changes or upgrades to Distributor's inventory are mandated by the PCNs, Manufacturer shall provide the same at no charge to Distributor. Manufacturer will notify Distributor thirty (30) days in advance of modification of any of Manufacturer's products. Distributor will have ninety (90) days from receipt of such notification to return products from inventory for modification or for replacement by the

modified product.

INDEMNITY & INFRINGEMENT

Manufacturer will defend, indemnify, and hold harmless Distributor, its officers, directors, employees and customers, from and against all damages, claims or liabilities and expenses of any type whatsoever (including reasonable attorneys' fees) arising out of or resulting from any defect in the Products or related services purchased hereunder; from any act or omission of Manufacturer, its agents, employees, suppliers or subcontractors; or from Manufacturer's failure to perform its obligations hereunder.

TITLE: Critical Supplier Diversity Contract Terms and Conditions – Sample #4

RECOMMENDATION 6: Develop contracts that mitigate risks to small businesses

PURPOSE: To develop contracts that reduce risk to small businesses and protect large businesses from potential supply chain disruptions

Sample VAR Payment Term Options with Service Provider and OEMs to Reduce Cash Flow Risk

Service Provider - VAR payment option

Service Provider agrees to pay VAR Net 15 days

[Service Provider] shall pay VAR within fifteen (15) days of the date of receipt of the invoice in accordance with the prices set forth in this Agreement or in the applicable Order. Payment for shortages or for Material or Services not conforming to the Specifications, and portions of any invoice in dispute, may be withheld by [Service Provider] until such problem has been resolved.

[use above clause with one of the following options]

OEM – VAR payment option #1 (based on extended time interval)

OEM permits VAR to pay within 45 days of invoice receipt

[VAR] shall pay [OEM] within forty-five (45) days of the date of receipt of the invoice in accordance with the prices set forth in this Agreement or in the applicable order. Payment for shortages or for Material or Services not conforming to the Specifications, and portions of any invoice in dispute, may be withheld by [VAR] until such problem has been resolved.

OEM – VAR payment option #2 (based on when VAR is paid)

OEM permits VAR to pay within 30 days of Service Provider paying VAR

[VAR] shall pay [OEM] within thirty (30) days of the date [Service Provider] pays [VAR] in accordance with the prices set forth in this Agreement or in the applicable order. Payment for shortages or for Material or Services not conforming to the Specifications, and portions of any invoice in dispute, may be withheld by [VAR] until such problem has been resolved.

OEM – VAR payment option #3 (based on receipt of OEM product by Service Provider)

OEM permits VAR to pay within 45 days of Service Provider receipt of product

[VAR] shall pay [OEM] within forty-five (45) days of the date of receipt of the product by [Service Provider] in accordance with the prices set forth in this Agreement or in the applicable order. Payment for shortages or for Material or Services not conforming to the Specifications, and portions of any invoice in dispute, may be withheld by [VAR] until such problem has been resolved.

OEM – VAR payment option #4 (based on acceptance of good/services)

OEM permits VAR to pay Net 45 days

[VAR] shall pay [OEM] within forty-five (45) days of the date of [Service Provider] acceptance of good/services in accordance with the prices set forth in this Agreement or in the applicable order. Payment for shortages or for Material or Services not conforming to the Specifications, and portions of any invoice in dispute, may be withheld by [VAR] until such problem has been resolved.

TITLE: Critical Supplier Diversity Contract Terms and Conditions – Sample #5
RECOMMENDATION 6: Develop contracts that mitigate risks to small businesses
PURPOSE: To develop contracts that reduce risk to small businesses and protect large businesses from potential supply chain disruptions

NOTE: An assessement of the severity of risk should be performed to determine the need for establishment of an Escrow Account.

Escrow Account

Pursuant to instructions from OEM, Company may be required to request that Customer make payment for ordered Product directly to a restricted escrow account with Escrow Agent, to be held and disbursed by Escrow Agent in accordance with the terms hereof. The Escrow Deposit shall be used for payment to OEM and Company.

On the date of shipment by Company of Product pursuant to a sale, Company shall generate a point of sale notice to be provided to OEM ("Sale Notice"). The Sale Notice shall be in writing, and shall identify the type and quantity of Product shipped, the identity of the customer, the date the Product was shipped, the terms of payment to Company by the customer, and the amount to be paid to OEM from such sale proceeds. Company shall provide a copy of the Sale Notice to Escrow Agent, and shall additionally identify the total amount to be deposited into the Escrow Account by Customer.

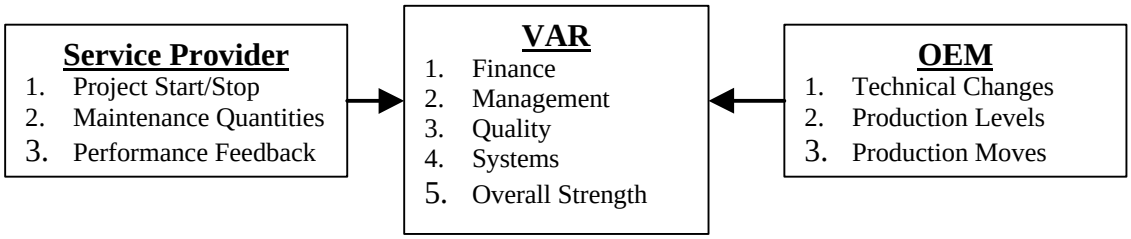
Upon receipt of payment from Customer (or other customer) to the Escrow Account, Escrow Agent shall immediately disburse to OEM the amount identified in the Sale Notice as the Product price to be paid to OEM.

TITLE: Web-Enabled Reporting
RECOMMENDATION 10: Utilize Web-Enabled Reporting Tracking
PURPOSE: To provide shared visibility to performance metrics, problem identification and corrective action plans

Web-Enabled Reporting

This appendix presents the concept of web based reporting and discusses the advantages it brings to the Telecom supply chain. A web based system provides data warehousing to capture, audit, and continuously report on inventory conditions within the chain and report supplier performance to all necessary parties including OEMs, VARs, and service providers. The system measures certain metrics, which will allow all parties in the supply chain to monitor the inventory changes to the supply chain, customer service levels, and the financial health of the diversity VARs.

The proposed metrics will aid in problem identification within the supply chain and improve the stability of the Telco supply chain. The picture below outlines the process and the various inputs needed to ensure proper performance reporting from the diversity companies.



Service Provider Inputs
Service providers must communicate inventory changes due to project work, including the cancellation of a project, to the VARs to minimize any excess or shortage of products. If the Telco does not communicate this information down the supply chain, then the VAR will either face a shortage of product resulting in poor delivery performance or, financial instability if the VARs build an excess of inventory for a specific project which is later cancelled. Additionally, a status of equipment needed for maintenance of the Telecom network must be provided. This type of inventory prediction is much more stable than project work but the quantity of products needed must be passed to the VAR.

The final category is continuous performance feedback to the VAR on its ability to meet requirements specified in the contract such as delivery time, quality measurements (TL 9000 for example), financial strength, and other issues agreed upon by the two parties. This feedback gives the VARs the opportunity to continuously improve operations and meet the expectations of the Fortune 100 companies operating in the Telecom supply chain.

VAR Inputs

Often the VARs are the weakest financial links in the supply chain and disruptions to their operations hurt the performance of both the OEMs and the Telcos. Therefore, VARs must self-report detailed information to their partners to give the OEMs and Telcos the opportunity to identify any problems with the diversity company before these problems become critical. The VAR will be measured on five key categories and report to both the OEMs and the Telcos about the condition of their finances, management team, quality performance levels, systems infrastructure, and overall strength of the company. The OEMs and the service providers must audit these measurements to ensure compliance.

OEM Inputs

The inputs from the OEM to the VAR are all centered on changes that could affect inventory levels. First, the OEM must notify the VAR of any technical changes to products. These technical changes could result in the exchange of older inventory for the newer version of the products. Second, if production levels change, then the VAR must be notified that a surplus or shortage of product exists and they can prepare themselves for these events. For example, if production levels decrease, then a VAR may change their ordering patterns to attempt to purchase greater quantities and prevent a shortage of inventory in the future. Finally, if OEMs move production to a site, overseas for example, then VARs must prepare for longer lead times and keep more inventory on hand due to possible shipping and customs delays.

TITLE: Web-Enabled Supplier Performance Systems – Sample #1 Appendix 14B
RECOMMENDATION 10: Utilize web-enabled performance tracking
PURPOSE: To provide shared visibility to performance metrics, problem identification and corrective action plans

Best Practices Conference

September 2002

Use of TL9000 Requirements and Measurements In the Management of the Telecom Supply Base

Rachel Buckley
Director, Supply Chain Performance Management
SBC Communications Inc.

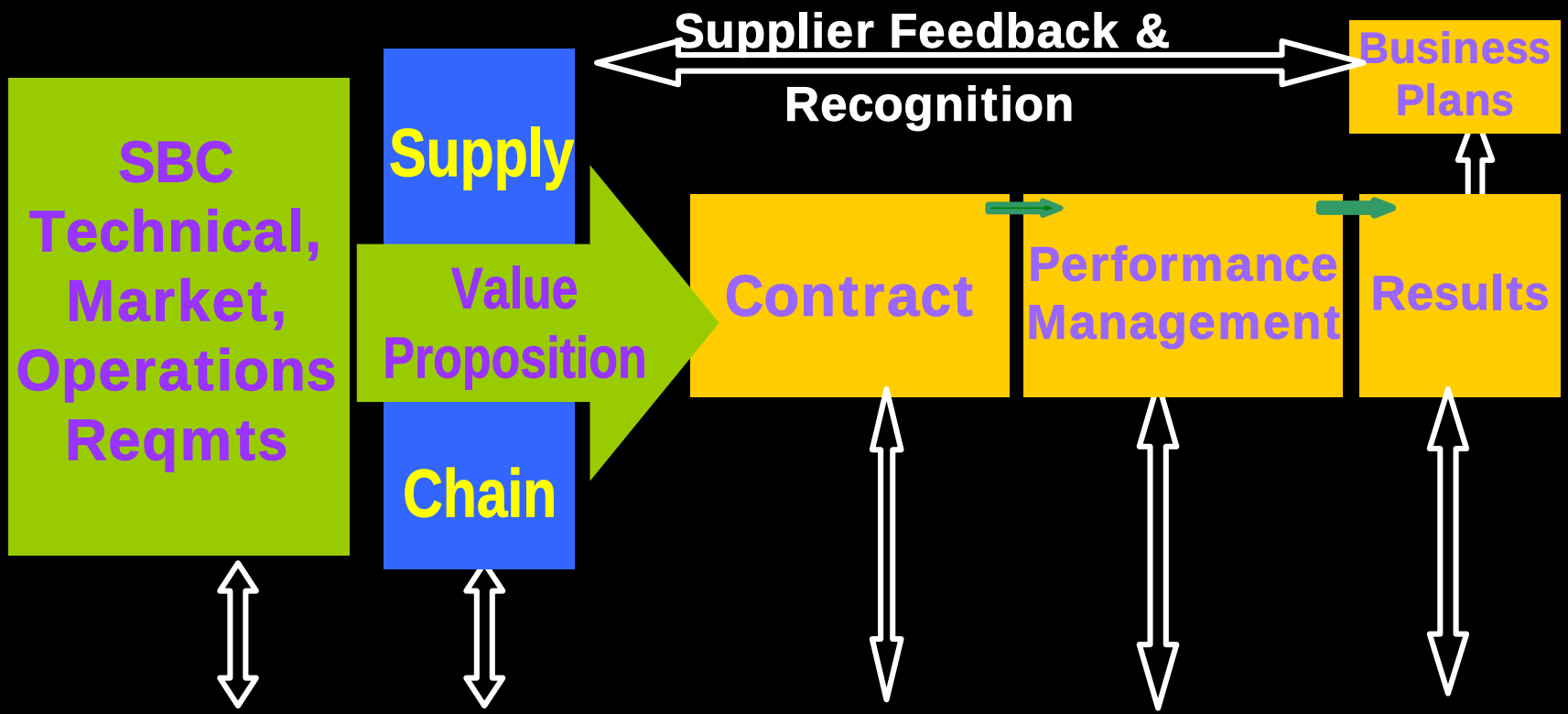
Supplier Performance Management
Value Proposition

Supply Chain Performance (cost, quality and delivery) could be improved if supplier performance measurements were available and visible.

Requirements:

- Consistent methodology
- Standard measurements and reports
- Central data repository
- Supporting organizational structure
- A quality process for managing improvement

SBC strategic **supply chain management process**



Quality Improvement Process

- Cost - Schedule - Performance

Web Enhances Reporting Capability

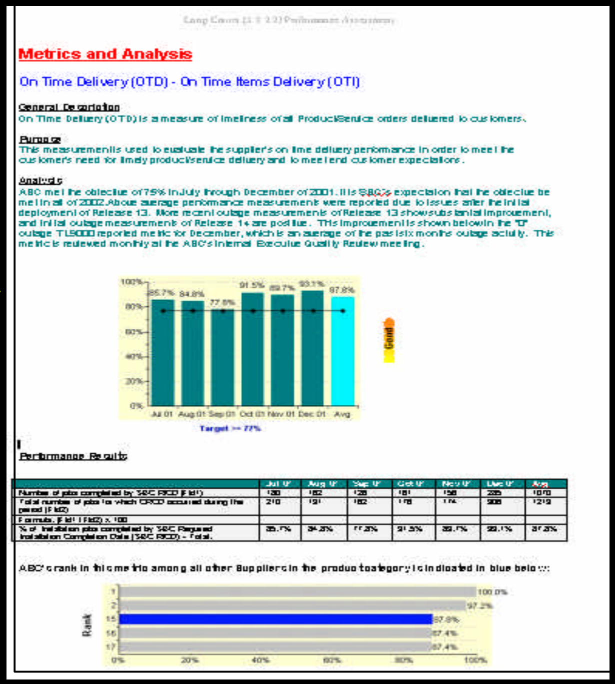
Supplier Provided Measurements

Client Satisfaction Measurements

QuEST TL9000 Industry Benchmarks

W E B

Supplier Performance Reports

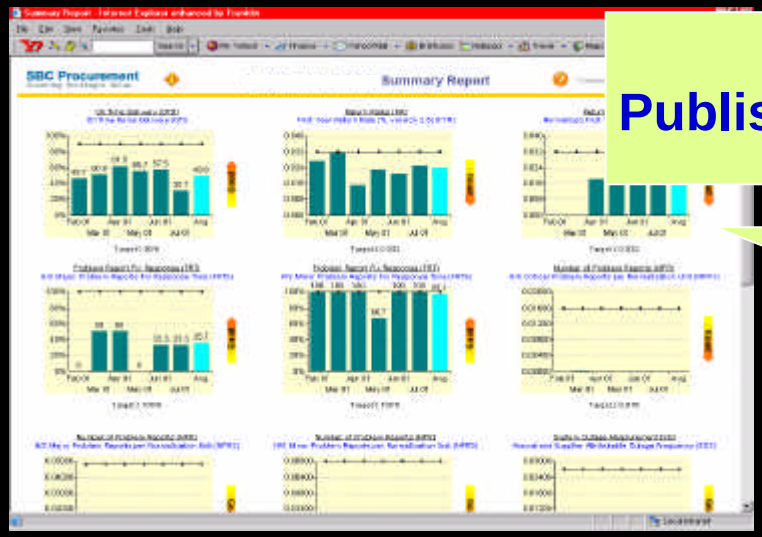


- Feedback
- Corrective Action
- Performance Improvement

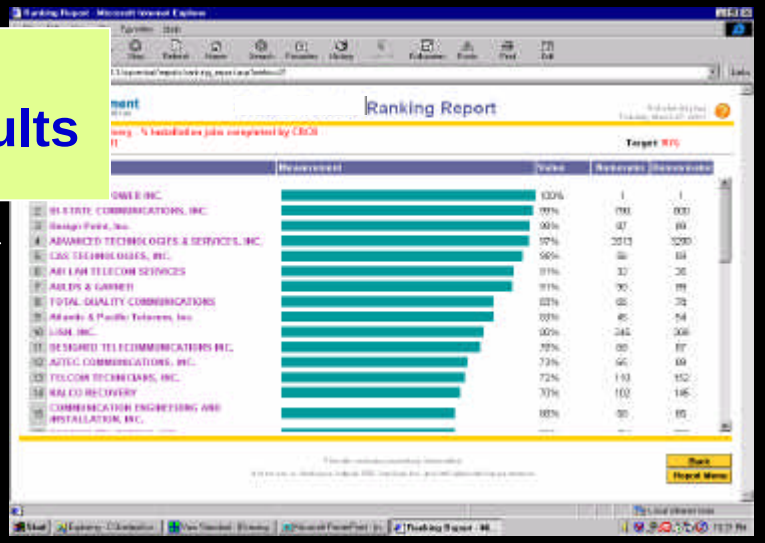
SBC's Supplier Performance Process

Decide What to Measure

Suppliers Input Data

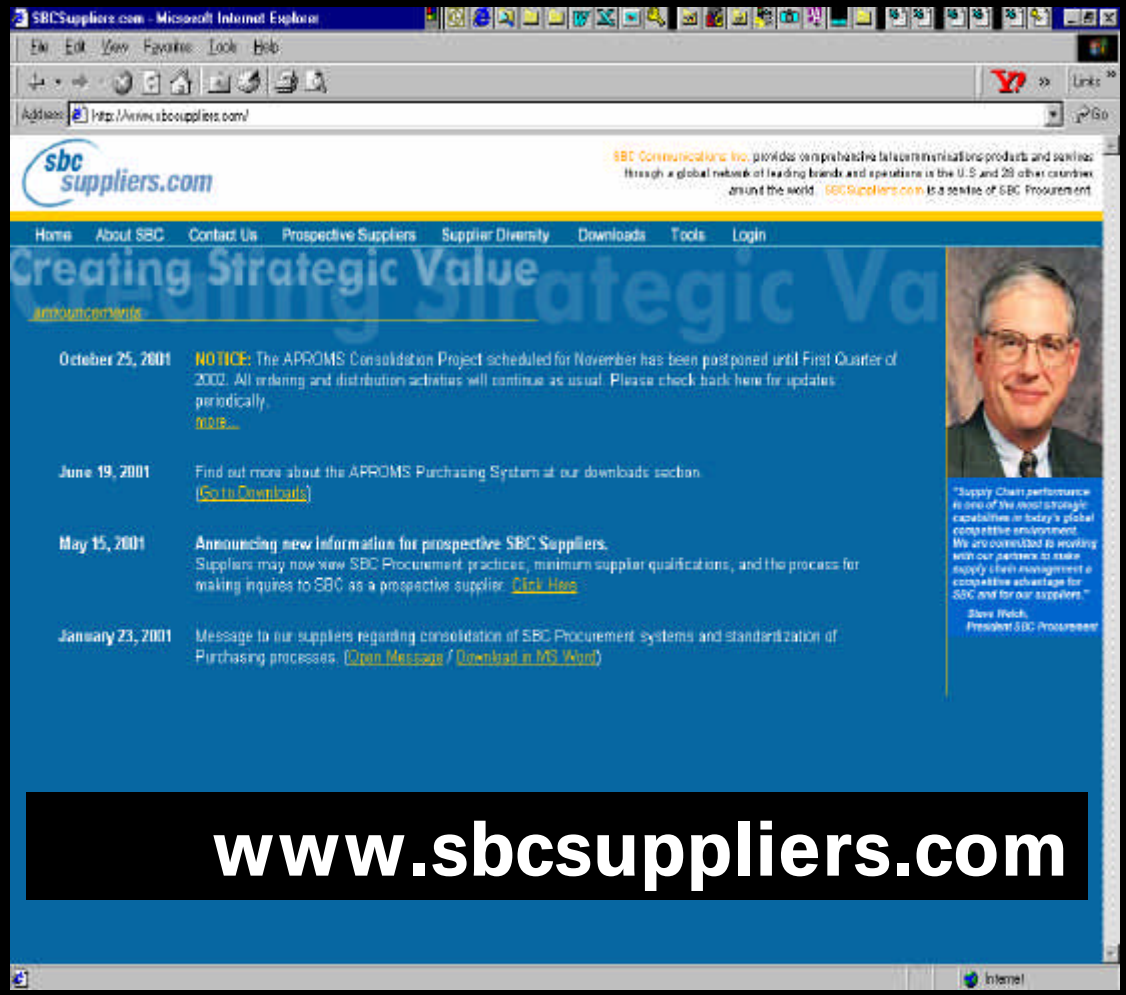


Publish Results



Measurements are entered at SBC's Supplier Website

- Supplier Registration
- Supplier Diversity Tools
- Performance Reporting
- Supplier Quality Program



SBC's internal web for Supplier Performance Reporting

- Performance reports
- Compliance reports
- Action item registers
- Assessment reports

Performance Reports

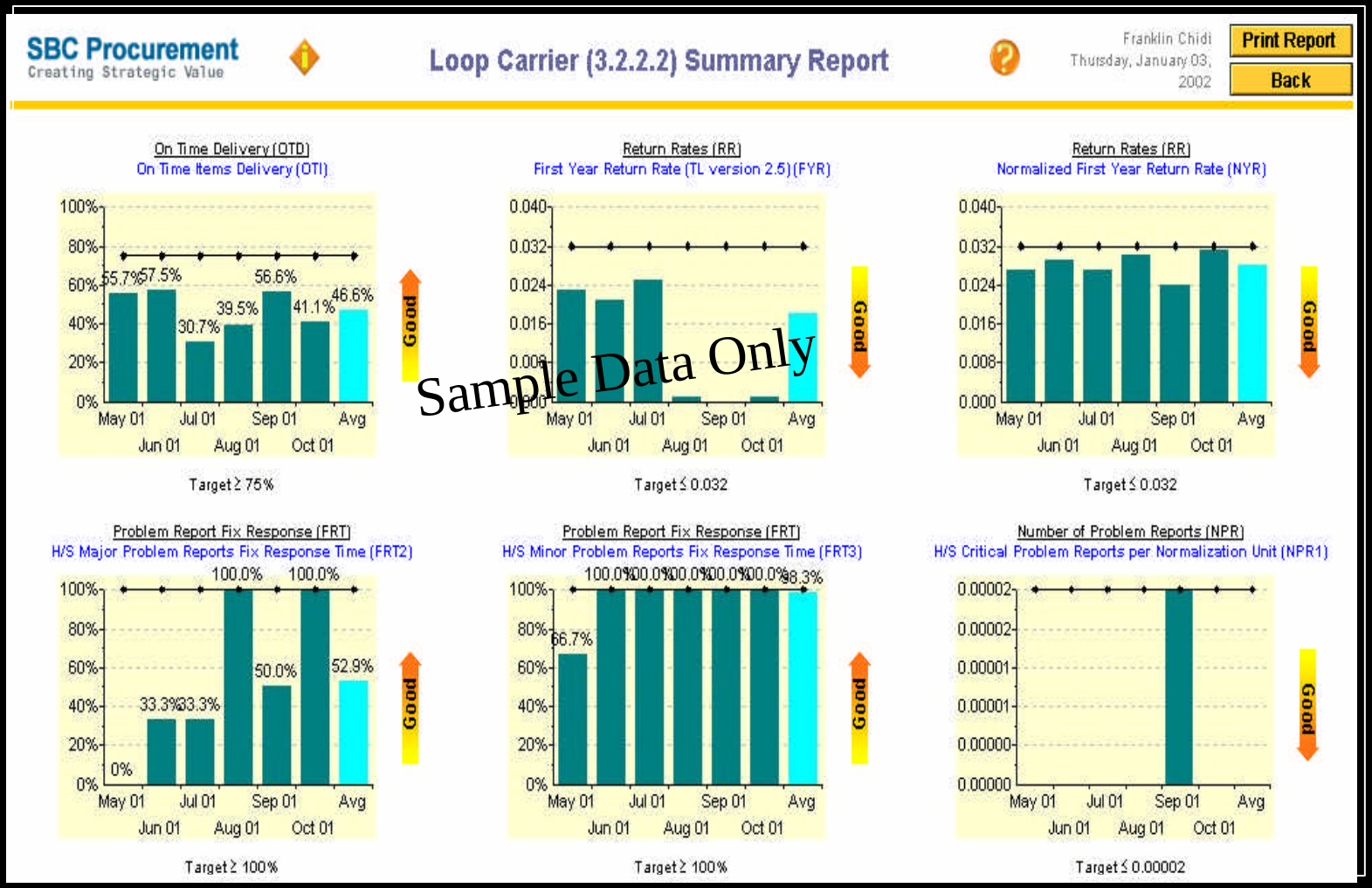
Purpose

Standard set of reporting tools to view supplier performance trends.

Output

- 6-months trended bar chart
- calculated averages
- drill down for detail views
- glossary & project descriptions
- Excel download capability

Performance Report shows measurement trends compared to target



Compliance Report

Purpose

Provides summary of how a supplier is performing in multiple product categories. Displays compliance against target for all measurements.

Output

- Tabular display of measurements
- Calculates compliance to target
- Shows if Action item opened
- Red/ Yellow / Green status

Compliance Report displays summary data by supplier and project

SBC Procurement
Creating Strategic Value

Compliance Report

Franklin Chidi
Thursday, January 03, 2002

Print Report | Back

Supplier ABC Company

Project..: Data Modems (6.2.3)
Equipment for digital communications over voice-grade lines

Sample Data Only

Measurement	Sub Measurement	Target	Jun 01	Jul 01	Aug 01	Sep 01	Oct 01	Nov 01	Average	Compliant To Target	AIR
On Time Delivery (OTD)	On Time Items Delivery (OTI)	≥ 90%	50.0%	50.0%	N/A	75.0%	69.6%	N/A	65.1%	No	
Return Rates (RR)	Normalized First Year Return Rate (NYR)	≤ 0.001	N/A	0.0001	0	0.0001	0.0001	N/A	0.0001	Yes	
Return Rates (TL vers. 2.5) (RR)	First Year Return Rate (FYR)	≤ 0.001	0.0019	0.0004	N/A	N/A	N/A	N/A	0.0011	No	

Project..: Digital Subscriber Lines (3.2.4)
Equipment for the transport of high-speed digital data on the embedded copper plant. DSL typically will operate over nonrepeatered, POTS-like, conditioned unloaded loops out to CSA ranges. This product category includes central office and remote units, regenerators or range extenders, and supporting equipment.

Measurement	Sub Measurement	Target	Jun 01	Jul 01	Aug 01	Sep 01	Oct 01	Nov 01	Average	Compliant To Target	AIR
On Time Delivery (OTD)	On Time Items Delivery (OTI)	≥ 90%	96.9%	96.3%	100.0%	68.0%	63.6%	N/A	94.2%	Yes	
Return Rates (RR)	First Year Return Rate (TL vers. 2.5) (FYR)	≤ 0.0038	0.0088	0.0060	N/A	N/A	N/A	N/A	0.0074	No	
Return Rates (RR)	Normalized First Year Return Rate (NYR)	≤ 0.0038	0.0068	0.0053	0.0052	0.0039	0.0043	N/A	0.0051	No	
Problem Report Fix Response (FRT)	H/S Major Problem Reports Fix Response Time (FRT2)	≥ 100%	100.0%	N/A	N/A	0%	100.0%	N/A	75.0%	No	
Problem Report Fix Response (FRT)	H/S Minor Problem Reports Fix Response Time (FRT3)	≥ 100%	100.0%	N/A	100.0%	100.0%	100.0%	N/A	100.0%	Yes	
Number of Problem Reports (NPR)	H/S Critical Problem Reports per Normalization Unit (NPR1)	≤ 0.00001	0	0	0	0	0	N/A	0	Yes	
Number of Problem Reports (NPR)	H/S Major Problem Reports per Normalization Unit (NPR2)	≤ 0.00005	0	0	0.000005	0.000010	0	N/A	0.000003	Yes	

Action Item Register (AIR)

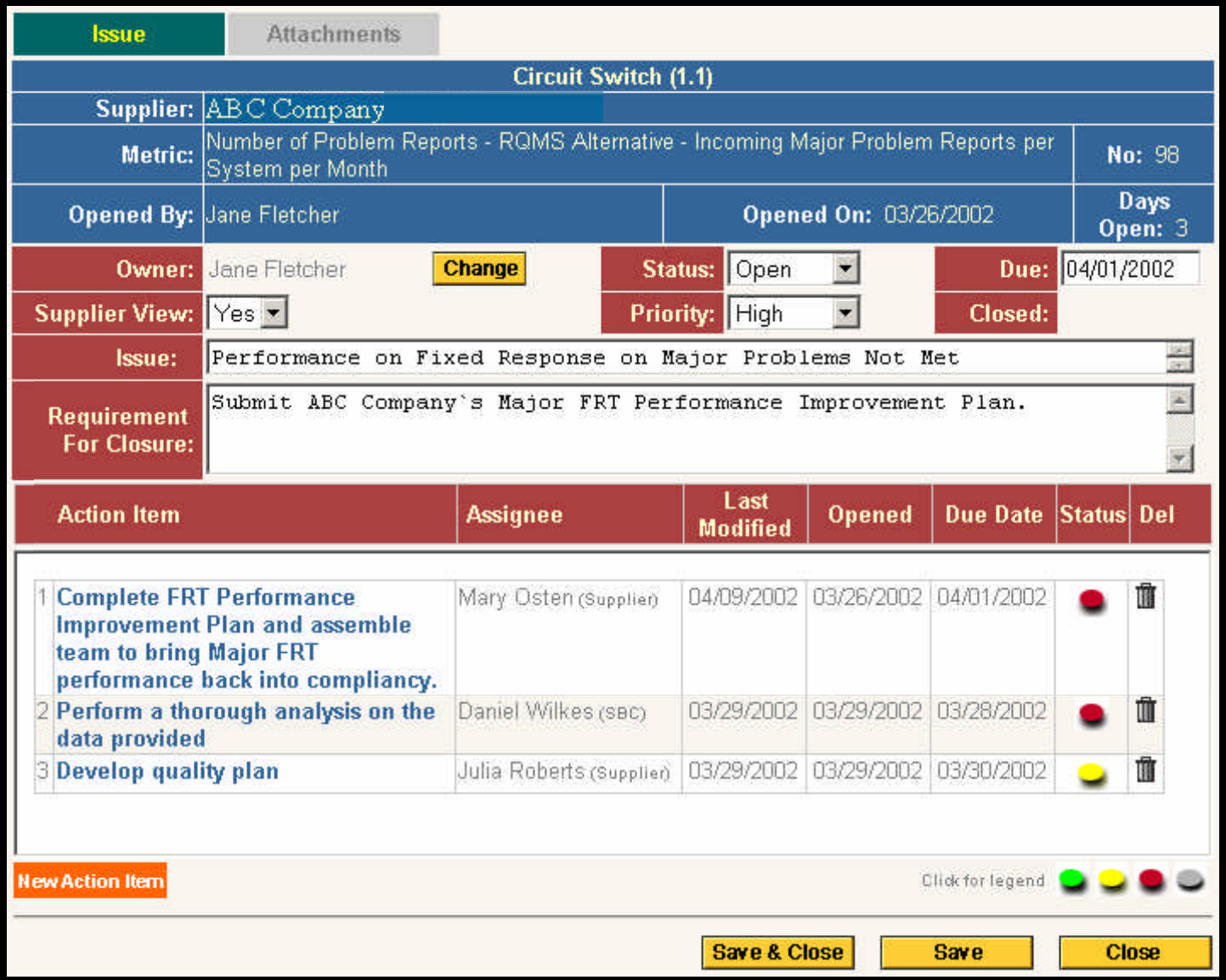
Purpose

Interactive tool to track issues and corrective actions required for performance improvement.

Output

- Opens issues & assigns action items
- Posts to external site for viewing & updating by supplier
- Synchronized 2X per day

Action Item Register (AIR) - Detail Screen



Supplier Assessment Report

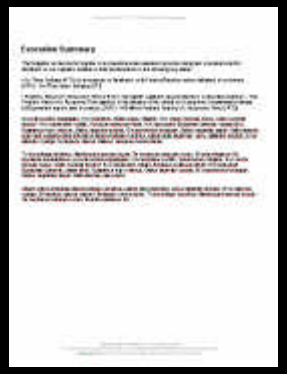
Purpose

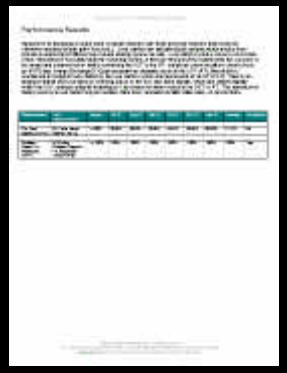
Virtual "report builder" allows users to compile graphs, add commentary and publish summary analysis

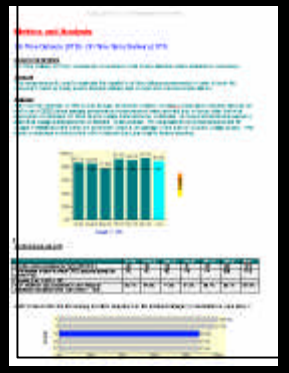
Output

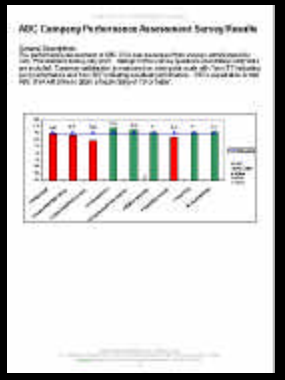
A summary report used for supplier feedback and executive reviews.

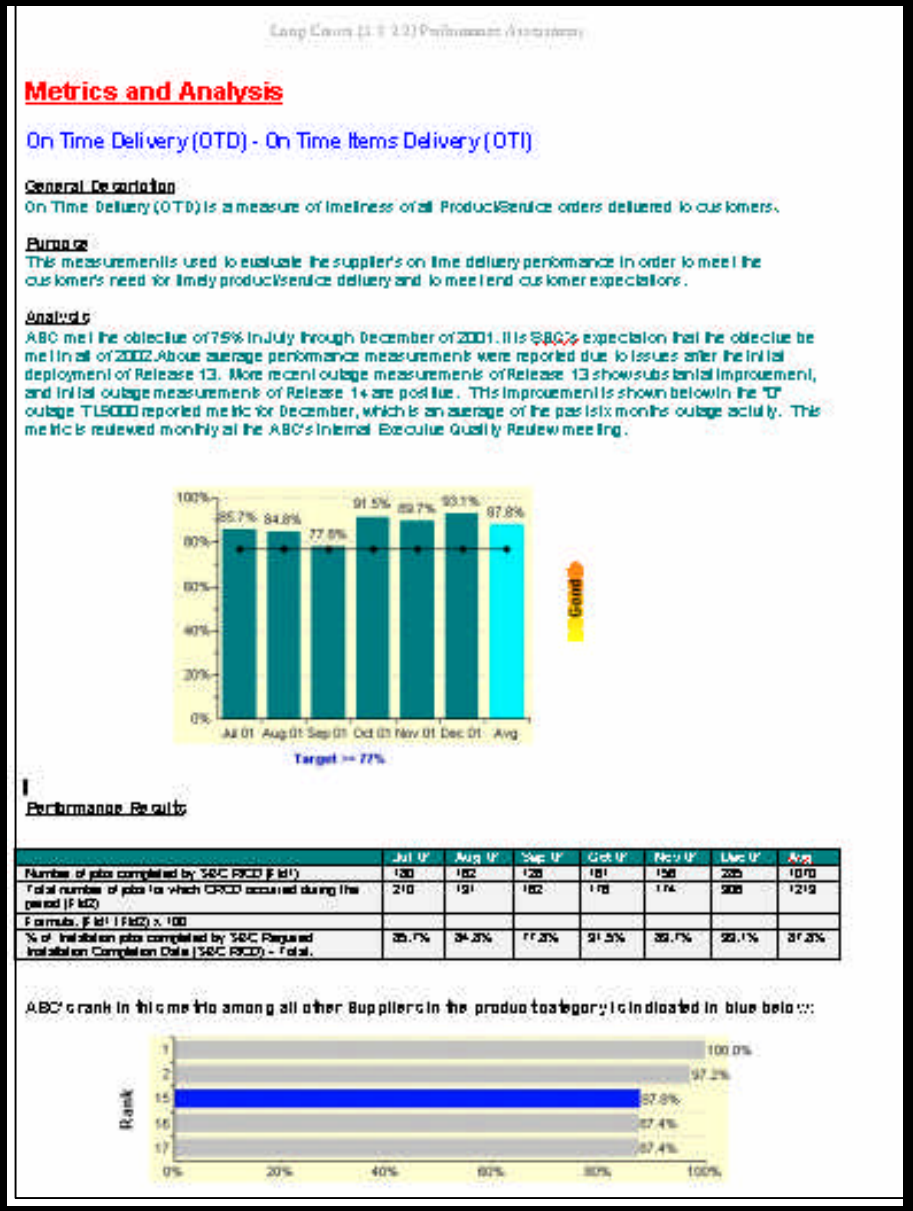
Assessment Report Used for Supplier Feedback











Metrics and Analysis

On Time Delivery (OTD) - On Time Items Delivery (OTI)

General Description

On Time Delivery (OTD) is a measure of timeliness of all Product/Service orders delivered to customers.

Purpose

This measurement is used to evaluate the supplier's on time delivery performance in order to meet the customer's need for timely product/service delivery and to meet end customer expectations.

Analysis

ABC met the objective of 75% in July through December of 2001. It is SBC's expectation that the objective be met in all of 2002. Above average performance measurements were reported due to issues after the initial deployment of Release 13. More recent outage measurements of Release 13 show substantial improvement, and initial outage measurements of Release 14 are positive. This improvement is shown below in the "D" outage TL9000 reported metric for December, which is an average of the past six months outage activity. This metric is reviewed monthly at the ABC's Internal Executive Quality Review meeting.

Performance Results

	Jul '01	Aug '01	Sep '01	Oct '01	Nov '01	Dec '01	Avg
Number of jobs completed by SBC RSCD (Field1)	180	162	126	161	156	205	1070
Total number of jobs for which CRSD occurred during the period (Field2)	210	191	162	176	174	206	1219
Formula: (Field1/Field2) x 100							
% of Installation jobs completed by SBC Request Installation Completion Date (SBC RSCD) - Total.	85.7%	84.8%	77.8%	91.5%	89.7%	99.1%	87.8%

ABC's rank in this metric among all other Suppliers in the product category is indicated in blue below:

Currently reported TL9000 Product Categories

TL9000 Reports

- 1.1 Circuit Switch
- 1.2.2 Access Switch
- 2.1 Service Control Point
- 2.2 Signal Transfer Point
- 3.1.1.1.1 Metallic Conductor Cable
- 3.1.1.2.1 Optical Fiber and Cable
- 3.1.1.2.2 Optical Connectors
- 3.1.1.3.2 Passive Optical Sub-Systems
- 3.1.1.3.3 Ancillary Sub-Systems
- 3.1.2.1 Enclosures
- 3.1.2.3 Conduits
- 3.2.1.1 Manual Cross Connect Systems
- 3.2.1.2 Digital Cross-Connect Systems
- 3.2.2.1.2.1 SONET Transport Systems
- 3.2.2.2 Loop Carrier
- 3.2.4 Digital Subscriber Line

TL9000 Reports

- 4.1.3 Test Support Software
- 4.2.1 On-Line Critical
- 4.2.2 On-Line Non-Critical
- 6.1.2 Messaging Platforms
- 6.1.3 Multi-Application Platforms
- 6.2.3 Data Modems
- 6.3 Automatic Call Distribution Systems
- 6.4 Private Branch Exchange
- 7.1 Installation Service
- 7.7 Logistical Service
- 8.1 Components

27 product categories representing 37 suppliers

SBC designs customized reports based on special project requirements

Custom Reports

- Cluster Vendors
- Common Systems
- Copier Services
- Dead on Arrival
- Design & Construction Materials
- Desktop & Server Leasing
- Engineering Complaints
- Exchange Link
- Fleet Operations
- Fleet Services
- Forecast Accuracy and OTD
- General Purpose Computer
- Hardware Repair Calls
- Intelligent Field Device
- Medical Services
- Midrange and Mainframe Computers
- OEM Desktop
- Operations Support Systems
- Optical Concentrator Device
- Outside Plant Materials - Distributors

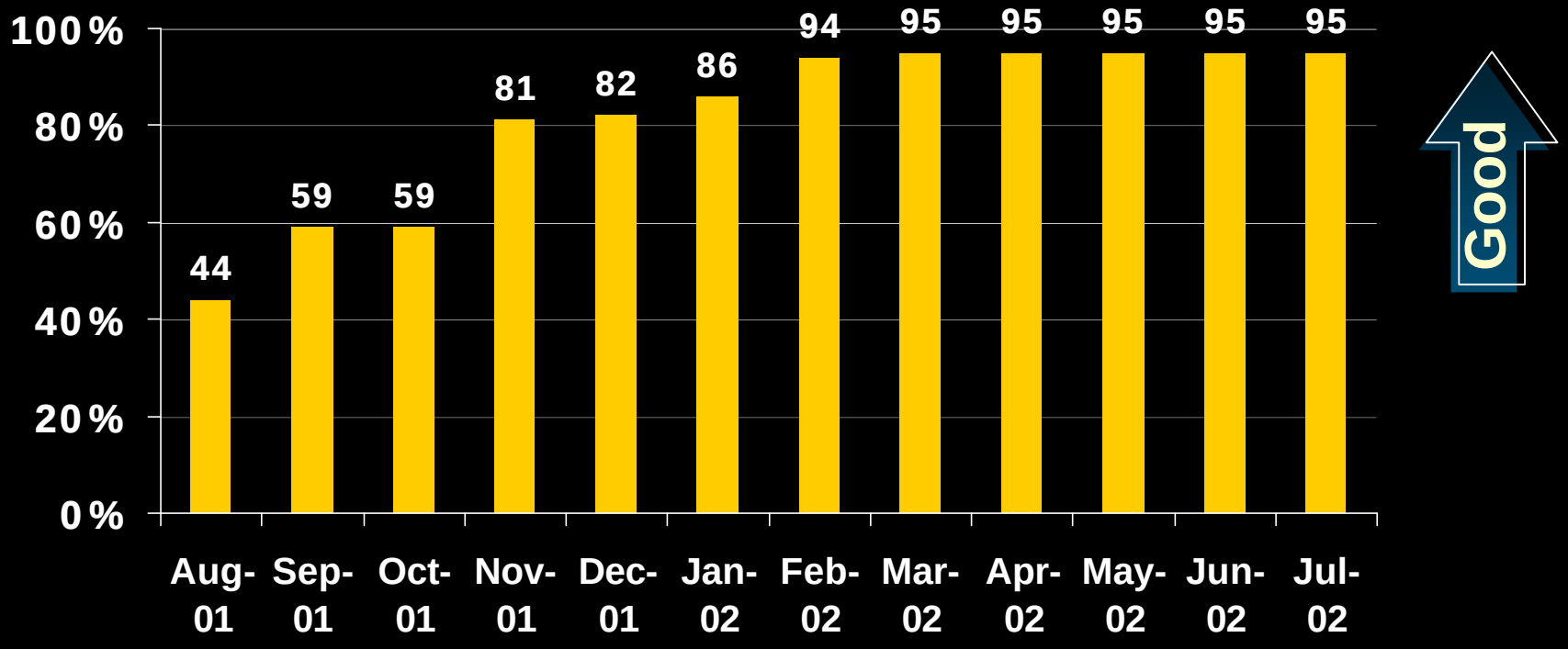
Custom Reports

- Outside Plant Materials - OEMs
- Post Sale Contracts
- Property Management
- SBC Telecom
- Software and Storage Products
- Training Services & Materials
- Travel Services
- Virtual Tape Systems

28 product categories representing 119 suppliers

Supplier Performance Results...

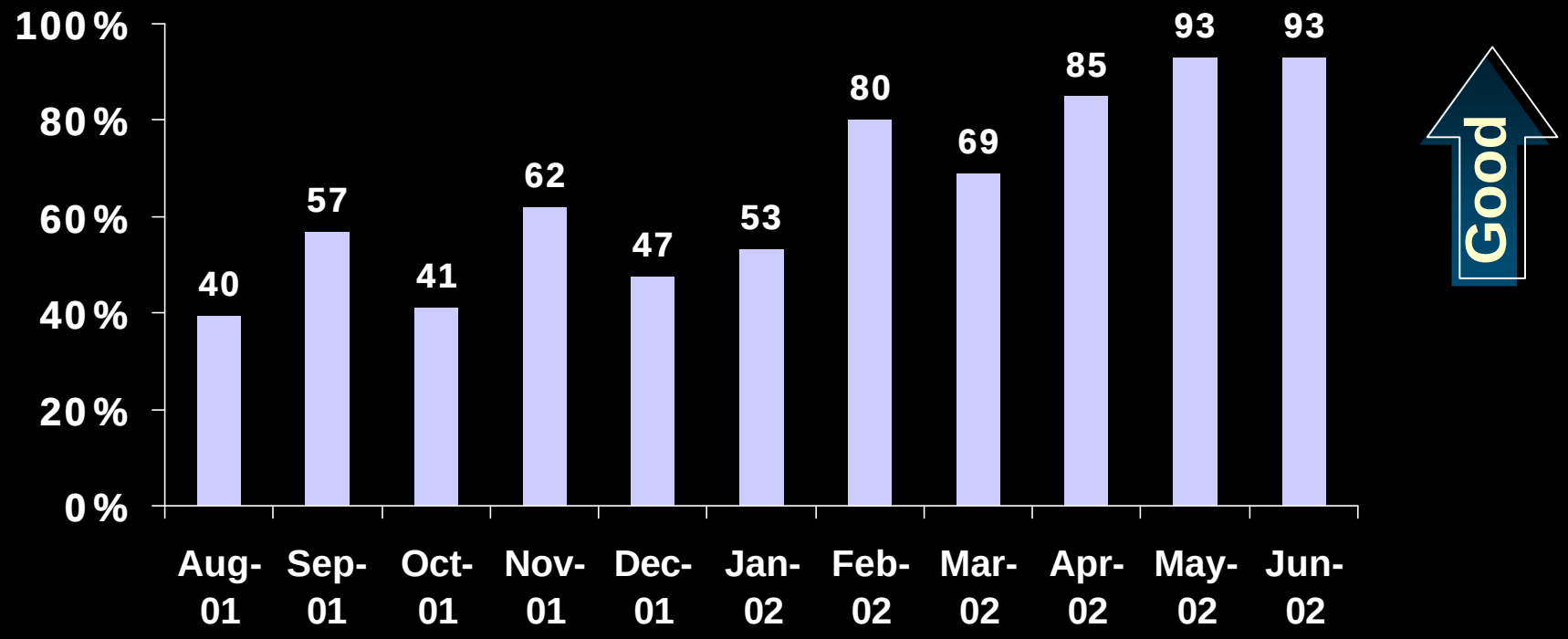
Over an eleven-month period, SBC's Cluster Vendors' On-Time Delivery has improved by over 50 percentage points.



Target – 100%

Supplier Performance Results

Over a 10-month period, SBC's Loop Carrier On-Time Delivery has improved by over 50 percentage points.



Target > 90%

Critical Success Factors

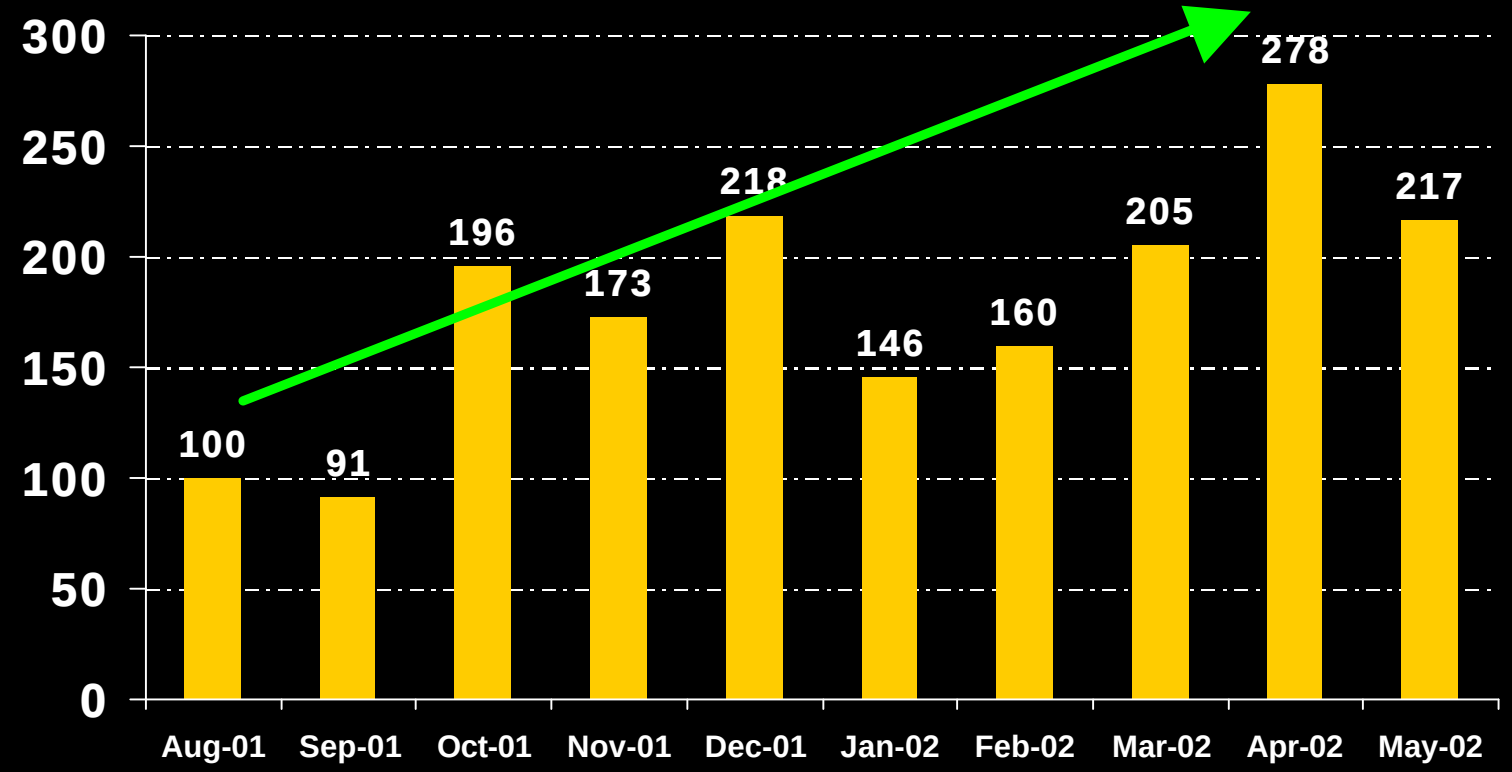
- TL9000 - Industry-accepted performance measurements
- Standard reports agreed to by supplier, client & contracting organization
- Quality Managers within sourcing organization - up front engagement with client & supplier
- Flexibility in adding custom measurements depending on client need
- Easy to use web tools - configurable, fast, customizable
- One SBC Supplier Performance process and Toolkit

The Value of TL9000

- Standardized approach
- Objective & auditable measurements
- Ease of communicating standards and performance expectations
- Enhanced supplier partnerships; encourages joint quality programs
- Ease of analysis and comparison of results within product categories
- Provides a catalyst for improvement activity
- Ties to Supplier Recognition programs
- Powerful when combined with Client Satisfaction data

SBC TL9000 Performance Index Example

Control Systems TPI is trending upward



Preliminary data only, based on models designed by UTD/ QuEST for calculating industry TL9000 performance index

SBC Supplier Performance Management Evolution continues

- Define database and products to be tracked
- Collect data
- Display reports
- Analyze results
- Joint Quality Improvement Teams formed to act on performance issues
- Measure and track improvements
- Recognize Suppliers
- Aggregate total supply chain into meaningful summary metrics

TITLE: Web-Enabled Supplier Performance Systems – Sample #2 Appendix 14C
RECOMMENDATION 10: Utilize web-enabled performance tracking
PURPOSE: To provide shared visibility to order, inventory and project status

Electronic Procurement & Logistics

Electronic Procurement & Logistics

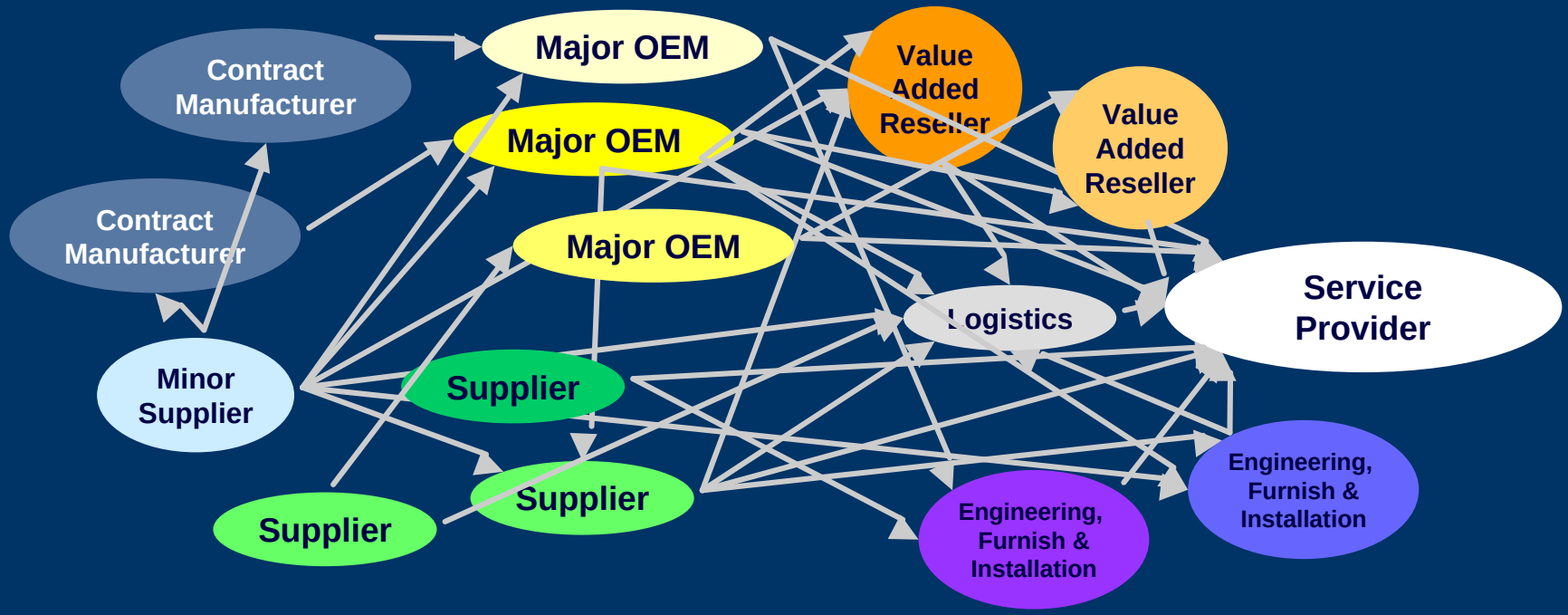
What is it?

- e-PL is an outsourced solution that encompasses electronic procurement, product distribution, consigned inventory, just-in-time staging, warehousing, logistics and services.
- Outsourced business model that augments critical/non-core functions to optimize network & IT deployments
- Creates “visibility” in the service provider supply chain

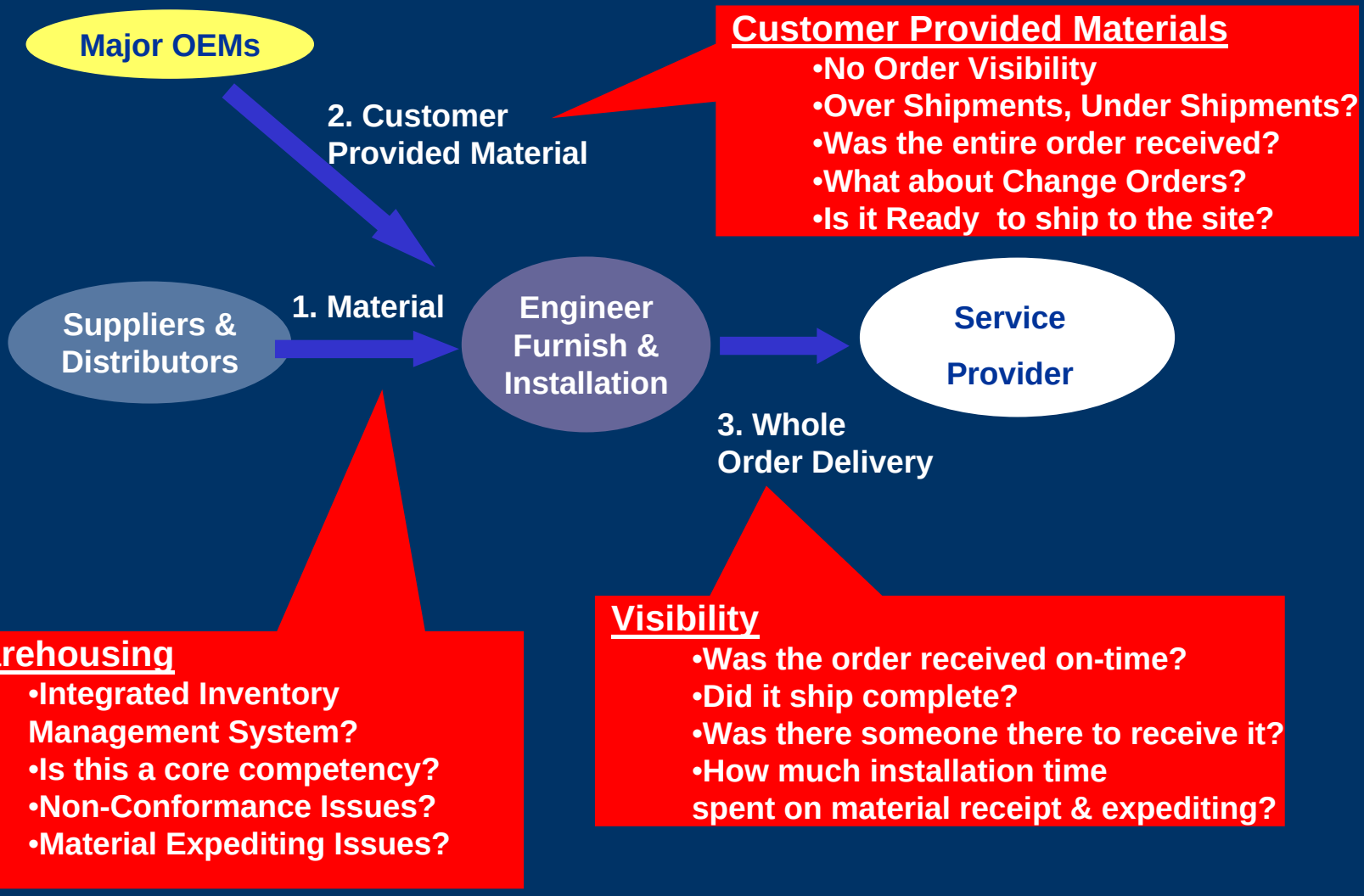
Why is it needed?

- Provides real-time information on price and availability, order tracking and project status;
- Ensures capital dollars are managed through improved inventory management and surplus inventory re-deployment;
- Requirement for improving labor productivity and on-time network installation to generate new revenue, avoid penalties and minimize cost overruns.

Supply Chain Complexity



Order Execution Issues



Simplify the Complex

Major OEM

Major OEM

Major OEM

Supplier

Supplier

Supplier

Value Added Reseller

Value Added Reseller

Contract Manufacturer

Contract Manufacturer

Minor Supplier

telcobuy.com

Network Equipment

Customer

Engineer Furnish & Installation

Engineer Furnish & Installation

Engineering & Installation Services

Milestones

RFQ

Site Survey

Scope of Work

FFP/ BOM

Engineering

TEO

Furnish Major Materials

Furnish Minor Materials

Installation

Quality Assurance

Testing

Acceptance

e-PL Electronic Procurement & Logistics

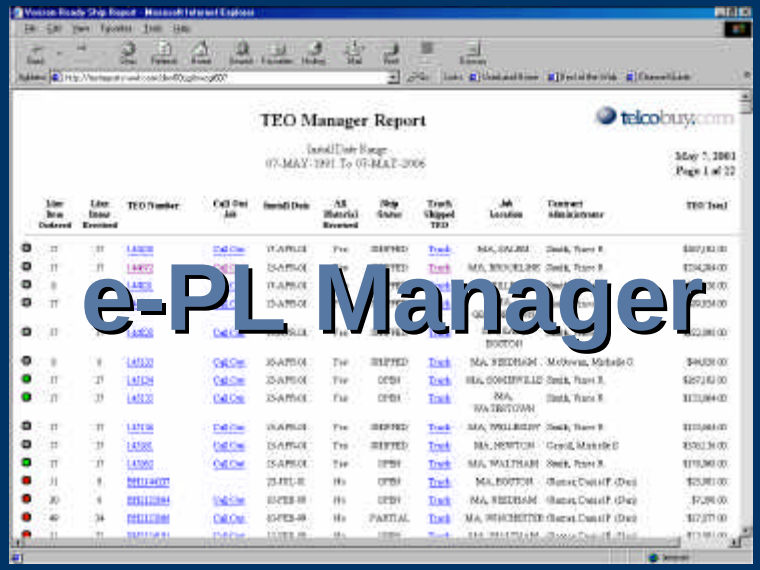
Solution

- **Complete Visibility through Web-Hosted e-PL Manager**
  - Inventory Management
  - Jeopardy Report
  - Ready Ship Report
  - Order Release/Call-out Job
  - Track & Trace
- **Facilitates Just-in-Time Distribution**
- **Consolidated Warehousing**
- **Integration & Staging**
- **Whole Order Delivery**
- **Electronic Supply Chain Integration using XML or EDI**
- **Asset Tagging/Serial Number tracking**

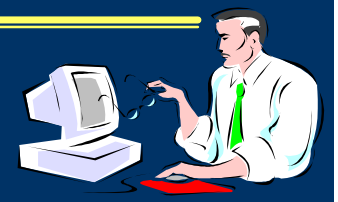
Visibility & Order Management

OEM/Supplier

- Proof of Delivery
- Performance Metrics



e-PL Manager



EF&I Vendor

- Call-out
- Proof of Delivery
- Expedite Information
- Non-Conformance

Engineering

- Material Expedite
- Comments Utility
- Whole Order Delivery
- Vendor Performance

- Electronic Order Tracking
- Local Rigging Coordination

Freight & Transportation

Asset Management

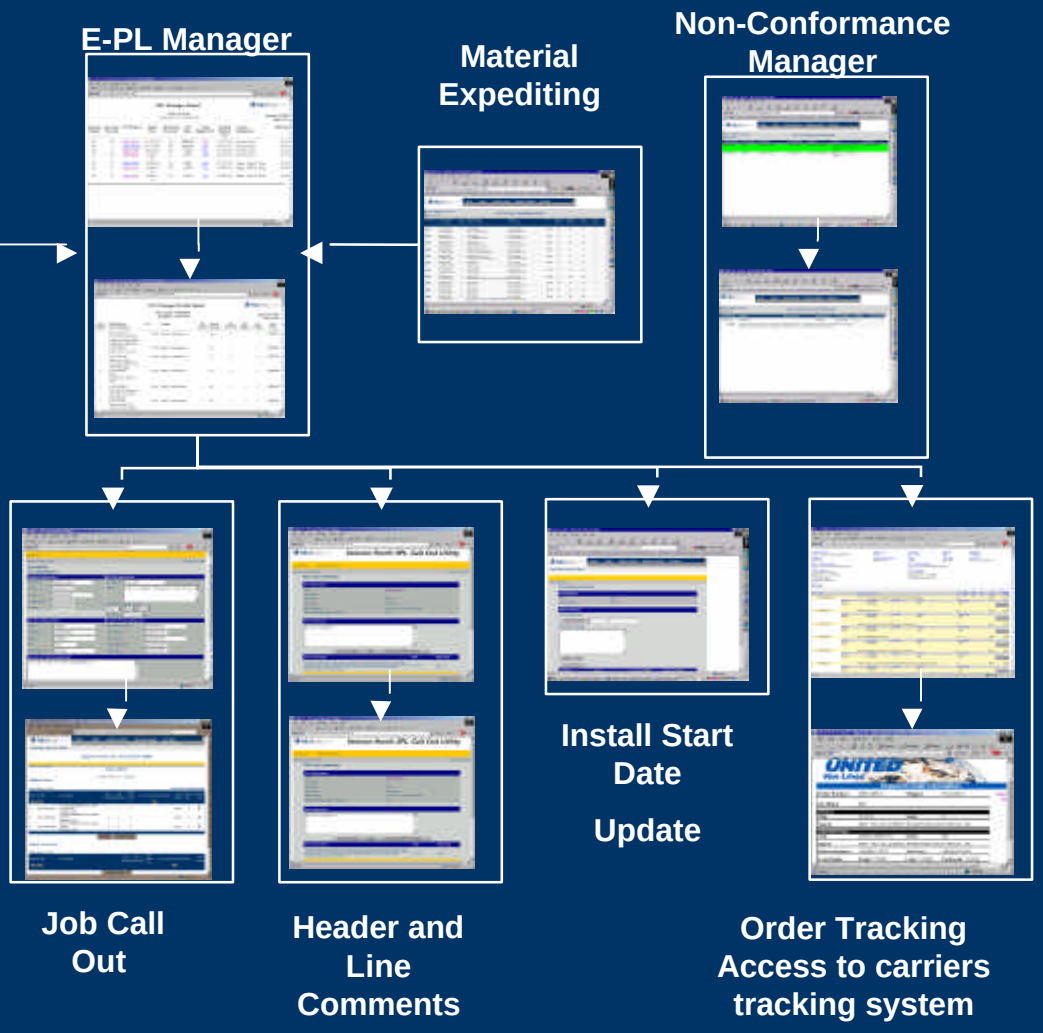
- Aged Inventory
- Material Transfer
- Safety Stock
- TEO Cleansing

Telcobuy Value Added Services

- Coordination of Delivery Between Installation Organization and Trucking Company
- RMA Processing With Vendors for Over-shipped Items
- Visibility Into Non-conformance for Material That Does Not Comply With Issued Orders
- Auto Alerts for Key Inventory Activities
  - Orders in Jeopardy
  - Orders Ready to Ship Due to Material Receipt
  - Additional Product Received
  - Advance Shipping Notice and more
- Dedicated Operations Team for Order Management and Customer Service

E-PL Manager System

- Overall Customer Order Management System
- Visibility into purchase order line item details
- Designed to support network deployments with each PO containing several hundred line items
- Ability to call-out TEO's



EF&I Vendor Tools

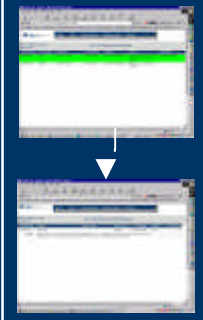
Installation Vendor calls out TEO from call-out utility

Telcobuy ships material to job site or installation vendor facility

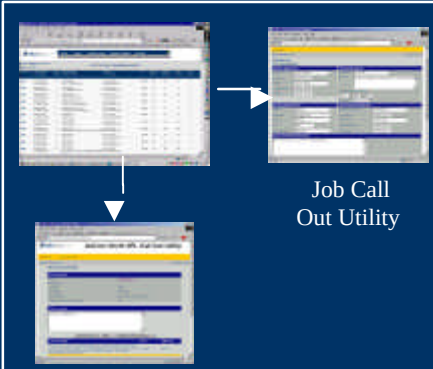
- Lucent
- Fujitsu
- LISN
- CDTI
- Nortel
- Volt

Minor Material Upload

Non-Conformance Manager



View TEO Details



Job Call Out Utility

Line Comments Utility

TITLE: Sample Readiness Assessment
RECOMMENDATION 8: Conduct Readiness Assessments
PURPOSE: To reduce unforeseen business risks associated with process problems in ordering, invoicing and inventory management often encountered in new supply chain relationships

Supplier name:		Assessment start date:	
Supplier contact(s):		Assessment completion date:	
Region(s) serviced by Supplier:			
(COMPANY) assessment team member(s):			

Assessment Category	Assessment Criteria	Readiness Rating (1=low 5=high) 1 2 3 4 5
Supply Chain:	❑ 1. **Supplier Contracts/Master Agreements:** (COMPANY) wants to be ensured that the supplier's supply chain is capable of handling the material sourcing and logistics related to (COMPANY)'s projects. Please complete the attached matrix labeled, "SC1." Also attach a sample, completed purchase order from your company.	

Assessment Notes:

Action Items:

Supply Chain: Supplier Contracts/Master Agreements Readiness Rating: | | | | | |

TITLE: Sample Readiness Assessment
RECOMMENDATION 8: Conduct Readiness Assessments
PURPOSE: To reduce unforeseen business risks associated with process problems in ordering, invoicing and inventory management often encountered in new supply chain relationships

❑ 2. **Order Process:** (COMPANY) wants to ensure that our orders are not at risk. Therefore, please describe the steps you take to source material, resolve backorders, and deal with other supply chain issues including, but not limited to, the following:

- How you process orders (manual vs. electronic).
- How your orders are sent to your suppliers.
- What is your process for approving invoices for payment.
- How you verify that suppliers have received the orders.

Assessment Notes:

Action Items:

Supply Chain: Order Process Readiness Rating: | | | | | |

❑ 1. **Order/Material Management:** Maintaining an accurate view of order progress and fulfillment is critical to (COMPANY). Please describe your communication plan for identifying, resolving, and relaying critical material shortages to (COMPANY). Address specifically:

- How you identify critical material shortages that will jeopardize ship dates.
- How you alert (COMPANY) of material shortages which will jeopardize ship dates.

Assessment Notes:

Action Items:

Supply Chain: Order/Material Management Readiness Rating: | | | | | |

TITLE: Sample Readiness Assessment
RECOMMENDATION 8: Conduct Readiness Assessments
PURPOSE: To reduce unforeseen business risks associated with process problems in ordering, invoicing and inventory management often encountered in new supply chain relationships

❑ 1. **Quality:** Supply chain quality is important to (COMPANY) in order to ensure overall and long-term project quality. Describe quality measures, programs, and/or initiatives you have with your suppliers. Also state the status of your company's ISO and TL9000 certifications.

Assessment Notes:

Action Items:

Supply Chain: Quality Readiness Rating: | | | | | |

❑ 2. **Inventory Management:** Material availability is critical to (COMPANY) to ensure on-time ship dates. Describe how you receipt, stock/restock, allocate, track, stage, and ship your material including, but not limited to, the following:

- Your inventory management system.
- How you handle overstocks/returns/damaged material.
- Sustaining inventories that provide adequate material.

Assessment Notes:

Action Items:

Supply Chain: Inventory Management Readiness Rating: | | | | | |

TITLE: Sample Readiness Assessment
RECOMMENDATION 8: Conduct Readiness Assessments
PURPOSE: To reduce unforeseen business risks associated with process problems in ordering, invoicing and inventory management often encountered in new supply chain relationships

❑ 1. **Material Warehousing/Distribution:** Storage and warehousing logistics are important to the success of effectively executing (COMPANY) projects. Please complete the attached matrix labeled, "SC2." Additionally, please provide input on the following subjects:

- In the event you require additional warehouse capacity, what are your contingency plans?

Assessment Notes:

Action Items:

Supply Chain: Material Warehousing/Distribution Readiness Rating:					

❑ 1. **Transportation & Logistics:** Proper transportation and distribution of (COMPANY)'s equipment will aid in ensuring on-time shipments. Please provide input on the following subjects:

- How you get material and equipment to the shipping location.
- Whether you own your own fleet of trucks/cranes/lifts or if you rent/lease them (if rent/lease, from who) or if you outsource the transportation (if outsourced, to whom).
- Your ability to obtain special permitting if required by municipalities (e.g., street closures for equipment off-loading).
- How you keep track of materials once they have been shipped.

Assessment Notes:

Action Items:

Supply Chain: Transportation & Logistics Readiness Rating:					
Total Supply Chain Readiness Rating:					

TITLE: Sample Readiness Assessment
RECOMMENDATION 8: Conduct Readiness Assessments
PURPOSE: To reduce unforeseen business risks associated with process problems in ordering, invoicing and inventory management often encountered in new supply chain relationships

Business Operations

❑ 1. **Electronic Communications/Automation:** Expedited communications and effective processes provide substantial efficiencies for the supplier and (COMPANY). Please describe your current and future electronic communication/automation strategy including, but not limited to, the following:

- EDI status (e.g., how you currently use it; future plans).
- Email use, type of program, etc.
- E-Commerce use (internally and with suppliers).
- Your own company's website use (intranet, extranet, information, ordering, etc.).

Assessment Notes:

Action Items:

Business Operations: Electronic Communications/Automation Readiness Rating: | | | | | |

❑ 1. **Order Acknowledgement:** Acknowledging (COMPANY)'s purchase orders and performing effective monitoring of on-time shipments are critical to (COMPANY)'s service requirements. Please describe your processes for the following:

- Receiving, reviewing, and acknowledging (COMPANY) purchase orders.
- Capacity and load management when you have reached the limit of your resources.

Assessment Notes:

Action Items:

Business Operations: Order Acknowledgement Readiness Rating: | | | | | |

TITLE: Sample Readiness Assessment
RECOMMENDATION 8: Conduct Readiness Assessments
PURPOSE: To reduce unforeseen business risks associated with process problems in ordering, invoicing and inventory management often encountered in new supply chain relationships

❑ 1. **Performance Metrics:** Your ability to meet deadlines and commitments is critical to ensure (COMPANY) service requirements. Identify the metrics you currently track within your company.

Assessment Notes:

Action Items:

Business Operations: Performance Metrics Readiness Rating: | | | | | |

❑ 2. **Financial Metrics:** Your ability to stay financially healthy helps to ensure an uninterrupted supply of material. What is your understanding of the following ratios as they are applied to business operations?

- Accounts Receivable (A/R) and Accounts Payable (A/P) turn rate.
- Volume of sales to (COMPANY)/total sales.
- Inventory cost/total sales.

Assessment Notes:

Action Items:

Business Operations: Financial Metrics Readiness Rating: | | | | | |

TITLE: Sample Readiness Assessment
RECOMMENDATION 8: Conduct Readiness Assessments
PURPOSE: To reduce unforeseen business risks associated with process problems in ordering, invoicing and inventory management often encountered in new supply chain relationships

❑ 1. **Other Administrative Items:** The seamless operation of your back office allows you and (COMPANY) to concentrate on the quality of the projects. Please describe the following:

- Your business contingency plan that will reduce your dependency on (COMPANY) in the event that material demand is reduced.
- How you track payments received from (COMPANY).
- Your cash flow contingency plan/access to capital in the event your payments to Suppliers increase to >60 days.

Assessment Notes:

Action Items:

Business Operations: Other Administrative Items Readiness Rating:					
Total Business Operations Readiness Rating:					

Readiness Rating Summary	**Supply Chain**					
	Business Operations					
	Total Readiness Assessment Rating:					

NOTE: Please attach ALL documentation associated with this checklist and submit the entire packet to (COMPANY) for validation and archiving.

Supplier signature: _____ Date: _____

Printed name: _____

(COMPANY) signature: _____ Date: _____

Printed name: _____

TITLE: Sample Readiness Assessment
RECOMMENDATION 8: Conduct Readiness Assessments
PURPOSE: To reduce unforeseen business risks associated with process problems in ordering, invoicing and inventory management often encountered in new supply chain relationships

SC1: Vendor Supply Chain Management Matrix

	Supplier Name	Region	Material:	Material:	Material:	Material:	Material: Other (list)	Type of Contract/ Agreement	Contract Term	Fixed Price (y/n)	Order Process	Order Receipting	EDI (y/n)
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

TITLE: Sample Readiness Assessment
RECOMMENDATION 8: Conduct Readiness Assessments
PURPOSE: To reduce unforeseen business risks associated with process problems in ordering, invoicing and inventory management often encountered in new supply chain relationships

SC2: Vendor Warehousing Matrix

	Location	Overall Square Footage	Sq. Ft, Dedicated to (COMPANY) SUPPLIER Projects	Racking Capability	Dock Availability	Lease (term & expiration date)	Rent (term & expiration date)	Own	Ability to Increase Capacity	Security	Off-hours Access By (COMPANY)
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

TITLE: Sample Supplier Health Check
RECOMMENDATION 9: Maintain Supplier Health Check Dashboards
PURPOSE: To promote early detection and resolution of business problems by monitoring factors such as cash flow, margins, debt terms/levels, and governance, quality systems, management team, succession planning

To sustain health of Diversity Suppliers, the following information should be monitored:

Management Plan/Operations

- Does the supplier have a business plan that defines short & long term plans (strategic and tactical viewpoint)?
- Has the management team changed during the past 12-18 months and how has this effected the efficiency of the company?
- What is the supplier's diversification strategy and how has it changed during the current economic downturn? What industry sectors is the supplier trying to approach and what are the perceived barriers to entry?
- Has the supplier done a competitive self-analysis? SWOT analysis:
  - **S**trengths of the company
  - **W**eaknesses of the company
  - **O**pportunities in competitive sector
  - **T**hreats from competitors
- Has the supplier benchmarked against its peer's processes, and if so, what was learned and can it be applied within the supplier's organization?
- How does the supplier differentiate itself from its competitors?
- What global alliances or offshore operations/affiliates does the supplier have?
- Has the supplier considered partnering with other MWDVBEs? If they have, what was learned from this experience?
- Has the supplier developed a succession plan?

Financials

- What is the access to capital and is there a capital acquisition plan?
- What relationships has the supplier established with financial institutions? Has the supplier utilized its credit limit yet?
- Can the supplier assume an increase of 35%-50% in business and, conversely, can it withstand a reduction in business of 25%-80%?
- Review A/P and A/R, invoice error rates and other metrics that pertain to company cash flows. Determine cash flow situation and identify any major issues.

Customers

- Which customers constitute the top 80% of revenue and in what proportion? How many customers? How dependent is the supplier on its top sources of revenue?
- Does the supplier market itself and who do they market to?
- Does the supplier have long-term (over three year) contracts?

Technology

- Does the supplier have the appropriate technology to compete within the industry sector?
- Is the product/service sustainable over time for its customers?

Training/Quality

- Does the supplier have quality control processes and certifications and what is the method for sustaining these processes? Is the supplier ISO9000 or TL9000 certified?
- What is the annual training budget and has it increased/decreased during the past 12-18 months? What is the annual cost of maintaining certifications? What new certifications have been achieved/renewed during the past 12-18 months?
- Has the supplier ever been mentored by a prime supplier? Is there a strategy that would help leverage their expertise and satisfy a market niche that the prime could capitalize on?

TITLE: Sample Supplier Health Check
RECOMMENDATION 9: Maintain Supplier Health Check Dashboards
PURPOSE: To promote early detection and resolution of business problems by monitoring factors such as cash flow, margins, debt terms/levels, and governance, quality systems, management team, succession planning

Supplier Name	CFST	2000 Spend	2001 Spend	2002 Spend	Dependency	Spend Reduction	SDV Index	Credit Line	Overdue Invoices (per contract)	Locations Served	ISO/TL	Contract Expiration, RFX

Note: SDV is the Supplier Diversity Viability Index [Dependency on SBC spend (0-100%) + Reduction in spend from SBC (0%-99%); year-over-year view]

- 80 or lower - moderate risk
- 81-160 - measurement of concern; initiate review process with strategic sourcing/BDM
- 161+ - critical review of supplier and their business plan for continuance in SBC supply chain

Minority Technical Assistance Program (MTAP)

Ford Motor Company Successfully completed 60 Minority Technical Assistance (MTAP) projects through 3Q of 2002. The program was established in 1997 to increase the competitiveness of the minority supply base. MTAP places automotive retirees and industry experts with minority suppliers to help in improving their business processes and solving short-term programs. Areas of assistance include quality, manufacturing, organizational development, training, and information technology. The supplier develops an MTAP request with defined measurables under Ford's guidance, and ASG Renaissance (a minority recruiting company) selects an automotive retiree for the project from its database of nearly 300 qualified candidates. Ford funds 75% of the project cost, and the minority supplier is responsible for the 25%.

Some examples of minority suppliers that benefited from the program this year are as follows:

Piston Automotive/PASA is a production supplier that manufactures chassis parts. In preparation for the U222 (Expedition) launch, PASA requested assistance in implementing an EDI system throughout their entire value chain. The process was put in place, tested and validated successfully using live data in time to meet the Ford launch expectations.

Chrysan Industries, Inc. is a non-production supplier that requested assistance in establishing an e-catalog for the hydrocarbons commodity. The e-catalog is now posted on the automotive industry's Internet exchange provider (Covisint) and offers products and services electronically, which improved internal communications and exceeded Ford's cost-reduction goals.

For more information regarding the Minority Technical Assistance Program, visit www.foredmsd.com.

TITLE: Multi-Tiered Communication Process
RECOMMENDATION 12: To create Cross-Functional Implementation Teams
PURPOSE: To minimize risk by promoting communication up and down the supply chain when moving a Diversity Supplier into a significant role

Element	Management Level	Purpose	Composition	Meeting Frequency
Leadership Team	President/V.P.	Endorses Development/Implementation Plans to assure seamless transfer of responsibilities from OEM to VAR; conducts quarter contract reviews to assure resolution of issues escalated by Oversite Committee and look for new opportunities to increase business efficiencies.	OEM, VAR, Customer	Quarterly
Oversite Committee	Director/Sr. Manager	Anticipate and prevent issues based on Development/Implementation Plans; assure resolution of issues escalated by Implementation Teams.	OEM, VAR	Monthly
Implementation Teams	Manager/Administrator	Identify and correct operational deficiencies; escalate systemic issues to Oversite Committee for resolution.	OEM, VAR, Customer	Weekly/Daily
Training Teams	Subject Matter Experts	Provides technical training to VAR as specified in Development/Implementation Plans or based upon unanticipated needs identified by Oversite Committee.	OEM, VAR	As Required
Project Manager	Director/Sr. Manager	Leads the Oversite Committee on behalf of the Leadership Team; maintains Development/Implementation Plans; tracks progress against project milestones; facilitates communication within and between Leadership Team, Oversite Committee, Implementation Teams and Training Teams.	OEM	On-going

TITLE: Sample Supplier Diversity process flows and business requirements
RECOMMENDATION 12: Integrate Supplier Diversity plans in contracts
PURPOSE: To include end-to-end supply chain analysis designed to identify how diverse suppliers help optimize the supply chain

National MWBE Program

Primary Rate Interface (PRI)

Value-Added Reseller (VAR) Process

PCN002.00.0

Sponsor: Steve Schilling, Group Vice President,

Major Accounts, Public Carrier Networks

Signature on File

Table of Contents

1.0 General

2.1.3.1 Nortel and Pacific are committed to developing minority-owned, women-owned, and disabled veteran-owned business enterprise (MWBE-DVBEs) in the telecommunications industry. Nortel and Pacific have agreed to establish a joint MWBE-DVBE development program to assist in the development of MWBE-DVBEs in the telecommunications area. In this regard, Nortel and Pacific are developing a MWBE-DVBE telecommunication firm as a VAR for the resale of Nortel's Primary Rate Interface ISDN products to Pacific.

1.1 Scope

2.1.3.2 This document presents the intended role of a VAR within the framework of current and increasing business between Nortel and Pacific in the sale of Nortel's ISDN product lines and potentially other products.

1.1.1 Purpose

2.1.3.3 Northern Telecom (“Nortel”) and Southwestern Bell Corporation (“SBC”) are committed to developing minority-owned and disabled veteran-owned business enterprise (“MWBE-DVBEs”) in the telecommunications industry and have agreed to cooperate in the development of MWBE-DVBEs in the telecommunications area. In this regard, Nortel and SBC are developing Telpro Products, Inc., (“Telpro”) as a VAR for the resale of PRI-ISDN. (For additional detail see PCN001.00.0.)

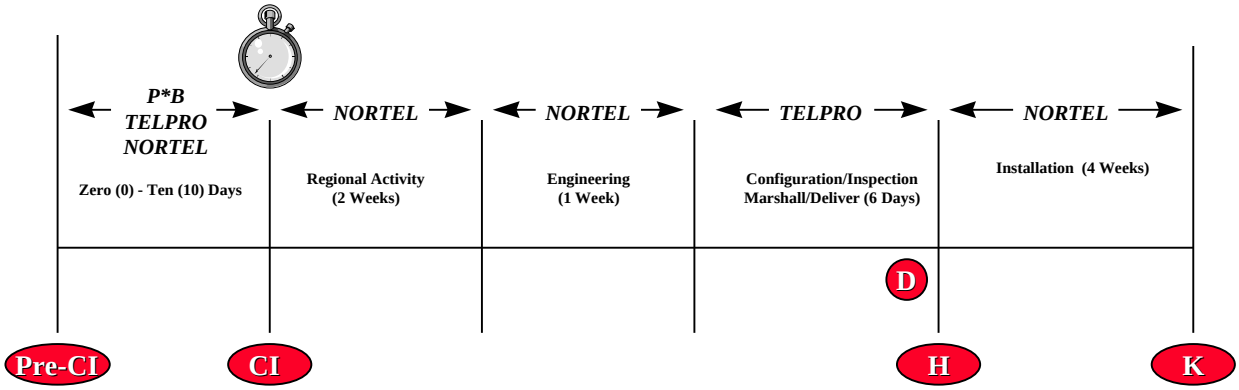
2.1.3.4 Pacific Bell has requested a 4 week (CI-K) interval for PRI and BRI. Pacific Bell requires a short interval because they are in direct competition with AT&T, MCI, Sprint, and others and will loose customers in some cases if ISDN is not available by the end of 1997. The potential application for a reduced interval for BRI and PRI is therefore very significant.

1.1.2 Delivery Interval Reduction

2.1.3.5

2.1.3.6	ORDERING METHOD	DELIVERY INTERVAL
2.1.3.7	Standard Orders (1 - 5 frames)	15 weeks (CI to K)
2.1.3.8	Nortel Direct Order (1 - 5 frames)	8 weeks (CI to K)
2.1.3.9	Telpro Order (1 - 5 frames)	4 weeks (CI to K) (GOAL)

1.2.3 Delivery Interval Initial (8 Weeks)



Pre - CI Activity (Zero - Ten Days)
- Office Pre-check and readiness
- Capture order information from TELPRO/P*B
- Create Schedule
- Issue Purchase Order

Regional Activity (2 Weeks)
- Perform Site visit if applicable
- Update NTACCESS
- Create worksheet
- Update Cable Rack/Floorplan
- Complete 777 Spec and release
- Send worksheet to TELPRO and Order Desk

2.1.3.10

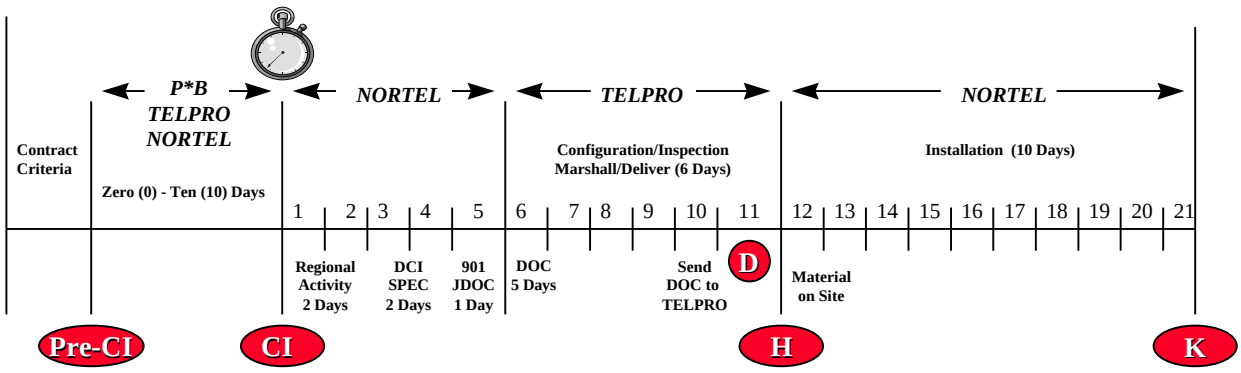
Model Order Fulfillment Activity (1 Week)
- Update CADES database
- Release SPEC and Office records
- Ensure 901 release
- Send order acknowledgment

Documentation Activity (1 Week)
- Print and package documentation
- Send documentation package to TELPRO
- Complete documentation package includes Spec, Drawings and IMs

TELPRO Activity (6 Days)
- Configure and inspect Models
- Marshall material/Documentation/Cables
- Coordinate with Installation
- Coordinate Logistics and deliver material
- Send acknowledgment of shipment
- Complete and send MOA/Invoice to P*B

Installation Activity (4 Weeks)
- Receive shipment from TELPRO
- Install material

1.1.4 Delivery Interval Goal (4 Weeks)



Pre - CI Activity (Zero - Ten Days)
- Office Pre-check and readiness
- Capture order information from TELPRO/P*B
- Create Schedule
- Coordinate Resources
- Complete Site Visit if applicable
- Issue Purchase Order

Regional Activity (2 Days)
- Update NTACCESS
- Create worksheet
- Update Cable Rack/Floorplan
- Complete 777 Spec and release
- Send worksheet to TELPRO and Order Desk

2.1.3.11

2.1.3.12

Model Order Fulfillment Activity (2 Days)
- Update CADES database
- Release SPEC and Office records
- Ensure 901 release
- Send order acknowledgment
- Cables have seven (7) day turn around upon spec release.

Documentation Activity (5 Days)
- Print and package documentation
- Send documentation package to TELPRO
- Complete documentation package includes Spec, Drawings and IMs

TELPRO Activity (6 Days)
- Configure and inspect Models
- Marshall material/Documentation/Cables
- Coordinate with Installation
- Coordinate Logistics and deliver material
- Send acknowledgment of shipment
- Complete and send MOA/Invoice to P*B

Installation Activity (10 Days)
- Receive shipment from TELPRO
- Install material

1.2 Associated Documents

2.1.3.13 PCN001.00.0 Telpro Products VAR Development Plan

2.1.3.14 PCN002.A01 Process Charts

1.3 Responsibility

2.1.3.15 It is the responsibility of all PRI VAR Team members to adhere to the guidelines set forth in this process document. It is the responsibility of all management to ensure that all valid products and/or process issues are addressed for resolution in a timely manner, commensurate to the degree of risk and magnitude of the problem identified.

1.4 Frequency of Review

2.1.3.16 This document is to be reviewed by the Process Sponsor or delegate at intervals of no more than one (1) year from the date of issue.

1.5 Acronyms/Definitions

2.1.3.17 COT - Customer Order Tracking

2.1.3.18 FORTUNE - Marketing Database

2.1.3.19 ISIS - Integrated Serialization Information System

2.1.3.20 ISS - Installation Support System

2.1.3.21 JTS - Job Tracking System

2.1.3.22 OR - Order Receivable

2.1.3.23 SOA - Switching Order Assignment

2.1.3.24 PEDMIS - Product Engineering Database Management System

2.1.3.25 NTACCESS - Provisioning System

2.1.3.26 DOCS - Documentation Operational Control System

1.6 Quality Records

2.1.3.27 The following information shall be retained as a Quality Record.

- <quality record> shall be retained for a period of <time> by <responsible party>.
- <quality record> shall be retained for a period of <time> by <responsible party>.

2.0 Process

2.1 Ordering

2.1.1 Order Receiving

2.1.1.1 Procedure to qualify/select Telpro orders

2.1.1.2 Procedure to record PRI identifier on CI worksheet and Schedule Request

2.1.1.3 Procedure to develop a quote and complete Schedule Request

2.1.1.4 Procedure to forward Schedule Request to Sales Support

2.1.1.5 Procedure for filling/tracking IR's

2.1.1.6 Procedure for answering Installation inquires regarding shipments

2.1.1.7 Procedure for placing and filling job information memorandum's

2.1.1.8 Procedure for emergency orders

2.1.2 Order Scheduling

2.1.2.1 Procedure for scheduling equipment

2.1.2.2 Procedure for scheduling/coordinating with installation services

2.1.3 Order Accepting

2.1.3.28 Procedure to conduct CI

2.1.3.29 Procedure to communicate Job Schedule to Telpro

2.1.3.30 Procedure for job costing

2.1.3.31 Procedure for IRM equipment

2.1.3.32 Procedure to communicate Job Schedule to Pacific Bell

2.1.3.33 Procedure for direct shipment to Telpro

2.2 Engineering

2.2.1 Information Verifying

2.1.3.34–2.2.1.1 Procedure for imputing information into COT

2.2.2 Specifying

2.2.2.1 Procedure to capture CI

2.2.2.2 Procedure for engineering frames/spares in computer aided design system (Telpro provided)

2.2.2.3 Procedure for identifying materials to be engineered (Telpro provided)

2.2.2.4 Procedure for 777 specification

2.2.2.5 Procedure to update NT-ACCESS

2.2.2.6 Procedure to receive purchase order

2.2.2.7 Procedure to notify Order Management prime

2.2.2.8 Procedure to verify pricing

2.2.3 Specs and Drawing Releasing

2.2.3.1 Procedure to ship Specs/drawings to Telpro (address in COT)

2.2.3.2 Procedure for shipment on NTP's/IM's (Telpro or to site)

2.3 Provisioning

2.3.1 Specification Receiving

2.3.1.1 Procedure for specification

2.3.1.2 Procedure for MOPs

2.3.1.3 Procedure for documentation

2.3.1.4 Procedure for procurement of miscellaneous equipment

2.3.2 Configuring

2.3.2.1 Procedure for frame configuration

2.3.2.2 Procedure to comply with systems requirements (labeling, updates to CORR, config. instructions)

2.3.2.3 Procedure for packaging equipment

2.3.2.4 Procedure for maintaining required tools/equipment

2.3.2.5 Procedure for Quality standards

2.3.2.6 Procedure and requirements for work skills

2.3.3 Marshaling

2.3.3.1 Procedure for receiving miscellaneous equipment

2.3.3.2 Procedure to store miscellaneous equipment

2.3.3.3 Procedure to list inventory to assure order completeness

2.3.3.4 Procedure for vendor supplied material (cables, doc, IRM)

2.3.3.5 Procedure for miscellaneous equipment to ship to Telpro vs. RTP

2.3.3.6 Procedure to store miscellaneous equipment

2.3.3.7 Procedure for selecting equipment/materials

2.3.3.8 Procedure for order consolidation

2.3.3.9 Procedure for staging equipment and material

2.3.4 Shipping

2.3.4.1 Procedure for packing list/labeling

2.3.4.2 Procedure for short shipment/shortage clearing

2.3.4.3 Procedure to record date/location of delivery

2.3.4.4 Procedure to verify equipment/services required

2.3.4.5 Procedure for delivery specifications (air-ride trucks, etc.)

2.3.4.6 Procedure for material handling

2.3.4.7 Procedure for loading

2.3.4.8 Procedure to contact/schedule delivery service

2.3.4.9 Procedure to verify equipment and product delivery

2.3.5 Telpro/PB Invoicing

2.3.5.1 Procedure for job information memorandum completion

2.3.5.2 Procedure for job costing

2.3.5.3 Procedure for MOA Generation

2.3.5.4 Procedure for EDI requirements

2.3.5.5 Procedure for collecting all material information

2.3.5.6 Procedure for invoicing

2.3.5.7 Procedure for BVAPP requirements

2.3.5.8 Invoice paid correctly

2.4 Installing

2.4.1 Schedule Coordinating

2.4.1.1 Procedure to schedule IJC at CI

2.4.1.2 Procedure to complete MOP

2.1.3.34 Procedure to approve MOP

2.4.2 Installation Completing

2.4.2.1 Procedure to complete installation

2.4.2.2 Procedure to complete ICN

2.5 Replenishing

2.5.1 Forecasting

2.5.1.1 Procedure for forecasting from Pacific Bell to Telpro

2.5.1.2 Procedure to ensure requirements are not "double driven" to factory

2.5.1.3 Procedure to verify inventory against forecast

2.5.1.4 Procedure for tracking consumption to the forecast

2.5.1.5 Procedure to maintain interval from order receipt to delivery

2.5.1.6 Procedure to provide forecast from Telpro to Nortel

2.5.2 Inventory Adjusting

2.5.2.1 Procedure to maintain minimum and maximum levels of inventory

2.5.2.2 Procedure for monitoring stock levels and vintages

2.5.2.3 Procedure for change control

2.5.2.4 Procedure for managing below baseline material

2.5.2.5 Procedure for returning purged packs or packs on stop-shipment

2.5.2.6 Procedure for returning damaged material

2.5.2.7 Procedure for returning excess material

2.5.3 Material Stocking

2.5.3.1 Procedure to monitor stock against pending orders

2.5.3.2 Procedure to order product from Nortel

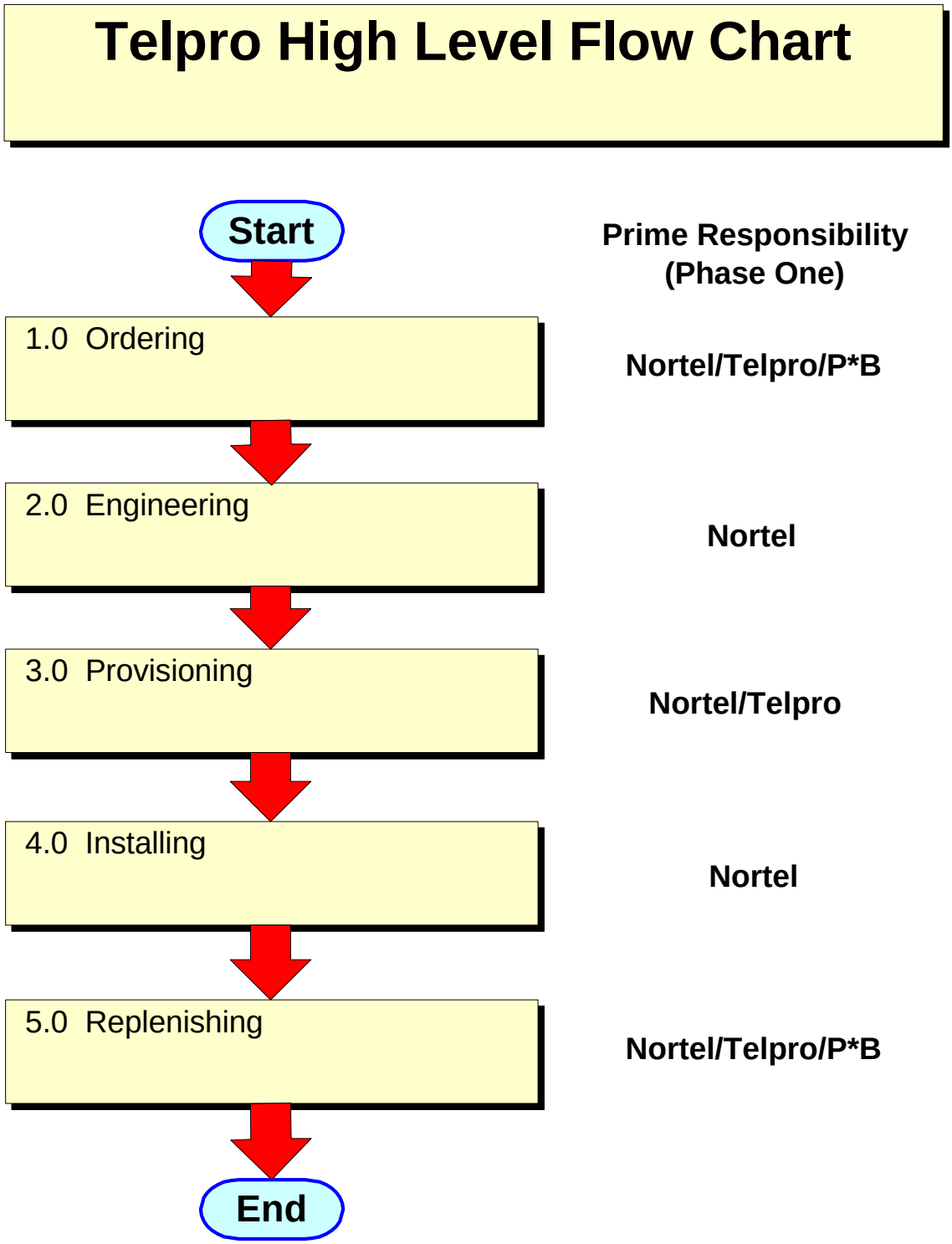
2.5.4 Nortel to Telpro Invoicing

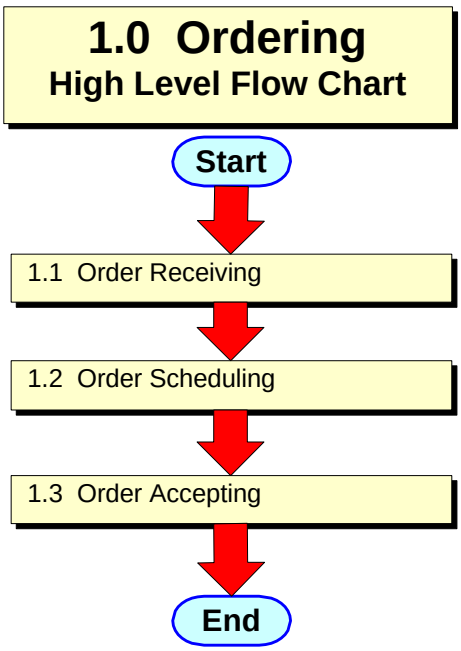
2.5.4.1 Procedure for order input from Telpro to Nortel (MO or Stock Remote process)

2.5.4.2 Procedure for fulfillment of bulk orders (loading NTD models into COT)

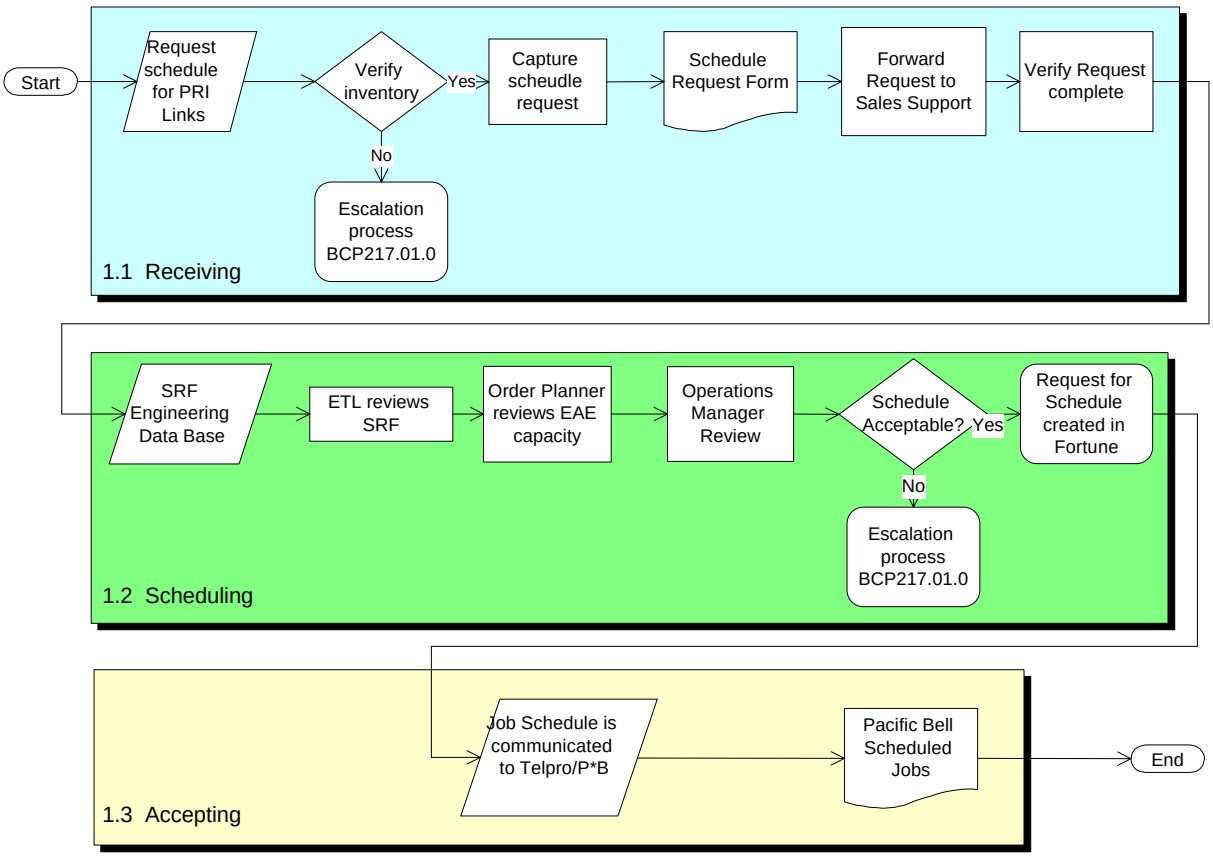
2.5.4.3 Procedure for invoicing of Telpro for bulk shipments

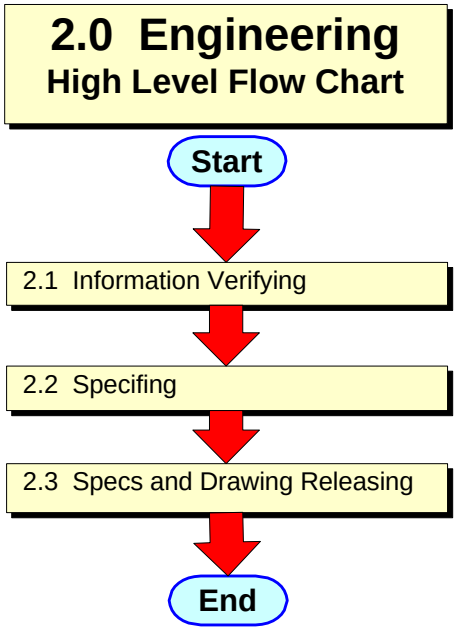
Appendix A: Process Charts



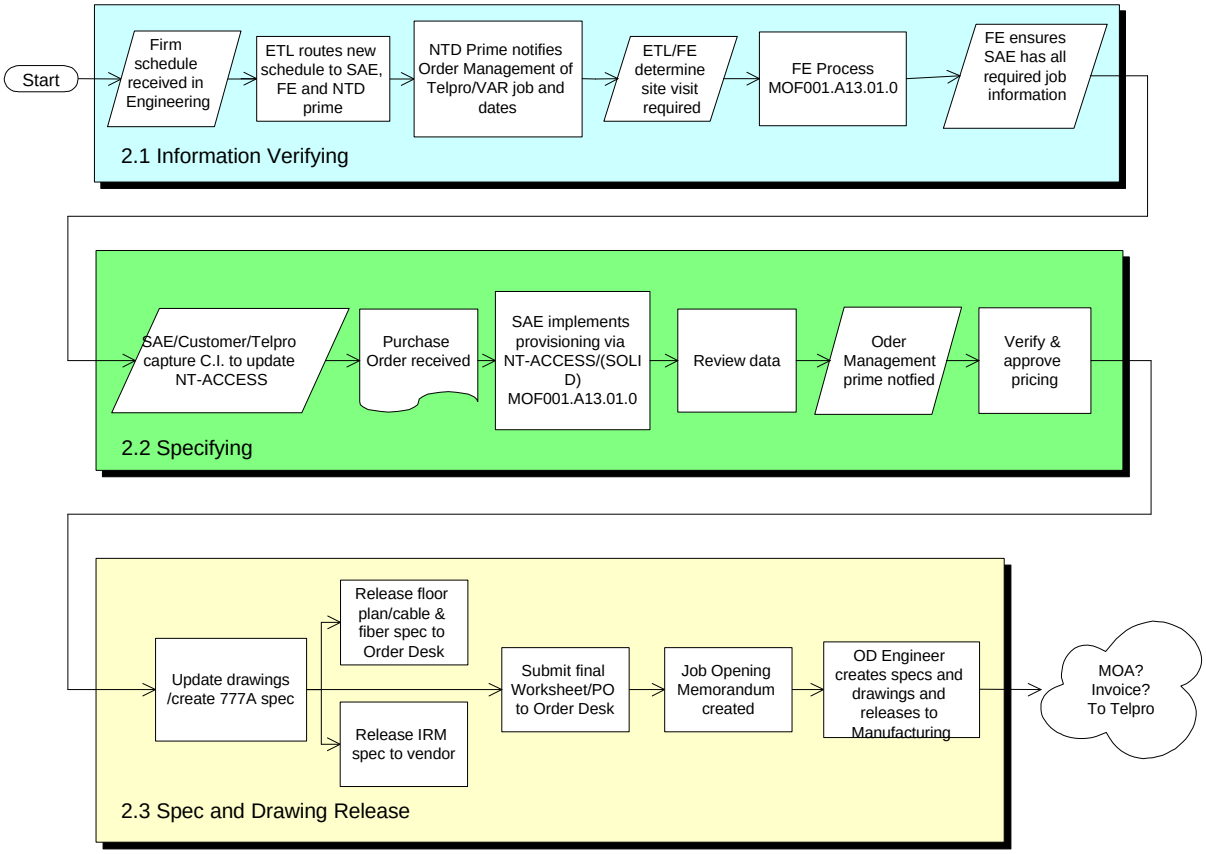


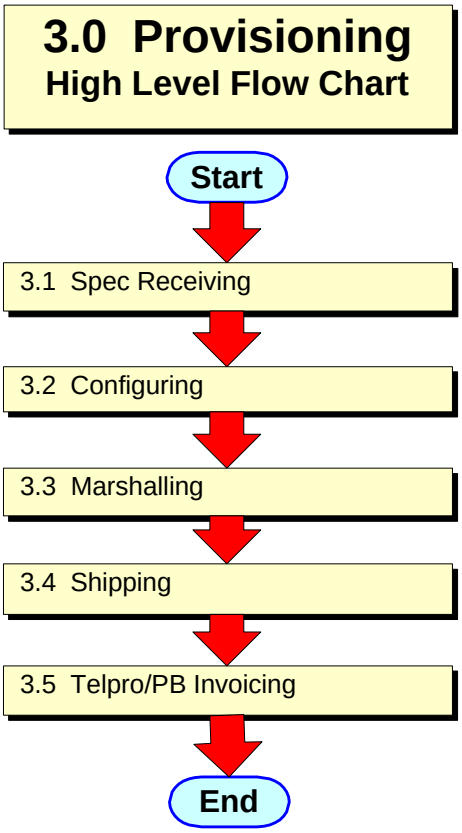
1.0 Ordering Flow



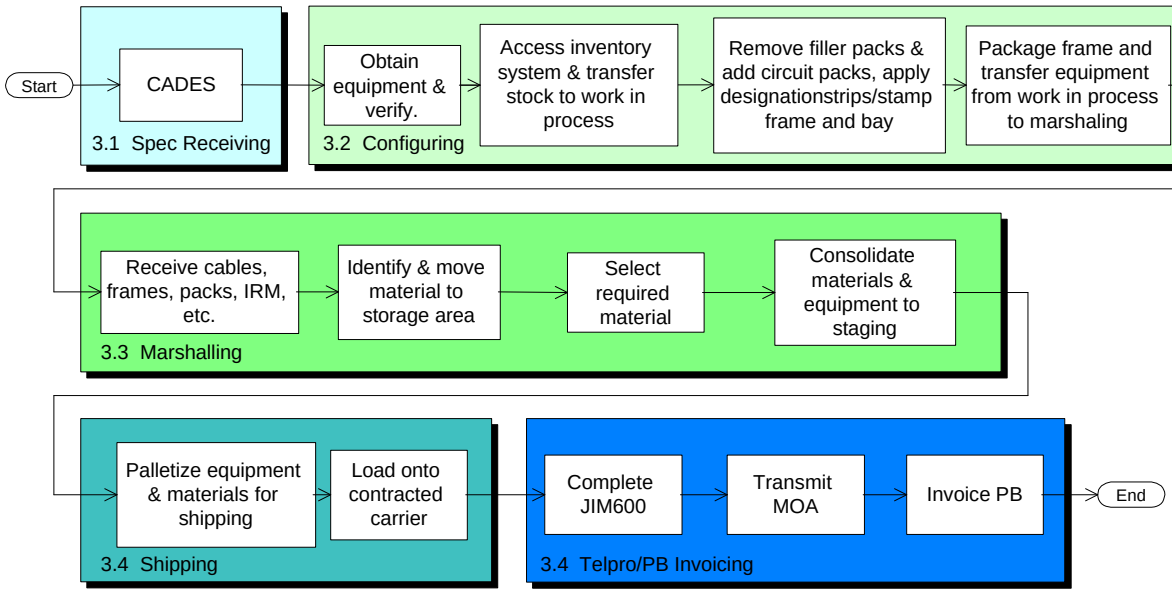


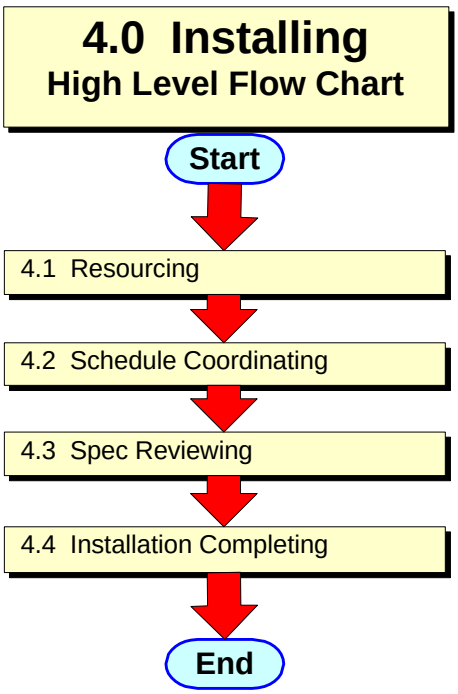
2.0 Engineering Flow



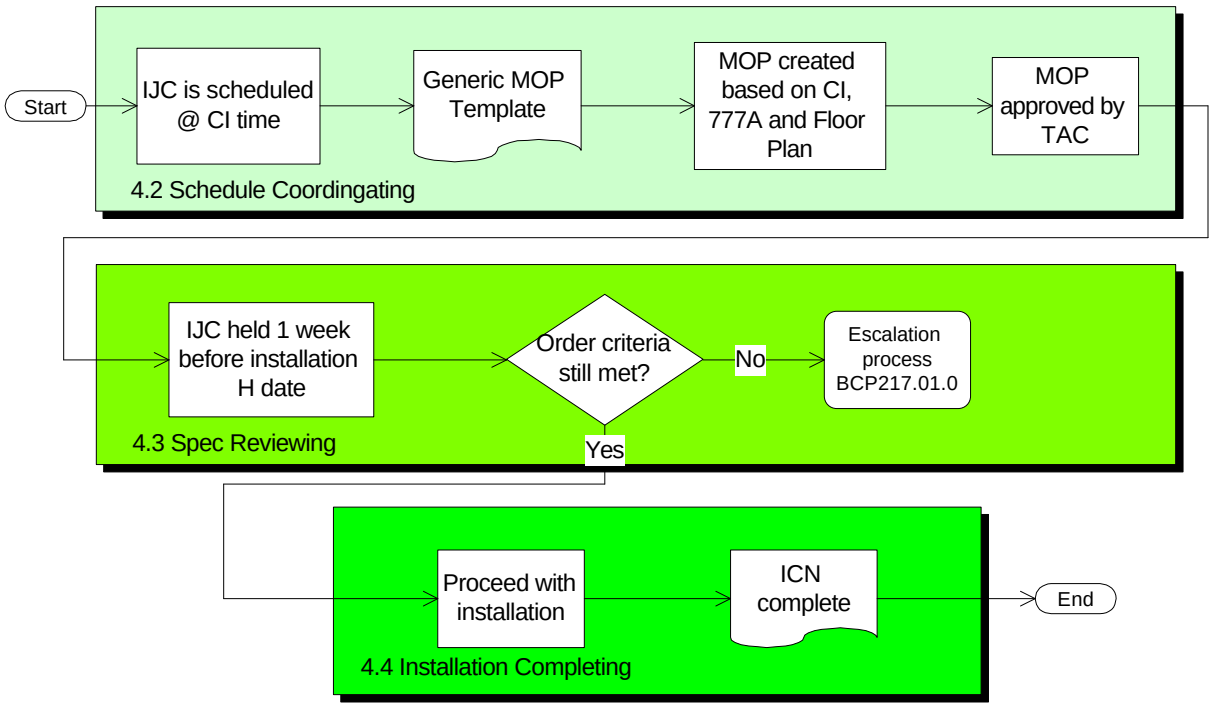


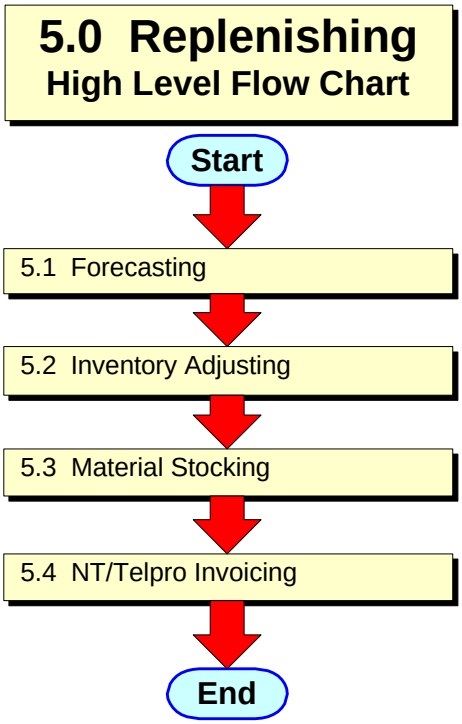
3.0 Provisioning Flow



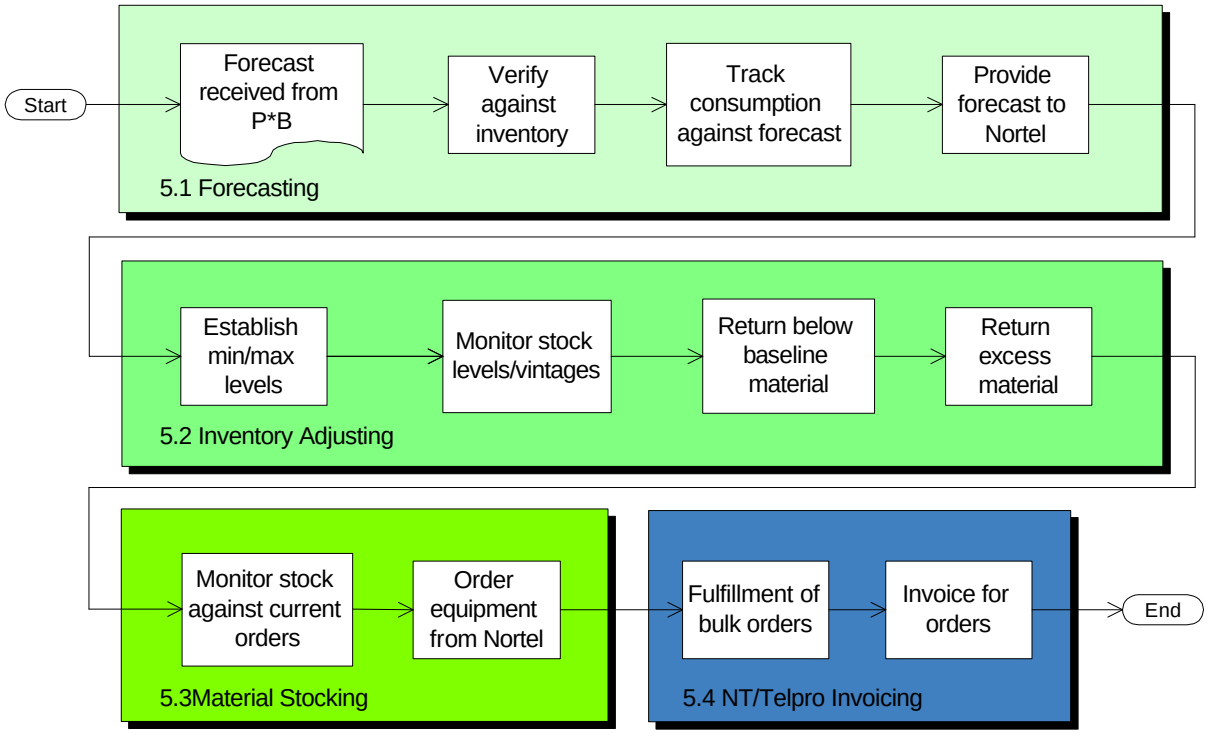


4.0 Installation Flow





5.0 Replenishing



TITLE: Revenue Tracking Summary
RECOMMENDATION 14: Develop clear strategies and quality-focused processes for integrating supplier diversity planning into the marketing and sales process.
PURPOSE: To track success of supplier diversity plans to generate revenue

				1Q2003				2Q2003				3Q2003				4Q2003	YTD2003
	Jan	Feb	Mar		Apr	May	Jun		Jul	Aug	Sep		Oct	Nov	Dec		
Marketing/Sales																	
Client Contacts	177	168	165	510	163	180		343									853
RFXs Awarded	0	0	0	0	0	0		0									0
Client Activities																	
Private Sector																	
Marketing	12	14	14	40	12	14		26									66
Plans	14	14	13	41	13	11		24									65
Reports	14	13	11	38	12	12		24									62
Data	13	16	15	44	13	14		27									71
Subtotal	53	57	53	163	50	51	0	101									264
Public Sector																	
Marketing	12	14	13	39	10	10		20									59
Plans	15	15	13	43	15	17		32									75
Reports	10	12	12	34	11	10		21									55
Data	12	12	14	38	11	10		21									59
Subtotal	49	53	52	154	47	47	0	94									248
Federal Sector																	
Marketing	11	10	11	32	10	13		23									55
Plans	12	11	13	36	12	10		22									58
Reports	10	11	11	32	10	10		20									52
Data	10	10	11	31	11	10		21									52
Subtotal	43	42	46	131	43	43	0	86									217
Total Plans, Reports, Data	145	152	151	448	140	141	0	281									729
Revenue/Sales																	
New RFX Value ($M)	$88	$41	$222	$351	$75	$200		$275									$626
Retained RFX Value ($M)	$170	$80	$68	$318	$75	$40		$115									$433
Operations																	
Development Hours	125	132	150	0	67	139		206									206
Consulting Hours	160	189	141	490	138	135		273									763
Program Marketing Hrs	51	81	80	212	30	60		90									302
Total Hours Spent	336	402	371	134	235	334		569									703

TITLE: Revenue Tracking Summary
RECOMMENDATION 14: Develop clear strategies and quality-focused processes for integrating supplier diversity planning into the marketing and sales process.
PURPOSE: To track success of supplier diversity plans to generate revenue

Date	SUPPLIER DIVERSITY CONTACT	CLIENT CONTACT	CUSTOMER	RFX / CONTRACT VALUE $(M)	Est. 2003 REVENUE $(M)	CONTRACT TERM (Years)	Actual Hrs	Private				Public				Federal			
								Mktg	Plan	Report	Data	Mktg	Plan	Report	Data	Mktg	Plan	Report	Data
1/20/03	SMITH, JOE	ABLE, MARY	Major Corporation A	$25.00	$9.50	3	0.25	1											
1/31/03	DOE, JANE	BAKER, BETTY	City Government Agency A	$15.00	$15.00	1	0.25					1							
1/8/03	DOE, JANE	PARKER, DAN	Federal Government Agency A	$5.70	$5.70	1	0.75										1		
1/30/03	SMITH, JOE	BARKER, BOB	Major Corporation B	$9.30	$9.30	1	0.5				1								
1/30/03	SMITH, JOE	SMITH, JACK	City Government Agency B	$22.30	$10.00	2	0.25								1				
1/31/03	SMITH, JOE	KANE, BETH	Major Corporation C	$1.20	$1.20	1	0.5			1									
1/6/03	SMITH, JOE	BROWN, BOB	City Government Agency C	$89.30	$20.50	4	8						1						
1/7/03	DOE, JANE	GRAY, DAN	Major Corporation D	$0.25	$0.25	1	0.5		1										
JANUARY SUBTOTAL				$168.05	$71.45		11	1	1	1	1	1	1	0	1	0	1	0	0
2/5/03	SMITH, JOE	ABLE, MARY	Major Corporation E	$63.00	$30.20	2	0.25		1										
2/10/03	DOE, JANE	BAKER, BETTY	City Government Agency D	$25.00	$5.00	5	0.25						1						
2/21/03	DOE, JANE	PARKER, DAN	Federal Government Agency D	$14.00	$7.00	2	0.25												1
2/6/03	SMITH, JOE	BARKER, BOB	Major Corporation F	$10.00	$3.20	3	24		1										
2/5/03	SMITH, JOE	SMITH, JACK	City Government Agency E	$78.00	$25.20	3	0.25							1					
2/28/03	SMITH, JOE	KANE, BETH	Major Corporation G	$9.00	$9.00	1	0.25			1									
2/21/03	SMITH, JOE	BROWN, BOB	City Government Agency F	$6.30	$6.30	1	0.5						1						
2/4/03	DOE, JANE	GRAY, DAN	Major Corporation H	$79.20	$40.00	2	0.5				1								
FEBRUARY SUBTOTAL				$284.50	$125.90		26.25	0	2	1	1	0	2	1	0	0	0	0	1
3/17/03	SMITH, JOE	ABLE, MARY	Major Corporation J	$12.60	$6.00	2	2		1										
3/5/03	DOE, JANE	BAKER, BETTY	City Government Agency G	$9.78	$9.78	1	0.25						1						
3/3/03	DOE, JANE	PARKER, DAN	Federal Government Agency E	$22.30	$22.30	1	4										1		
3/21/03	SMITH, JOE	BARKER, BOB	Major Corporation K	$5.30	$5.30	1	0.75	1											
3/11/03	SMITH, JOE	SMITH, JACK	City Government Agency H	$9.60	$9.60	1	4						1						
3/28/03	SMITH, JOE	KANE, BETH	Major Corporation L	$25.30	$5.00	5	0.25			1									
3/28/03	SMITH, JOE	BROWN, BOB	City Government Agency I	$7.80	$7.80	1	0.25							1					
3/11/03	DOE, JANE	GRAY, DAN	Major Corporation M	$6.80	$6.80	1	1			1									
MARCH SUBTOTAL				$99.48	$72.58		12.5	1	1	2	0	0	2	1	0	0	1	0	0
GRAND TOTAL				$552.03	$269.93		49.75	2	4	4	2	1	5	2	1	0	2	0	1

TITLE: Revenue, Customer Satisfaction and Loyalty Tracking Summary
RECOMMENDATION 14: Develop clear strategies and quality-focused processes for integrating supplier diversity planning into the marketing and sales process.
PURPOSE: To track success of supplier diversity plans to generate revenue, client satisfaction and customer loyalty

Revenue Tracking

Major Customer A											
Month	January				February				March		
	Won	Lost	Revenue		Won	Lost	Revenue		Won	Lost	Revenue
Bid #			($M)	Bid #			($M)	Bid #			($M)
1	X		$2.80	6	X		$1.80	9	X		$21.00
2	X		$10.00	7	X		$12.00	10		X	$7.50
3		X	$5.20	8		X	$5.00	11	X		$3.20
4	X		$8.60					12	X		$8.90
5		X	$4.00								

Won Revenue	**$21.4M**		**$13.8M**		**$33.1m**
Won/Lost Ratio	**3 to 2**		**2 to 1**		**3 to 1**

Customer Satisfaction Tracking

		Monthly			Year-to-Date		
Major Customer	Target	March	Change from Feb	Diff. from Target	Mar YTD	Change from Feb	Diff. from Target
A	78.8	82.2	+0.2	+3.4	82.2	+0.1	+3.4
B	78.9	82.0	-1.3	+3.1	82.6	-0.3	+3.7
C	72.1	79.5	-1.0	+7.4	78.1	+0.8	+6.0
D	78.9	83.8	+0.7	+4.9	83.0	+0.4	+4.1
Etc.							

Customer Loyalty Tracking

		Monthly			Year-to-Date		
Major Customer	Target	March	Change from Feb	Diff. from Target	Mar YTD	Change from Feb	Diff. from Target
A	82.3	84.5	+0.2	+2.2	84.4	+0.1	+2.1
B	82.6	84.0	+0.4	+1.4	84.1	+0.1	+1.5
C	79.4	82.6	-1.4	+3.2	82.9	-0.1	+3.5
D	81.6	84.3	0	+2.7	84.0	0.2	2.4
Etc.							

TITLE: Supplier Diversity Consulting Flyer **Appendix 20D**
RECOMMENDATION 14: Develop clear strategies and quality-focused processes for integrating supplier diversity planning into the marketing and sales process
PURPOSE: To provide visibility of consulting services offered by internal Diversity organization to develop sales proposals and win revenue

Attention Account Team...

Business Products and Services

Supplier Diversity

Now Offers Consulting Services for Development of Sales Proposals!

Telecom Supplier Diversity Task Force, June 2003

Supplier Diversity -- Delivering the Difference

Consulting Services Description

Baseline Services- As part of the ongoing Supplier Diversity support program, Procurement provides baseline services at no additional cost to our clients including:

- Diversity strategy development
- Tracking & reporting of company-wide performance
- Sourcing of certified diversity suppliers
- Development of supplier diversity plans and results reports to meet Federal Government Compliance

Consulting Project Categories

Requests for Supplier Diversity consulting services can be segmented into three categories:

1 – Minor Projects: Requires assessment of customer requirements and advice and counsel on how to comply with supplier diversity sections of an RFP. Direct customer contact is rare and "good faith effort" Supplier Diversity requirements are usually satisfied through minor modifications to our company's Standard Supplier Diversity Plan.

- *Duration - 5-20hrs*
- *Skill Set - Level 1*
- *Rate - $70hr**

**** These services are priced 31-44% below the average market rate of $225.***

2 – Moderate Projects: Requires working with the Account Team to address more complex and unique customer requirements. Direct discussions with the customer are often required to ensure understanding and compliance with specific requirements. Outreach and planning required to identify specific diversity suppliers to work directly with our company on each account. These projects also require more complex tracking and reporting during the life of the contract.

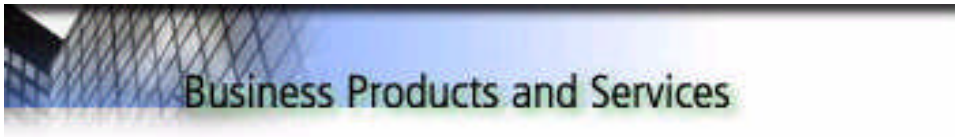
- *Duration - 20-40hrs*
- *Skill Set - Level 1 or 2*
- *Rate - $70hr/$100hr**

3 – Major Projects: Requires the participation of a Supplier Diversity subject matter expert throughout every phase of the planning and development of the customized Supplier Diversity proposal; from pre-bid meetings to public hearings, to proposal submission. Complicated political issues and politically connected suppliers often must be managed in order to fully satisfy customer stated or implied requirements.

In addition to the planning and development of a winning Supplier Diversity bid component, Supplier Diversity performance audits are typically included in the project life cycle.

- *Duration - 40+hrs*
- *Skill Set - Level 2*
- *Rate - $100hr**

The Supplier Diversity team will also participate in the customers' ongoing compliance and oversight processes for Supplier Diversity goal attainment, such as prime supplier workshops, meetings, trade fares with the customers' diversity suppliers, etc. (e.g., Delphi, Bank One, JP Morgan Chase).



Government GEM

Supplier Diversity
Request for Service Form

Account Team Name: _____

Account Team Telephone: _____

Customer Name: _____

Customer Supplier Diversity Requirements:

(Please RFX forms from customer) _____

Project Value: _____

Products/Service Proposed: _____

Supplier Involvement (if any): _____

Proposal Due Date: _____

Signature of Requesting Manager: _____

Charge RC: _____

CFO Name & Tel #: _____

Supplier Diversity Completes:

Estimated Hours: _____

Project Category:

___***Minor*** ___***Moderate*** ___ ***Major***

Skill Set Required:

___***Level 1*** ___ ***Level 2***

PLEASE SIGN AND FAX TO: 925-901-0562

For Services Contact :
Supplier Diversity Programs
[name]
[telephone]
[email address]

BCS Takin' it to the Streets
Delivering the Difference

Supplier Diversity Consulting Services Process

- *Request for services comes via fax, e-mail, or phone.*
- *SD Manager sends out brochure to marketing client.*
- *Marketing client completes 'Request for Service Form' (including customer's requirement and forms) and e-mails back to the SD Manager.*
- *SD Manager reviews request and estimates the number of hours and skill set level required to meet customer's requirement.*
- *Marketing client agrees to proceed by faxing signed copy of the 'Request for Service Form'.*
- *SD Manager completes request.*
- *SD Manager cross-charges client's RC.*
- *SD Manager follows-up with the account team for status of the RFX.*

Dearborn Capital Corporation

Dearborn Capital Corporation (DCC) is a mezzanine-debt investment fund that invests solely in certified minority-owned suppliers to the automotive industry. DCC is a licensed U.S. Small Business Administration Specialized Small Business Investment Company (SSBIC). Its typical investment ranges between $500,000 and $1.5 million, and is part of a syndicated subordinated-debt financing. DCC currently has 13 portfolio companies and approximately $15 million under management. It is also a wholly owned subsidiary of Ford Motor Company.

Companies Accepting the Telecom Supplier Diversity SUPERCOMM Challenge

3M Telecommunications
ACR Quality Communications
ADC
ADTRAN
Advanced Fibre Communications
Agilent Technologies
Aguilar Engineering, Inc. - AEI
Alcatel
Argent Associates
AT&T
Atlanta Cable Sales
Avaya Communication
Belden Inc.
BellSouth
Best Products Company
BICC/General Cable
Cadence Industries
Cherokee Nation Industries
CIENA Corporation
Cingular Wireless
Computer Output Printing Inc.
Conklin Corporation
Conway Communications
Corning Cable Systems
Communications Test Design Inc.
Designed Telecommuncations Services Inc.
Dynis, Inc.
Ericsson
Fujitsu Network Communications
General Data/ GDC
Global Crossing
Graybar
Innov8 Solutions
Johnson Controls
KARLEE
KGP Telecommunications
LeeMah Electronics
Lextron Corporation
Link America, Inc.
Lucent Technologies
Marconi Communications
Matrix Net
Maya Telecom
Motorola
Netcom Solutions
Nextel Communications
Nokia
Nortel Networks
OFS
Operational Technologies Corporation
Optical Datacom
Paceon
Pacific Access
Pacific Network Supply
Pulse Communications
Riverstone Networks, Inc.

SBC
SDV Telecommunications
Siemens
Solectron
SOMERA Communications
SONUS Networks
Sprint North Supply
Stockton Telecommunications
Sunbelt Telecommunications
Superior Telecommunications Inc.
TDB Communications Inc.
Tekontrol, Inc.
Telamon
Telcobuy.com
Telcordia Technologies
Telect, Inc.
Tellabs
Telmar
Telpro Technologies
Tempo
TSI of Florida
Turnstone Systems
US Telecom
Valor Telecom
Verizon
Visions Telecomm
VoltDelta
Washington Cable
Westell, Inc.
World Wide Technologies
XEL

QuEST Forum Executive Board Meeting

June 11, 2003

Motion adopted. The QuEST Forum Executive Board will:

- Establish a Supplier Diversity Best Practices repository on questforum.org

- ASQ will be asked to review how the supplier diversity repository is referenced on the website and to establish an effective process for receiving and posting Best Practices to the web

- Telecom Business Excellence team is requested to evaluate the inclusion of supplier diversity best practices into the larger, best practices repository as they review best practices which are submitted for posting into the repository

Telecom Supplier Diversity Task Force

EMS Subcommittee Report

A Report on the Impact of Electronics Manufacturing Services (EMS) on Supplier Diversity in the Telecommunications Industry

Table of Contents

EMS Sub-Committee Report

A Report on the Impact of Electronics Manufacturing Services (EMS) on Supplier Diversity in the Telecommunications Industry

Mission Statement

Analyze the value chains surrounding EMSs to determine points of participation for diversity owned companies that are mutually beneficial to all parties and improve the performance of the telecom supply chain.

Goals

1. Rank the potential points of participation for diversity companies within the contract manufacturer value chain.
2. Establish key growth areas within the value chain for existing and diversity owned companies to expand and diversify their operations and newly formed diversity companies to enter the market.
3. Identify existing companies that operate at points in the value chain who are willing to provide mentoring for younger diversity owned companies.
4. Educate diversity-owned companies on the contract manufactures value chain.
5. Develop a tiered value chain that depicts the areas of influence and control of the Service Providers, OEMs and EMSs.
6. Map supply chain examples for Lucent, Cisco and a auto industry company.
7. Determine the financial, cost and service benefits that cause OEMs and EMSs to outsource.

Questions to be Answered

1. What do EMSs bring to the OEMs?
2. Where can Diversity Suppliers participate in the EMS value chain?
3. How do EMSs expand from spot services to turn-key services?
4. How can small/diversity EMSs participate in the value chain?
5. What is the percentage of business that telecommunications represents for the EMSs?
6. What are the quality, service and cost challenges for the Service Providers, OEMs and EMSs in the value chain model?
7. What are the historic value propositions of diversity suppliers in the Service Provider, OEM and EMS supply chain?
8. Who are the majority and diversity EMSs in telecommunications, information technology and the auto industry?
9. What is the effect of offshore manufacturing and services on the value chain?

Background

In the early 1980s the major original equipment manufacturers (OEMs) in the high-technology market segments began to assess their operations for areas where they could cuts costs without negatively affecting service or product quality. They began a process of outsourcing many business operations that traditionally where always performed within their own facilities or by subsidiaries.

As a result, a new category of companies was created to provide electronic manufacturing services (EMSs) or contract manufacturer (CMs). These companies provide electronics manufacturing services to OEMs worldwide. The EMSs provide a wide variety of products and services to their customers including the manufacture, assembly and testing of complex single-layer and double-sided printed circuit assemblies and the full system assembly of final products, primarily on a build-to-order basis. In addition, the EMSs provide a wide range of services including design, component selection and procurement, prototypes, product assurance, assembly, test, failure analysis, full supply chain management, worldwide distribution and after-sales services. Most EMSs have multiple locations located throughout the United States and worldwide.

By the beginning of the new millennia, the EMSs had become major players in high-technology industries. The EMSs target OEMs primarily in the communications and computer sectors as well as the automotive and consumer products industries.

EMS Business Description

These companies are providers of contract manufacturing to OEMs worldwide. The EMSs provide a wide variety of products and services to their customers including the manufacture, assembly and testing of complex single-layer and double-sided printed circuit assemblies and the full system assembly of final products, primarily on a build-to-order basis. In addition, the EMSs provide a wide range of services including design, component selection and procurement, prototype, product assurance, assembly, test, failure analysis, full supply chain management, worldwide distribution and after-sales services. Most EMSs have multiple locations located throughout the United States and worldwide.

Scope of EMSs Activities

EMSs provide a variety of products and services to the OEMs depending upon the requirements of the specific customer. The range of products and services for each customer and the associated costs is documented in a contractual agreement between the CM and the OEM. Most OEM and EMS business arrangements start on the product side and then expand over time into providing more services. To date OEMs from all industries have relied on these companies for low cost manufacturing and supply chain management for the procurement of components. The EMSs pursue expansion into the services areas because services tend to have a much higher margin and require little upfront investment. The EMSs are now pursing expansion into other pieces of the value chain through acquisition of companies with core competencies in engineering services, R&D and testing.

The products and services offered vary according to the individual OEMs. Many of the products and services provided by the EMS are the same as those provided by diversity-owned business as subcontractors or VARs. The total range of EMS's products and services are described below.

- Research and Development (R&D)
- Engineering
- Repair Services
- Supply Chain Management
- Order Fulfillment and Distribution
- Packaging
- Electronic Design
- Industrial Design

- Mechanical Design
- CAD Design
- Electronics Assembly and Test
- Full System Assembly and Test
- Product Assurance
- Failure Analysis
- Prototyping

Major EMSs

All EMSs have a concentration of customers with some totally dependent on as few as three which has become a problem. Because of this customer concentration, EMSs who serve the telecom/communications industry were caught with an overweight and these EMSs are suffering with the financial downturn seen over the past two years in the telecom industry. The EMSs are taking several measures to improve their financial position. First, they are signing long term contracts with OEMs and taking over their facilities and inventory as part of the deal and then move operations to low cost areas of production, usually Asia. The partially reduces the secularity of the business by guaranteeing business for the long term. It is estimated that by 2004, 60-70% of production to come from these low cost areas. For example, Solectron dropped production North America from 51% to 37% over the past year while Asian production has increased from 18% to 35%.

Additionally, the EMSs are taking on new roles such as R&D, distribution and warranty repair to improve their value proposition and consequently obtain additional revenue and margin. In March, Flextronics began offering reverse logistics and warranty repair services by opening 12 facilities worldwide.

Finally, there is an urgent push to diversify away from telecom/communications products into consumer electronics, medical device and automotive electronics since this diversification will lessen the risk of customer concentration for the EMS. Below is a brief description of six of the top EMSs who focus on the telecom/communications industry.

The following are the six major telecommunications EMSs as based on total revenues.

Benchmark Electronics

Services include assembly and testing components and systems, prototyping, and engineering and design support. They manufacture for the business enterprises, telecommunication equipment, video/audio/entertainment products, industrial control equipment, testing and instrumentation products, and medical devices markets. Their top three customers represent 70% of 2001 sales and they do not currently advertise any distribution or warranty repair services.

Celestica

Provides manufacturing services, which includes design, prototyping, and assembly, as well as supply chain management, worldwide distribution, and after sales service. Targets primarily the computer and communications industries. Has acquired two other EMSs, Primetech and Omni Industries, as well as facilities from Lucent, NEC, and Sagem SA in the past 18 months and signed long term contracts with Lucent and NEC to manufacture for these OEMs. For the Lucent deal, Celestica will become the leading EMS provider for Lucent's North American switching, access and wireless networking systems products.

Flextronics International

Flextronics provides operational services focused on delivering design, engineering, manufacturing and logistic solutions to branded technology companies. Their top 10 customers account for 64% of sales with Ericsson accounting for 26% of sales. Flextronics is moving heavily into design, engineering, installation, and testing acquiring

five companies over the past year that focus on these areas. Most of these acquisitions are geared to support the wireless business divested from Ericsson. Additionally, they opened twelve warranty repair centers around the globe.

Jabil Circuit

Jabil offers the complete product lifecycle solution from design and prototyping to manufacturing and repair and warranty with over half of Jabil's customers shipped product containing a Jabil design. Additionally, they serve the OEM with systems assembly and direct order fulfillment. They primarily serve the automotive, communications, computer, and consumer product industries. Recently, they took over telecom manufacturing for Marconi and Alcatel.

Sanmina-SCI

Sanmina and SCI merged earlier this year to create an EMS giant. They design and manufacture PCBs, custom cables and wire harness assemblies, optoelectronic assemblies, custom fiber optic cables, and enclosure systems. Services include testing, assembly, and order fulfillment for an OEM customer with an emphasis on warranty repair, which they say, is a $100 billion market. Sanmina-SCI acquired several manufacturing sites from Alcatel, Siemens, Nortel, and Ericsson over the past several years.

Solectron

Solectron manufactures telecom, computing, and other electronic equipment. They offer the typical manufacturing and supply chain management services but are now moving into repair and customer support, project management, design, and order fulfillment to the end customer. Solectron was the only EMS of those listed to advertise their social responsibility with a published report on community involvement. Recently they signed an agreement with Lucent for some optical networking manufacturing and purchased a company specializing in post manufacturing solutions strengthening their ability to provide these services.

EMS Revenue Stream

The percentage of the EMS's total revenue that telecommunications represents varies but this analysis reveals that several companies are dependent upon the communications industry and all work with the major OEMs.

EMS Company	Revenue 2001(millions)	% of Rev from Communications	Gross Margin	Notable Customers
Benchmark	$ 1,277	31%	7.3%	Lucent. Sun Microsystems
Celestica	$ 10,004	37%	7.1%	Cisco, Lucent, Nortel, Marconi, NEC
Flextronics	$ 12,109	18%	8.1%	Ericsson
Jabil Circuit	$ 4,330	19%	9.1%	Cisco, Lucent, Nortel, Fujitsu, Alcatel
Sanmina-SCI	$ 12,511	46%	NA	Alcatel, Nortel
Solectron	$ 18,692	21%	8.0%	Cisco, Nortel

Raymond James Equity Research, Electronics Supply Chain Monthly Monitor, March 19, 2002

The following is an example for an EMS's telecommunications customer base:

Solectron Corporation

Customer Revenue $M US	12 Months – 08/31/01		12 Months – 08/31/00	
Cisco Systems	$2,149.6	11.5%	$ 1,696.5	12.0%
Nortel Networks	$2,224.4	11.9%	$1,837.9	13.0%
Ericsson	$2,560.8	13.7%	--	--
Customer Total	**$6,934.8**	**37.1%**	**$3,534.4**	**25%**
Total Revenue	**$18,692.3**	**100%**	**$14,137.5**	**100%**

Benefits of Outsourcing

The following are descriptions of the factors that are motivating the OEMs and EMSs to outsource non-core business activities.

OEM

The top two reasons for outsourcing to an EMS is flexibility in capacity and lower cost of production. Outsourcing contracts nearly always include transfer of the inventory, employees, and facilities needed to manufacture the product to the EMS who in return receives a multiyear contract for production. Occasionally the OEM will reimburse the EMS to help overcome fixed costs if a specified volume is not reached. Therefore, OEMs transfer fixed costs into variable costs by utilizing an EMS relationship and is a method to deal with the current overcapacity in the telecom industry.

The financial benefits include a lower COGS, less inventory carrying costs, and lower capital investment for the OEM. EMSs often move production to lower cost regions and have more effective supply chain management which reduces the COGS and nearly all of this savings is passed to the OEM. Additionally, the OEMs shift the inventory risk and facilities risk to their EMS partners thus creating a role for EMSs as the working capital manager for the OEMs.

EMS

Research showed one example of outsourcing by the EMS industry and that was with R&D. OEMs moved limited amounts of R&D to their EMS partners who did not have the necessary resources in house to perform these functions. Therefore they contracted this work to others, either component manufacturers or specialized R&D firms. However, research does suggest that massive acquisitions within the EMS industry may have created a lack of focus as the companies try to integrate core competencies. This could open up EMSs to outsourcing of non-core competencies to free up management time to focus on these new acquisitions.

Supply Chain Challenges

There are many challenges facing the OEMs, EMSs and Telcos in managing their supply chains. The following is a brief description of those challenges.

OEM Supply Chain

OEMs are shifting their supply chain to remove the risks of fixed costs onto the EMSs. They are divesting assets to the EMS companies to move the fixed costs of manufacturing facilities and inventory off their balance sheets. Larger OEMs have begun to consolidate the number of EMSs per product line, which creates long term strategic partnerships between the EMS and the OEM. This long term relationships gives the EMSs the opportunity to extend their reach into more pieces of the OEMs supply chain since these relationships remove the cyclical nature of contract manufacturing. OEMs are currently moving limited amounts of value added services to the EMSs.

According to a survey from SG Cowen in October of 2001, 22% of OEMs believe loss of quality control the top reason for not outsourcing. Better skills in house (15%) and more effective customer response in house (15%) followed loss of quality. The OEMs interface with the end customer and must ensure proper levels of quality are reached by all of their partners in the supply chain and often, complex products will not be outsourced.

EMS Supply Chain

Because of their slim gross margins, EMS companies have become experts at managing their supply chain from a procurement stance in order to keep costs to a minimum. To supplement savings realized from a more effective supply chain, EMSs are moving production to low cost areas to reduce their overhead and total production in low cost regions is expected to grow to 60-70% according to a survey by iSuppli. Due to this globalization of manufacturing, distributors to EMS companies must develop global capabilities to provide component parts to manufacturing facilities located around the world, which puts pressure on small and mid-sized distribution or component manufacturing companies.

EMS companies are extending their reach into the OEMs value chain by offering R&D, prototyping, warranty repair, distribution, and assembly integration services. For R&D, the EMSs are passing down opportunities for component manufacturers and distributors to perform some of these services for the EMS. They are also purchasing companies with these skills in order to perform these services in house. Many analysts question the ability of the EMSs to extend their reach into value added services within the OEM value chain because of the massive number of acquisitions in the industry. The EMSs may need to spend their efforts to ensure their core competencies of manufacturing and supply chain management remains strong.

Telco Supply Chain

Rapid growth of capital expenditure followed by a quick deceleration revealed the lack of visibility within the supply chain for all players. This volatility stressed the supply chain partners with excess inventory and consequently revealed weaknesses for many channel partners, which often led to bankruptcy. This loss of channel partners creates switching costs for the telco to find and certify new channel partners and could lead to a reduction in product quality and near term shortages of network equipment until new partners take on this new business. Additionally, telcos require localized service and inventory management to improve the financial strength of the company. Localized service and inventory management keeps inventory off the balance sheet and reduces the time to cash flow for newly purchased equipment.

Supply Chain Evolution

Until the 1980s, the OEMs manufactured their own products. In the early 1980s the major original equipment manufacturers (OEMs) in the high-technology market segments began to assess their operations for areas where they could cuts costs without negatively affecting service or product quality. They began a process of outsourcing many business operations that traditionally where always performed within their own facilities or by subsidiaries.

As a result, a new category of companies was created to provide electronic manufacturing services (EMSs) or Contract Manufacturer (CMs). These companies provide electronics manufacturing services to OEMs worldwide. The EMSs provide a wide variety of products and services to their customers including the manufacture, assembly and testing of complex single-layer and double-sided printed circuit assemblies and the full system assembly of final products, primarily on a build-to-order basis. In addition, the EMSs provide a wide range of services including design, component selection and procurement, prototypes, product assurance, assembly, test, failure analysis, full supply chain management, worldwide distribution and after-sales services. Most EMSs have multiple locations located throughout the United States and worldwide.

By the beginning of the new millennia, the EMSs had become major players in high-technology industries. The EMSs target OEMs primarily in the communications and computer sectors as well as the automotive and consumer products industries.

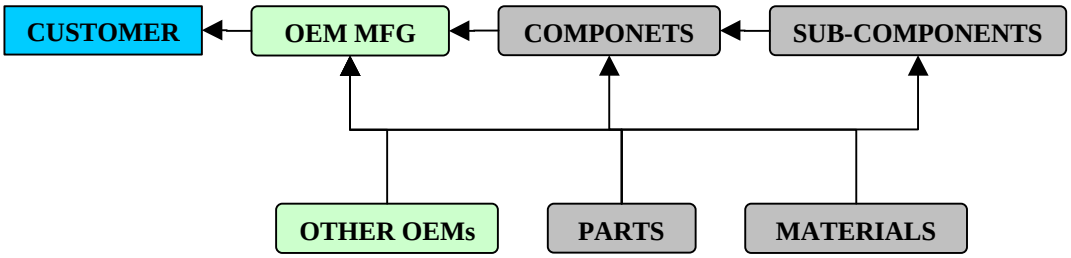
In the 1990's, the telcos in conjunction with the OEMs began the development of diversity-owned value-added resellers (VARs). The VAR business model developed in the early 1990s was based upon the supply chain that was prevalent in the telecommunications industry at that time. The model assumed that virtually all business and product related functions were performed by the OEM.

The value-added resellers developed during the 1990s provided post-product manufacturing services for the OEM and telcos including:

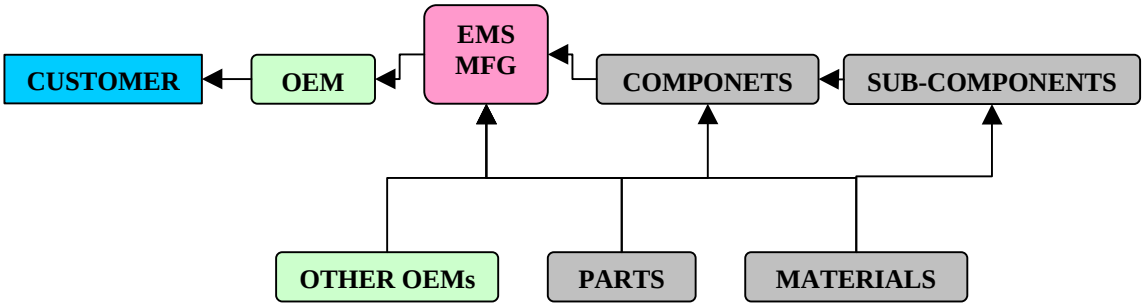
- Installation
- Training
- Site preparation
- Order management
- Call centers
- After sales support
- Project management
- Supply chain management
- Inbound material logistics
- Order fulfillment and distribution
- Reverse logistics
- Packaging
- Full systems assembly and test
- Product Assurance
- Failure Analysis

The diagrams that follow show the supply chain evolution from pre-1980 until present time.

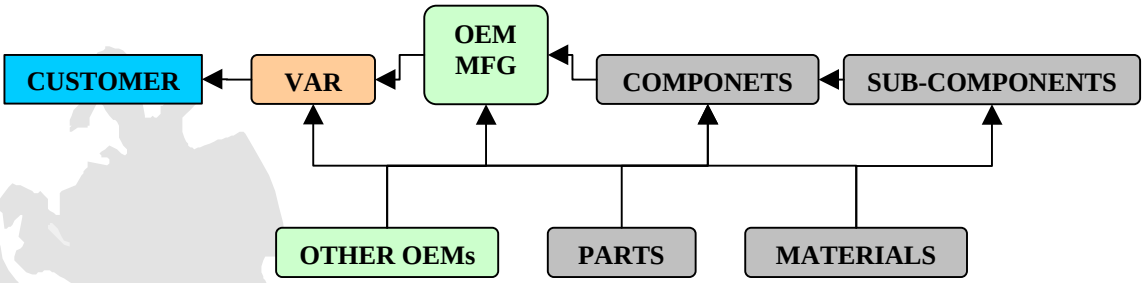
Pre VAR or EMS (Pre-1980s)



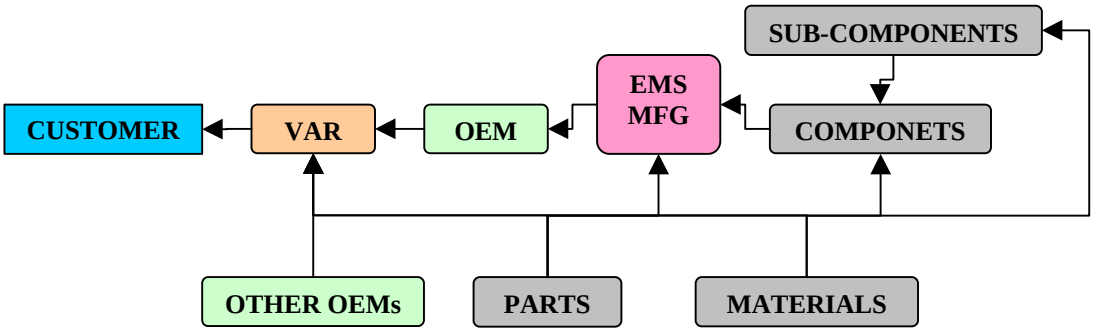
EMS Introduction (1980s)



VAR Introduction (early 1990s)



VAR and EMS Introduction (late 1990s)



Potential Diversity Supplier Activities

Operations Related Activities

- Advertising
- Public Relations
- Marketing
- Sales
- Payroll
- Quality
- Capital Expense
- Human Resources
- Accounts Payable
- Procurement

Customer Site Activities

- Installation
- Technician Training
- Site Preparation

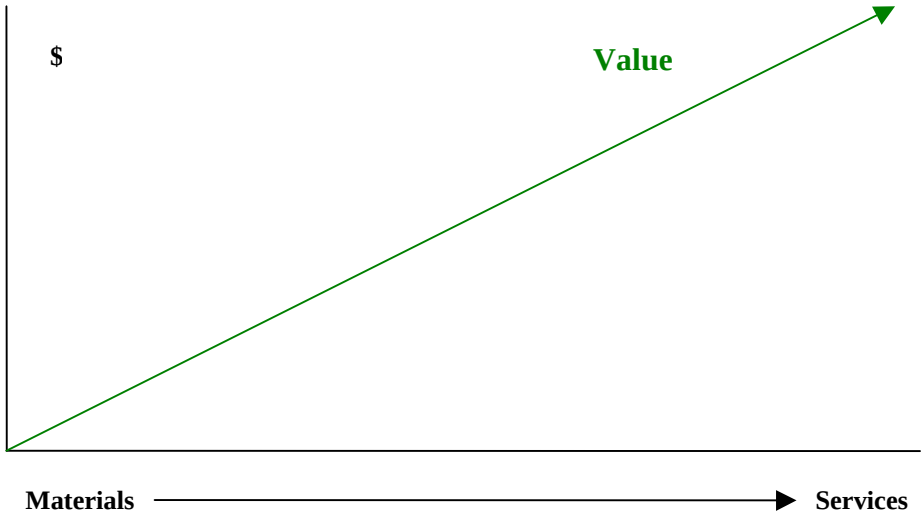
Customer Related Activities

- Order Management
- Customer Training
- Customer Management
- Call Center
- After Sales Support
- Project Management

Product Related Activities

- Research / Development (R&D)
- Engineering
- Repair Services
- Supply Chain Management
- Inbound Material Logistics
- Order Fulfillment / Distribution
- Outbound Fulfillment Logistics
- Reverse Logistics
- Packaging
- Electronic Design
- Industrial Design
- Mechanical Design
- CAD Design
- Electronics Assembly and Test
- Full Systems Assembly and Test
- Product Assurance
- Failure Analysis
- Prototyping

Relative Value of Diversity Supplier Activities



This chart depicts the increasing value a diversity supplier can add when bundling services to a product, which in turn delivers a thicker margin. Diversity companies that have been able to establish themselves as service providers and not merely fulfillment centers stand on stronger financial ground and entrench themselves into the supply chain creating a barrier to entry.

Affect of Offshore Manufacturing

In recent years there has been significant movement of manufacturing to lower cost regions in the Asia/Pacific area. Today about 30 percent of the EMS industry's total production is manufactured in low-cost-labor regions. But most of the top-tier EMS corporations want to migrate more than 60 to 70 percent of their total production to those regions by 2004, according to iSuppli.

In recent years there has been significant movement of manufacturing to lower cost regions in the Asia/Pacific area. Today about 30 percent of the EMS industry's total production is manufactured in low-cost-labor regions. But most of the top-tier EMS corporations want to migrate more than 60 to 70 percent of their total production to those regions by 2004, according to iSuppli. Several important ramifications of this shift include the creation of a truly global supply chain, EMS migration up the value chain, and an increasingly complex supply chain.

Globalization enhances the need for localized logistics and post deployment services within North America. This is an established requirement set by the service providers but as manufacturing moves to low cost regions in South Asia, a local presence will be essential to meet customer needs. Additionally, EMSs have a lower ROI hurdle for entry into new businesses compared to OEMs and will most likely leverage their current expertise in supply chain management to include direct fulfillment and warranty repair to the OEM's customers. Since they support several industries (computers, IT, medical device) EMSs will be able to spread the fixed costs of establishing distribution centers across all product lines and work their way up the value chain. Finally, with the addition of a new player to the value chain, the supply chain becomes more complex and visibility will cloud as manufacturing shifts from OEMs to the EMSs.

Value Shift Evolution

Telco to OEM Value Shift

Telco	OEM
Operations Related	Operations Related
Advertising	**Advertising**
Public Relations	**Public Relations**
Marketing	**Marketing**
Sales	Sales
Payroll	Payroll
Quality	**Quality**
Capital Expense	Capital Expense
Human Resources	Human Resources
Accounts Payable	Accounts Payable
Procurement	Procurement
Customer Site	Customer Site
Installation*	**Installation***
Training*	**Training***
Site Preparation*	**Site Preparation***
Customer Related	Customer Related
Order Management	Order Management
Customer Training	**Customer Training**
Customer Management	Customer Management
Call Center	**Call Center**
After-Sales Support	**After-Sales Support**
Project Management	**Project Management**
Product Related	Product Related
R&D	**R&D**
Engineering	**Engineering**
Repair Services	**Repair Services**
Supply Chain Management	**Supply Chain Management**
Inbound Material Logistics	**Inbound Material Logistics**
Order Fulfillment/Distribution	**Order Fulfillment/Distribution**
Outbound Fulfillment Logistics	**Outbound Fulfillment Logistics**
Reverse Logistics	**Reverse Logistics**
Packaging	**Packaging**
Electronic Design	**Electronic Design**
Industrial Design	**Industrial Design**
Mechanical Design	**Mechanical Design**
CAD Design	**CAD Design**
Electronics Assembly/Test	**Electronics Assembly/Test**
Full System Assembly/Test	**Full System Assembly/Test**
Product Assurance	**Product Assurance**
Failure Analysis	**Failure Analysis**
Prototyping	**Prototyping**

Key
Red = major value shift
Blue = significant value shift
Green = minor value shift
* = activities often outsourced separately
Regular Face = value transferred from activity
Bold Face = value transferred to activity

Telco to OEM to VAR Value Shift

Telco	OEM	EMS
Operations Related	Operations Related	Operations Related
Advertising	**Advertising**	Advertising
Public Relations	**Public Relations**	Public Relations
Marketing	**Marketing**	Marketing
Sales	Sales	Sales
Payroll	Payroll	**Payroll**
Quality	Quality	**Quality**
Capital Expense	Capital Expense	**Capital Expense**
Human Resources	Human Resources	**Human Resources**
Accounts Payable	Accounts Payable	**Accounts Payable**
Procurement	Procurement	**Procurement**
Customer Site	Customer Site	Customer Site
Installation*	**Installation***	N/A
Training*	**Training***	N/A
Site Preparation*	**Site Preparation***	N/A
Customer Related	Customer Related	Customer Related
Order Management	Order Management	**Order Management**
Customer Training	**Customer Training**	N/A
Customer Management	Customer Management	N/A
Call Center	**Call Center**	N/A
After-Sales Support	After-Sales Support	**After-Sales Support**
Project Management	Project Management	**Project Management**
Product Related	Product Related	Product Related
R&D	R&D	**R&D**
Engineering	Engineering	**Engineering**
Repair Services	Repair Services	**Repair Services**
Supply Chain Management	Supply Chain Management	**Supply Chain Management**
Inbound Material Logistics	Inbound Material Logistics	**Inbound Material Logistics**
Order Fulfillment/Distribution	Order Fulfillment/Distribution	**Order Fulfillment/Distribution**
Outbound Fulfillment Logistics	Outbound Fulfillment Logistics	**Outbound Fulfillment Logistics**
Reverse Logistics	Reverse Logistics	**Reverse Logistics**
Packaging	Packaging	**Packaging**
Electronic Design	Electronic Design	**Electronic Design**
Industrial Design	Industrial Design	**Industrial Design**
Mechanical Design	Mechanical Design	**Mechanical Design**
CAD Design	CAD Design	**CAD Design**
Electronics Assembly/Test	Electronics Assembly/Test	**Electronics Assembly/Test**
Full System Assembly/Test	Full System Assembly/Test	**Full System Assembly/Test**
Product Assurance	Product Assurance	**Product Assurance**
Failure Analysis	Failure Analysis	**Failure Analysis**
Prototyping	Prototyping	**Prototyping**

Key
Red = major value shift
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Telco to OEM to EMS to VAR Value Shift

Telco	OEM	EMS	VAR
Operations Related	Operations Related	Operations Related	Operations Related
Advertising	**Advertising**	Advertising	Advertising
Public Relations	**Public Relations**	Public Relations	Public Relations
Marketing	**Marketing**	Marketing	Marketing
Sales	Sales	Sales	Sales
Payroll	Payroll	Payroll	**Payroll**
Quality	Quality	Quality	**Quality**
Capital Expense	Capital Expense	Capital Expense	**Capital Expense**
Human Resources	Human Resources	Human Resources	**Human Resources**
Accounts Payable	Accounts Payable	Accounts Payable	**Accounts Payable**
Procurement	Procurement	Procurement	**Procurement**
Customer Site	Customer Site	Customer Site	Customer Site
Installation*	Installation*	N/A	**Installation***
Training*	Training*	N/A	**Training***
Site Preparation*	Site Preparation*	N/A	**Site Preparation***
Customer Related	Customer Related	Customer Related	Customer Related
Order Management	Order Management	Order Management	**Order Management**
Customer Training	Customer Training	N/A	**Customer Training**
Customer Management	Customer Management	N/A	**Customer Management**
Call Center	Call Center	N/A	**Call Center**
After-Sales Support	After-Sales Support	After-Sales Support	**After-Sales Support**
Project Management	Project Management	Project Management	**Project Management**
Product Related	Product Related	Product Related	Product Related
R&D	R&D	**R&D**	N/A
Engineering	Engineering	Engineering	**Engineering**
Repair Services	Repair Services	Repair Services	**Repair Services**
Supply Chain Management	Supply Chain Management	Supply Chain Management	**Supply Chain Management**
Inbound Material Logistics	Inbound Material Logistics	Inbound Material Logistics	**Inbound Material Logistics**
Order Fulfillment/Distribution	Order Fulfillment/Distribution	Order Fulfillment/Distribution	**Order Fulfillment/Distribution**
Outbound Fulfillment Logistics	Outbound Fulfillment Logistics	Outbound Fulfillment Logistics	**Outbound fulfillment Logistics**
Reverse Logistics	Reverse Logistics	Reverse Logistics	**Reverse Logistics**
Packaging	Packaging	Packaging	**Packaging**
Electronic Design	Electronic Design	**Electronic Design**	N/A
Industrial Design	Industrial Design	**Industrial Design**	N/A
Mechanical Design	Mechanical Design	**Mechanical Design**	N/A
CAD Design	CAD Design	**CAD Design**	N/A
Electronics Assembly/Test	Electronics Assembly/Test	**Electronics Assembly/Test**	N/A
Full System Assembly/Test	Full System Assembly/Test	Full System Assembly/Test	**Full System Assembly/Test**
Product Assurance	Product Assurance	Product Assurance	**Product Assurance**
Failure Analysis	Failure Analysis	Failure Analysis	**Failure Analysis**
Prototyping	Prototyping	**Prototyping**	N/A

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Red = major value shift
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Action Plan

- Understand the current value chain models
- Research and report on EMS companies
- Draft the value chain and report
- Review EMS Subcommittee Report with the Task Force (July 2, 2002)
- Finalize the value chain and report
- Develop a communications plan
- Engage EMS companies in diversity process

Glossary of Terms

Accounts Payable

The organization responsible for classifying, recording, summarizing and paying the balances due to creditors.

Advertising

The action of calling something (as a commodity for sale, a service offered or desired) to the attention of the public esp. by means of printed or broadcast pain announcements.

After Sales Support

After sales support is individualized to meet each customer's requirements, and can included field failure analysis, product upgrades, repair and engineering change management.

CAD Design

CAD (Computer Assisted Design) design teams provide printed circuit board (PCB) design and other related services. These services include PCB design services using advanced CAD/CAE tools, PCB design testing and verification services, and other consulting services, which includes the generation of a bill of materials, approved vendor list and assembly equipment configuration for a particular PCB design. CAD design services result in PCB designs that are optimized for manufacturability and cost and accelerate the time-to-market and time-to-volume production.

Capital Expense

A expenditure for long-term additions or betterments properly chargeable to a capital assets account.

Diversity-Owned Business

Diversity-owned business are defined as those business that are at least 51 percent owned and managed by people identified as a minority, a woman or a service disabled veteran.

Electronics Design

The design teams use advanced design tools to enable new product ideas to progress from electrical and ASIC (applications-specific integrated circuit) design to simulation and physical layout to design for manufacturability. Electronic linkages between the customer, the design group and the manufacturing group help to ensure that the new designs are released rapidly, smoothly and cohesively into production.

Full System Assembly and Test

These services require sophisticated logistics capabilities to rapidly procure components, assemble products, perform complex testing and distribute products to customers around the world. Full system assembly services involve combining a wide range of sub-assemblies and employing advanced test

techniques to various sub-assemblies, including PCA, and final end products. OEMs often require custom build-to-order system solutions with very short lead times, which requires providing these solutions through advanced supply chain capabilities.

Failure Analysis

Failure analysis capabilities concentrate on identifying the root cause of failures and determining corrective action. Root cause of failures typically relates to inherent component defects or design robustness deficiencies. Products are subjected to various environmental extremes, including temperatures, humidity, vibration, voltage and rate of use, and field conditions are simulated in failure analysis laboratories that also employ advanced electronic microscopes, spectrometers and other advanced equipment.

Industrial Design

The industrial design teams assist in designing the "look and feel" of the plastic and metal enclosures that house printed circuit board assemblies and systems.

Installation

The act of setting up telecommunications equipment for use or service usually taking place at a remote site or a customer location.

Marketing

An aggregate of functions involved in transferring title and in moving goods from producer to consumer including among others buying, selling, storing, transporting, standardizing, financing, risk bearing and supplying market information.

Mechanical Design

Mechanical engineering teams specialize in three-dimensional design and analysis of electronic and optical assemblies using modeling and analytical tools. The mechanical team's capabilities include all aspects of industrial design, advance mechanism development and tooling management. They can support customers for a variety of development projects including turnkey system design and design for manufacturing (DFM) activities.

Order Fulfillment and Distribution

Using sophisticated integrated systems for managing complex international order fulfillment, allowing for shipment worldwide and, in many cases, directly to the OEM's end customers.

Original Equipment Manufacturer (OEM)

A company that produces complex equipment from components usually bought from other manufacturers.

Packaging

Designing the test packaging of products for bulk shipment or single end customer use.

Payroll

An officer or agent of a corporation or an employer whose duty it is to pay salaries or wages and keep account of them.

Procurement

A corporate organization or agent responsible for procuring materials, supplies and services.

Product Assembly and Test

Sophisticated technology is required in the assembly and testing of products, and significant investments in developing new assembly and test process techniques and improving product quality, reducing cost and improving delivery time to customers is required.

Product Assurance

Product assurance teams perform product life testing and full circuit characterization to ensure that designs meet or exceed required specifications. Some EMSs are accredited as National Testing Laboratories capable of testing to international standards such as Canadian Standards Association and Underwriters Laboratories.

Prototyping

Creating the first working model of a new electronic design or product design for testing and evaluation.

Public Relations

The promotion of rapport and goodwill between a person, firm, or institution and other persons, special publics, or the community at large through the distribution of interpretive material, the development of neighborly exchange and the assessment of public reaction.

Quality

An aggregate of functions designed to insure adequate quality in manufactured products by initial critical study of engineering design, materials, processes, equipment and workmanship followed by periodic inspections and analysis of the results of inspection to determine causes for defects and the removal of such causes.

Research and Development (R&D)

Establishing new product roadmaps. Applied R&D is a launching pad for new ideas and products in specific growth areas. These organizations provide system-based solutions to engineering problems and challenges.

Sales

Operations and activities involved in promoting selling good or services.

Subcontracting

Engaging a third party to perform under subcontract all or part of the work in an original contract.

Supply Chain Management

Utilize fully integrated enterprise resources planning and supply chain management systems to enable them to optimize materials management from supplier to end customer. Effective management of the supply chain is critical to the success of OEMs, as it directly impacts the time required to deliver products to market and the capital requirements associated with carrying inventory.

Training

Instruction in a particular skill or in the utilization of a product or service.

Value-Added Reseller (VAR)

A value-added reseller purchases product from an original equipment manufacturer (OEM) and resells the product after adding value by either physical or software modifications to meet specific customer needs or providing specific services such as sales, supply management or support services.

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Supplier Diversity Important to Solectron and Customers

Benefits of program pass on to customers and community

When it comes to the supply-base, diversity is key in meeting the business goals of Solectron and its customers. Supplier diversity has traditionally been an important supply-base initiative for OEMs for years, but is beginning to gain momentum in the EMS industry as OEMs outsource more of their production to contract manufacturers.

To this end, Solectron has taken an active lead in promoting supplier diversity, working with customers and organizations such as the National Minority Supplier Development Council and the Women's Business Enterprise National Council, to encourage the use of diverse suppliers in the EMS and technology industries.

Making a Business Case for Supplier Diversity

It has long been recognized that purchasing products from minority owned and other historically underutilized businesses (HUBs) is an important way to contribute to the economic vitality of the community and promotes supplier participation reflective of today's diverse business environment. But working with a diverse supplier base also makes sound business sense for EMS companies and their customers.

"Supporting diversity is not only the 'right' thing to do, it is the smart thing to do. Working with companies owned by women, minorities and disabled veterans enhances Lucent's ability to meet its customers' needs," said Jose Mejia, president, Lucent Technologies Supply Chain Networks. "Success in today's business world demands cross-cultural competence and the ability to view problems from multiple perspectives. A company's whole team needs to be diverse, and our suppliers are a critical part of the team working to meet our customers' expectations."

"A majority of Solectron's top 20 customers have supplier diversity programs in place, and actively encourage similar programs with their business partners," said Amy Goudy, Solectron's program manager for supplier diversity. "There are also several laws and regulations in place to encourage supplier diversity among U.S. companies."

OEMs with United States government contracts are bound by Public Law 95-507, which requires that any government contract over $500,000 include a plan to fulfill a percentage of the business with minority owned suppliers. When outsourcing a government project to Solectron, customers can benefit by reporting the amount Solectron spends with diverse suppliers for the project to fulfill their percentage requirements. Significant tax breaks also exist for companies who do business with a diverse supply-base.

Solectron Leads EMS Industry in Supplier Diversity

Last December, the Telecom Industry Group – composed of companies such as Lucent, Agilent and Cisco – asked their EMS partners for an update on their existing and future plans for supplier diversity. Out of the top five EMS providers, Solectron was the only company to have a certified supplier diversity program in place.

"Customers are very excited and impressed with the programs Solectron has in place for supplier diversity," said Goudy. "The great thing about our supplier diversity program is that it is more than just a policy. We work extensively with diversity councils and organizations, as well as customers, to ensure that our program benefits business goals and the community alike."

"Cisco is committed to providing opportunities to diverse businesses," said Charleen Hamel, supplier diversity specialist, Cisco Systems. "We are very happy that Solectron recognizes the importance of supplier diversity."

TELECOM SUPPLIER DIVERSITY TASK FORCE MEMBERS

Dr. Alfred E. Osborne, Jr.	Task Force Chair; Director, Harold Price Center for Entrepreneurial Studies, The Anderson Graduate School of Management at UCLA
Susan Bari	Women's Business Enterprise National Council, President
Jo Ann Brumit	Karlee, President
Albert Chen	Telamon, President
Monica Garcia	Complas, Former CEO
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Jose Mejia	Lucent, President, Supply Chain Networks
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