

# Great Lakes TL 9000 SIG Meeting

May 23, 2006

Use of TL 9000 Requirements and Measurements  
in the Management of the AT&T Supply Base

**Rachel Buckley**

Director, Quality Programs  
AT&T, Inc.

# AT&T

AT&T serves millions of customers around the globe, including global, national, mid-size, regional and government customers. It delivers an unsurpassed portfolio of traditional and IP-based voice, broadband Internet, data transport, wireless and video services. It also offers online and print directory publishing and advertising.

# AT&T - Strong Platform for Growth

**7.4M**

**DSL lines in service**

**55.8M**

**Wireless customers**

**12,000 Wi-Fi hot spots**

**1 of World's**

**Largest providers of IP services**

**No. 1 In US Long Distance**

**120M+ customers**

# Agenda

- Supplier Management Program
- Methods and Approaches
- Web tools for Managing the Supply Chain
- Critical Success Factors
- Q & A

# Background: Where we were

- Manually generated Supplier Report cards
- Lack of central repository
- Non-standard Measurements & Reporting
- Data credibility an issue.
- Limited visibility to report cards
- Disconnected process for measuring Satisfaction with Supplier Performance
- Centralized staff

# Our New Direction

- Use TL 9000 requirements and measurements to measure supplier performance
- Require TL 9000 in Contracts
- Standardize reports
- Create central, web-based toolkit
- Suppliers submit performance data online
- Automate Everything!
- Streamline and link the Customer Feedback process
- Give wide visibility of supplier performance to Clients & Department

# AT&T's Supplier Management Story

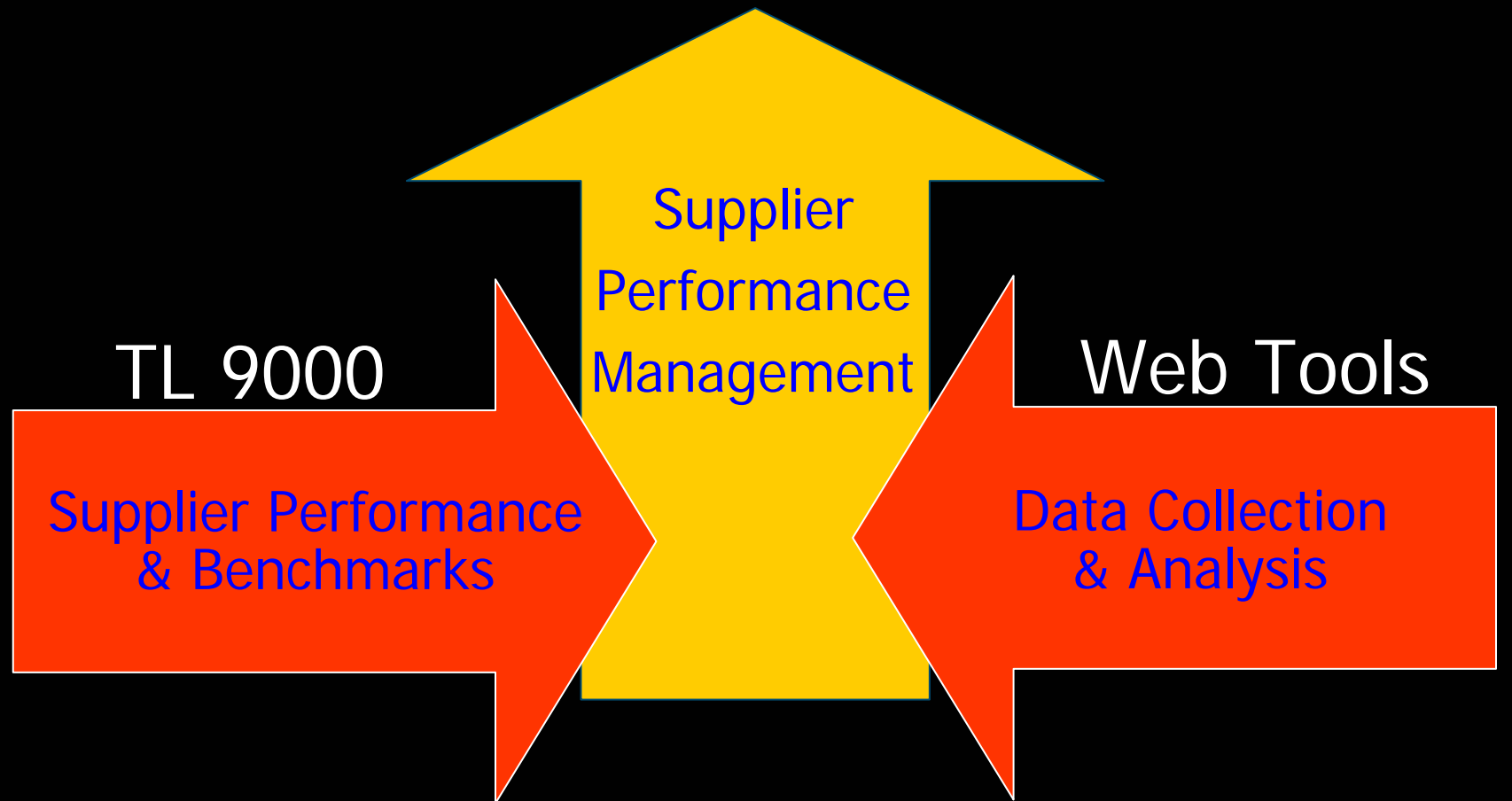
Value Proposition: Supply Chain Performance (cost, quality and delivery) could be improved if supplier performance measurements were standardized, reported & visible to suppliers and clients.

## Our approach:

- Use of TL 9000 requirements and measurements
- Drive into contract terms and conditions
- Web-based tools for tracking and reporting
- A quality process for managing improvement

# AT&T Supplier Performance Management System

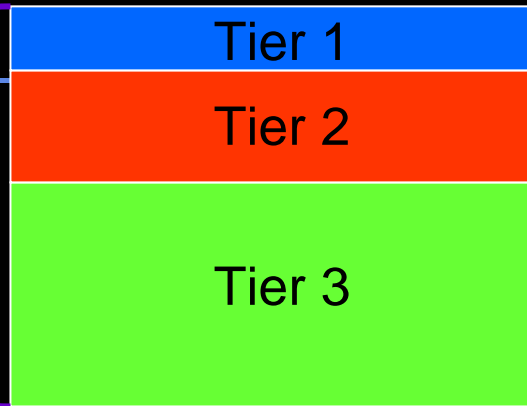
Competitive Supply Chain





# A Tiered Approach to the Managed Supply Base

***“Managed Base”***



***“Tiered Program Management”***  
Approach

**Suppliers in “Managed Base”:**

- Defined metrics
- Submit periodic data to AT&T data repository
- Strategic to AT&T’s supply chain
- Proven quality processes
- Client buy-in

**Other Suppliers**

- Supplier performance managed by SCM &/or Client
- Quality Clause in Agreement(s) defines requirements
- Data collected by Supplier *not* reported to SQ Central

***AT&T Contracted Supply Base”***

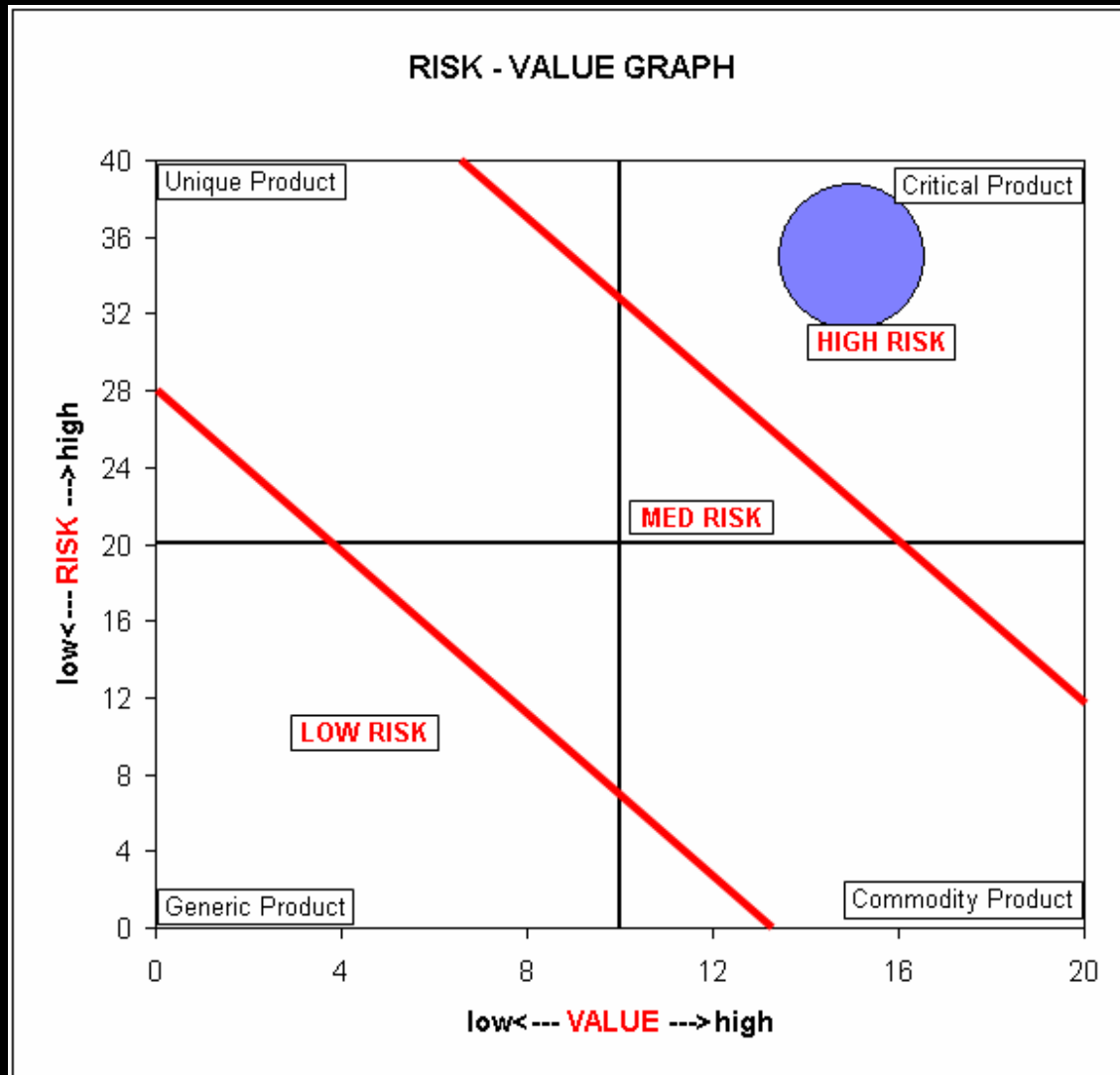
# A Tiered Approach to the Managed Supply Base

- What tools can be used to determine which suppliers and product categories are assigned to each tier, or registered to TL 9000?
  - **Risk / Value Matrix:** Evaluates Commodity Risk & Applicable Quality Clause

# Risk Value Tool: Evaluation Criteria

- Value of Contract
- Type of Product or Service
- Network Dependency / Risk
- Customer Impact
- Duration of Contract
- Revenue generating
- Integration with Other Components
- Safety Considerations
- Quality Criteria

# Risk Tool: Evaluates Commodity Risk & Applicable Quality Clause



# High Risk Clause

- Supplier represents and warrants that Supplier's processes utilized to produce Material and provide Services under this Agreement **are certified to TL 9000 within one hundred eighty (180) days after the execution of this Agreement and that Supplier will maintain TL 9000 certification for the term of this Agreement.** Supplier shall provide AT&T evidence of TL 9000 registration within thirty (30) days from the date of registration.
- Supplier's key subcontractors/suppliers shall be TL 9000 certified within three hundred sixty five (365) days after execution of this Agreement between AT&T and Supplier. Supplier shall provide AT&T evidence of TL 9000 registration certification within thirty (30) days from the date of certification.

# Medium Risk Clause

- Supplier represents and warrants that Supplier's processes utilized to produce Material and provide Services under this Agreement **are or will be registered to ISO-9001/2000 within one hundred eighty (180) days** after the execution of this Agreement and that Supplier will maintain ISO-9001 registration for the term of this Agreement. Supplier shall provide AT&T evidence of ISO-9001 registration within thirty (30) days from the date of registration.

# Low Risk Clause

- Supplier represents and warrants that Supplier's processes utilized to produce Material and provide Services under this Agreement are **controlled and adequate to deliver defect free performance**
- Supplier's key subcontractors/suppliers have been evaluated and provide adequate levels of process control to deliver defect free product.
- Excellent Quality Management System guidance can be found in ISO 9001/2000 and TL 9000. Copies of TL 9001/2000 Handbooks may be ordered through the QuEST Forum web site at <http://www.questforum.org>. Select the 'Resources' link from the QuEST forum home page, which will direct you to the TL 9000 Handbooks purchase page.

# Tiered Program Management

## Tier 1

(Managed Suppliers)

## Tier 2

(Monitored Suppliers)

## Tier 3

(Reporting Suppliers)

- Semi-annual formal Supplier assessments (Executive attendance)

- Semi-annual Supplier Client Sat surveys

- Quarterly Process Improvement meetings w/ formal AIR (as required)

- Monthly informal reviews/feedback w/ stakeholders

- Annual validation of Supplier's data sources & counting method

- Annual review of Quality Plan

- Semi-annual informal Supplier assessments
- Annual Supplier Client

- Sat surveys

- AIR (as required)

- Quarterly informal reviews/feedback w/ stakeholders

- Annual validation of Supplier's data sources & counting method

- Ad hoc review of Quality Plan

- Quarterly Compliance Reports to Supplier & AT&T Stakeholders

- Ad hoc Supplier Client Sat surveys

- AIR (as required)

- Semi-annual informal reviews/feedback w/ stakeholders

- Ad hoc validation of Supplier's data sources & counting method

- Ad hoc review of Quality Plan



# 39 Product Categories Reporting TL 9000 Measurements

**(1.1) Circuit Switch**

**(1.2.2) Access Switch**

**(1.2.5) Broadband Multi-service**

**(1.2.9) Routers**

**(2.2) Signaling Transfer Point (STP)**

**(3.1.1.1.1) Metallic Conductor Cable**

**(3.1.1.1.2) Metallic Connectors**

**(3.1.1.2.1) Fiber Optic 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**

**(3.2.2.1.1) Metallic Carrier System**

**(3.2.2.1.2.1) SONET / SDH Transport**

**(3.2.2.1.2.2) WDM / DWDM / Optical Amplification**

**(3.2.2.2) Loop Carrier**

**(3.2.4) Digital Subscriber Lines**

**(4.1.1) Test Access Equipment**

**(4.1.2) Test Equipment, Embedded**

**(4.1.3) Test Support Software**

**(4.2.1) On Line Critical**

**(4.2.2) On Line Non-Critical**

**(4.3) Ancillary Operations and Maintenance**

**(5.1) Synchronization**

**(5.3) Power Systems**

**(6.1) Enhanced Services Platforms**

**(6.4) Private Branch Exchange (PBX)**

**(6.5) Small Communications Systems**

**(7.1) Installation Service**

**(7.2) Engineering Service**

**(7.4) Repair Service**

**(7.5) Customer Support Service**

**(7.6.1) Procurement Services**

**(7.7) Logistical Services**

**(8.1) Components**

**(9.3) Transport Networks**

# 37 Product Categories Reported with Customized Metrics

- Application Software
- Call Center Transformation
- Cluster Vendor Monthly
- Common Systems (Distributors)
- Copier Services
- Customer Premise Equipment (CPE)
- Dark Fiber (Telecom Local Access)
- Design & Construction Materials (Furniture)
- Design & Construction Services (Design Firms)
- Design & Construction Services (Gen. Cont.)
- Design & Construction Services (Project Audits)
- Desktop & Server Leasing
- Dial Internet Access
- Digital Cross Connect (Distributors)
- Directory Outsourcing
- Fleet Operations
- Fleet Services
- Infrastructure Software
- Invoice Metrics
- Litespan FA & OTD
- Intelligent Field Device

- Mainframe Computer
- Medical Services
- Midrange Computer
- Motor Vehicle Parts Distributors
- OEM Desktop
- Operational Support Systems
- Outside Plant Materials
- Plug-in Repair Service
- Post Sale Contract
- Prescription Drug Service
- Property Management
- Storage
- Training Services & Materials
- Transportation Services
- VAR - Channels
- Wireless Services

# Web Enhances Reporting Capability

Supplier Provided Measurements

W

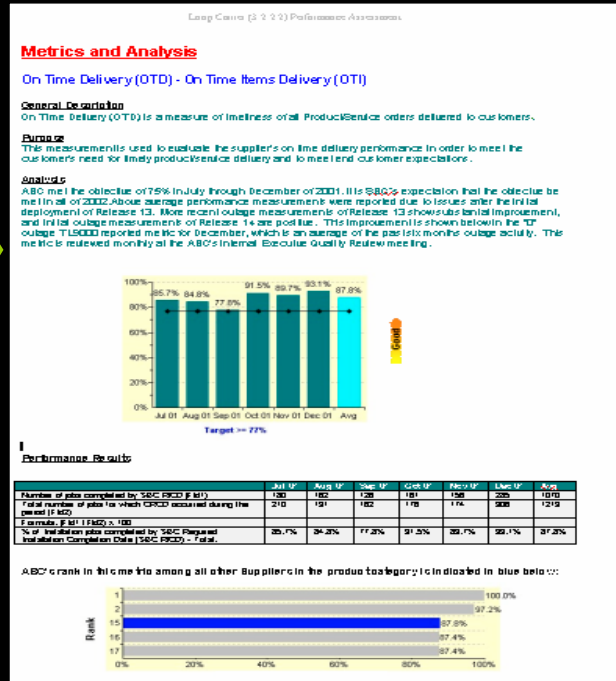
Client Satisfaction Measurements

E

TL 9000 Industry Benchmarks

B

## Supplier Performance Reports

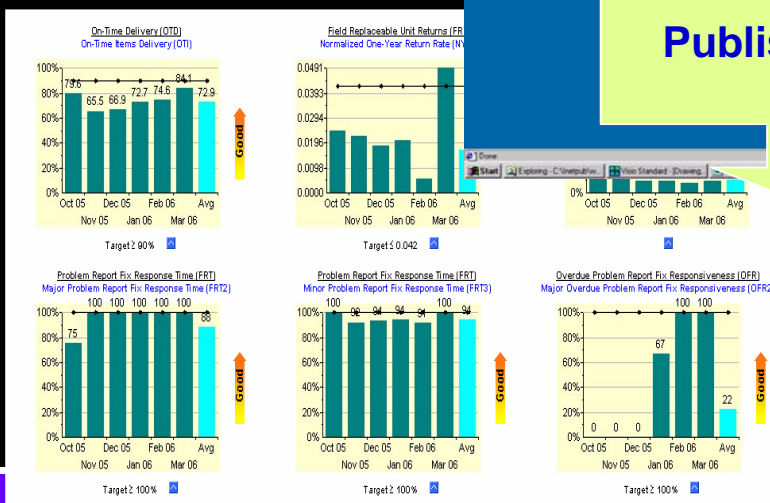


Feedback  
Corrective Action  
Performance Improvement

# AT&T's Supplier Performance Process

**Decide What to Measure**

**Suppliers Input Data**



**Publish Results**

Filtered by AT&T Required Installation Completion Date (AT&T RICD) March 2006

Measurement	Value	Numerator	Denominator
...	99.3%	151	152
...	99.3%	446	449
...	99.3%	569	573
...	99.3%	134	135
24 Communication Engineering and Installation	99.1%	110	111
25 Gonzales Communications Inc.	98.9%	93	94
26 Telamon Electronics Corp.	98.9%	86	89
27 U S COM, Inc.	98.8%	180	182
28 Advanced Network Services, LLC	98.4%	126	128
29 Meso America Distributors	97.8%	628	642
30 Telecom Technicians, Inc.	97.7%	172	176
31 Communication Power System, Inc.	95.7%	467	509
32 EF&J Services Company	95.1%	173	182
33 Point to Point Communications Inc.	91.7%	66	72
34 Audis & Garner	82.7%	110	133
35 Aztec Communications, Inc.	81.4%	57	70
36 CAS Technologies, Inc.			

N/A = Not Available  
N/C = Not Calculatable

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# AT&T's External Supplier Website: A Supply Chain Resource

Supplier Registration

Supplier Diversity Tools

Performance Reporting

Supplier Quality Program

The screenshot shows the AT&T Suppliers website homepage. At the top left is the AT&T logo. To the right is a navigation bar with 'Home', 'Suppliers', 'Announcements', 'Prospective Suppliers', 'Supplier Policy', and 'Supplier Diversity'. Below the navigation bar is a main content area with several sections: 'Announcements' featuring a 'SBC-AT&T Merger Information for Suppliers' article; 'Prospective Suppliers' with links for 'Doing Business with AT&T', 'Qualification Requirements', and 'Register as a prospective supplier'; 'Supplier Policy' with links for 'Expense Policy' and 'Supplier Gifts & Gratuities Policy'; 'Supplier Certification Administration' with an 'Announcement' and 'FAQs' link; and 'Supplier Diversity' with a link to 'AT&T Supplier Diversity Programs'. On the right side, there are two boxes: 'Registered Suppliers' with an 'Update Prospective Supplier Profile' link, and 'Member Suppliers' with a 'Secured Login' link. At the bottom left, there is a 'Links' section with a link to 'AT&T Corp.' and a note to 'Goto AT&T's main website.' The top right corner has a 'Contact Us' link and logos for SBC and AT&T.

[www.ATTsuppliers.com](http://www.ATTsuppliers.com)

# Suppliers Utilize Measurement Templates to Enter TL 9000 Performance Data

## Input Screen

Test Supplier 1 | Performance Metrics

Suppliers

Member Home  
AT&T Administration  
Select Supplier  
Performance Metrics  
Catalog Management  
Material Visibility & Repeating Bulletin Board  
Company Profile  
Contact List  
Logout

Franklin Chidi (FC6274)  
AT&T Administrator  
edit profile

TEST PROJECT (1) - MONTHLY METRICS APRIL 2006

On-Time Delivery (OTD)		Midwest	West	Southwest	East
On-Time Items Delivery (OTI)	Number of items accepted on the CRD during the month				
	Number of items for which the CRD occurred during the month				

Overdue Problem Report Fix Responsiveness (OFR)		Midwest	West	Southwest	East
Major Overdue Problem Report Fix Responsiveness (OFR2)	Number of overdue major problem reports closed				
	Total number of overdue major problem reports				
	Number of major penalty problem reports				
Minor Overdue Problem Report Fix Responsiveness (OFR3)	Number of overdue minor problem reports closed				
	Total number of				

## Performance Graphs

(3.2.2.2) Loop Carrier Summary Report

Franklin Chidi  
Thursday, February 09, 2006

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**Field Replaceable Unit Returns (FR) Normalized One-Year Return Rate (NYR)**

Month	Value
Jul 05	0.0168
Sep 05	0.0168
Nov 05	0.0225
Dec 05	0.0112
Avg	0.0168

Target  $\leq 0.042$

**Field Replaceable Unit Returns (FR) Early Return Index (ERI)**

Month	Value
Jul 05	1.28
Sep 05	0.93
Nov 05	1.12
Dec 05	0.85
Avg	0.67

Target  $\leq$

**Problem Report Fix Response Time (FRT) Minor Problem Report Fix Response Time (FRT3)**

Month	Value
Jul 05	100
Sep 05	100
Nov 05	100
Dec 05	98
Avg	98

Target  $\geq 100\%$

**Overdue Problem Report Fix Responsiveness (OFR) Major Overdue Problem Report Fix Responsiveness (OFR2)**

Month	Value
Jul 05	100
Sep 05	100
Nov 05	0
Dec 05	0
Avg	0

Target  $\geq 100\%$



# AT&T Uses Internal Site to View Supplier Performance Metrics and Build Reports

Performance reports

Compliance reports

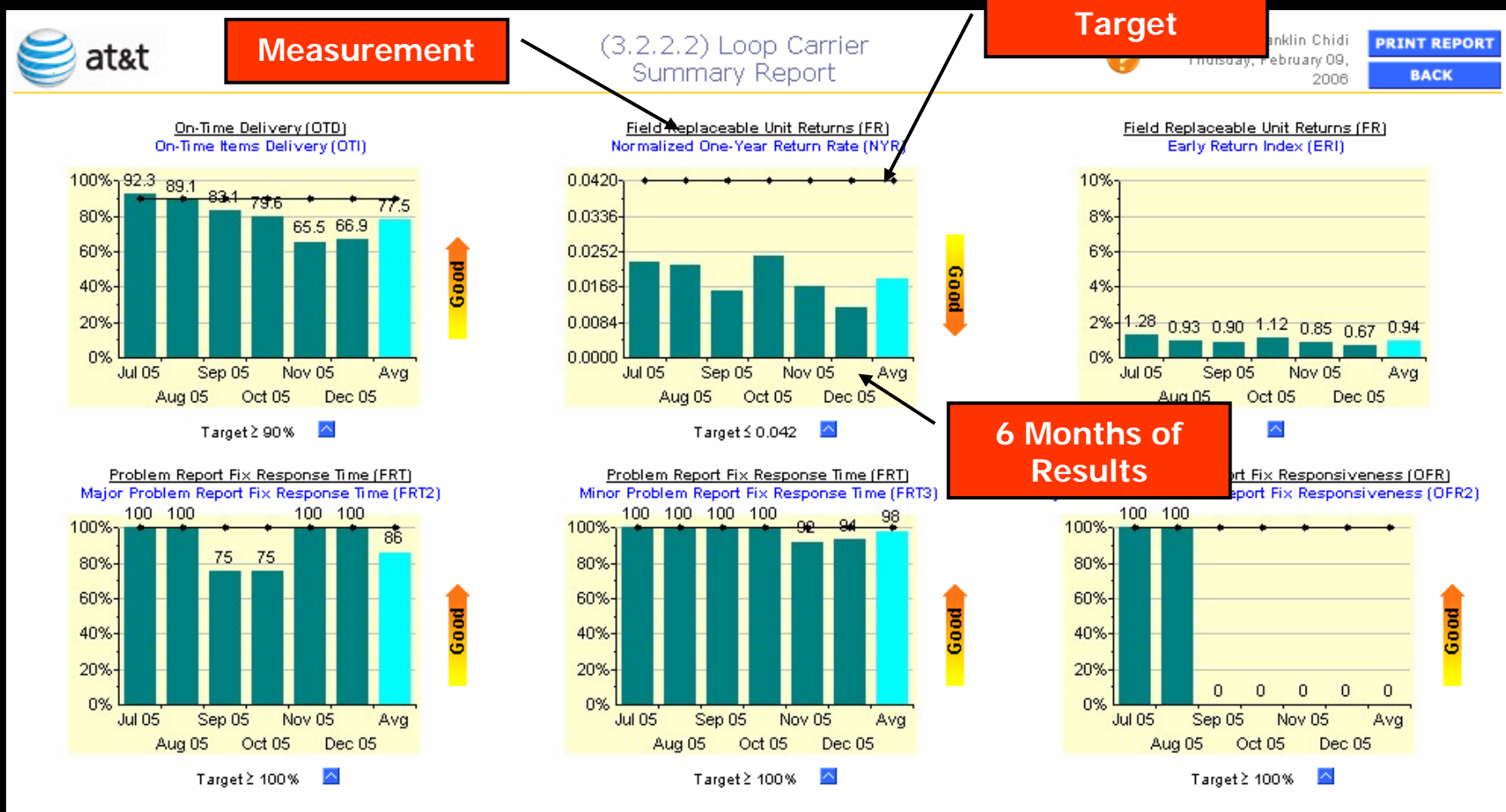
Action item registers

Client Satisfaction

Assessment reports

The screenshot shows the AT&T Supplier Performance Web site. The header includes the AT&T logo and the text "Supplier Performance". A navigation menu on the left lists: Performance Reports, Compliance Reports, Action Item Register, Assessment Reports, Client Sat Surveys, Bulletin Board, Custom Reports, Update My Lists, Admin Menu, and Logoff. The main content area features a "Welcome to the Supplier Performance Web" heading, a navigation instruction "Click on desired menu item to review reports", and a paragraph stating that Procurement manages the site as a central repository for collecting, monitoring, and reporting supply chain performance results, promoting TL9000 as the measurement standard. Below this, it mentions AT&T's sponsorship of the QuEST Forum. Four promotional images are displayed: QuEST Forum logo, TL9000 Measurements Handbook, Supplier Recognition, and Performance Reporting. At the bottom, it shows "You are visitor: 146 in May" and a "browser instructions" button. A footer contains the text "RESTRICTED PROPRIETARY INFORMATION" and "The information contained herein is for use by AT&T and is not for general distribution within the Company."

# Performance Report Shows At-a-Glance Results History



Click on charts for detailed region and supplier data



# Compliance Report Shows “Red” / “Green” Status Compared to Target



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**Supplier:** Test Supplier 1

**Project..:** Test Project (1)

This is a test project used for testing new metrics, features and conducting demonstrations with Clients and Suppliers.

**Performance Targets**

**6 Months At-A-Glance**

**Link to Online Action Register**

Measurement	Sub Measurement	Target	Region	Oct 05	Nov 05	Dec 05	Jan 06	Feb 06	Mar 06	Average	Compliant To Target	AIR
On-Time Delivery (OTD)	On-Time Items Delivery (OTI)	≥ 90%		100.0	88.9	100.0	90.9	90.0	100.0	96.8	Yes	
Overdue Problem Report Fix Responsiveness (OFR)	Major Overdue Problem Report Fix Responsiveness (OFR2)	≥ 90%		100	100	100	100	100	95	-	Yes	
Overdue Problem Report Fix Responsiveness (OFR)	Minor Overdue Problem Report Fix Responsiveness (OFR3)	≥ 90%		100	100	100	100	100	100	100	Yes	
Number of Problem Reports (NPR)	Critical Problem Reports per Normalization Unit (NPR1)	N/A	All AT&T	0.02	0.00	0	0.02	0.02	0	0.01	N/A	
Number of Problem Reports (NPR)	Major Problem Reports per Normalization Unit (NPR2)	N/A	All AT&T	0.05	0.01	0.02	0.02	0.01	0.02	0.02	N/A	
Number of Problem Reports (NPR)	Minor Problem Reports per Normalization Unit (NPR3)	N/A	All AT&T	0.01	0.01	0.01	0	0.03	0.02	0.01	N/A	
Field Replaceable Unit Returns (FR)	Early Return Index (ERI)	N/A	All AT&T	0.0	0	0.1	0.2	0.2	0	-	N/A	

**Project..:** Test Project (2)

This is a test project used for testing new metrics, features and conducting demonstrations with Clients and Suppliers.

**Red/Green Compliance Indicators**

Measurement	Sub Measurement	Target	Region	Oct 05	Nov 05	Dec 05	Jan 06	Feb 06	Mar 06	Average	Compliant To Target	AIR
Problem Report Fix Response (FRT)	Service Problem Reports Fix Response Time (FRT4)	≥ 93%	All AT&T	74	54	78	82	92	93	78	No	

- Not compliant to target
- Compliant to target
- No target to compare

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# Online Corrective Action Register Provides Two-Way Updates on Action Items

Supplier "View" Permission

Attachments    Contacts    **Product Category**

Item No: 773    Project: Test Project (1)

Opened By: Franklin Chidi    Metric: On-Time Delivery - On-Time

Opened On: 3/21/2006    Supplier: Test Supplier 1

Owner: Franklin Chidi    Days Open: 56    Status: Open

Supplier View: Yes    Due: 5/31/2006

Priority: Medium    Closed:

Action Item: Product Delivery has fallen below target of 90% on time.

Requirement For Closure: Bring this measurement above 90% for at least 3 months.

Status Indicators

No.	Task	Assignee	Opened	Due	Stat	Del
773.1	<a href="#">Task force being formed to manage this process</a>	Franklin Chidi (AT&T)	4/17/2006	5/2/2006		

Action Log

Progress/Jeopardy Indicators

# 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.



**Telecom Supplier**

Performance Assessment

1/1/2005 - 6/30/2005

Published: 2/9/2006

Prepared By: Franklin Chidi (925) 823-0312

# Assessment Report Feature Builds Supplier Report Cards Automatically

**Executive Summary**

**Performance Results**

**ABC Company Performance Assessment Survey Results**

**General Description**

**Action Plan**

**Periodic Performance**

Month	OTD (%)
Jul 01	85.7%
Aug 01	84.8%
Sep 01	77.8%
Oct 01	91.5%
Nov 01	89.7%
Dec 01	93.1%
Avg	87.8%

Target = 77%

Loop Cards (3 2 2) Performance Assessment

## 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 shows substantial improvement, and initial outage measurements of Release 14 are positive. This improvement is shown below in the OTD outage TL5000 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 POCO (F M)	130	182	126	181	150	225	1070
Total number of jobs for which CRCD occurred during the period (F M)	210	191	182	178	174	308	1243
Formula: (F M) / (F M) x 100	35.4%	34.2%	37.2%	31.5%	38.7%	39.1%	37.2%
% of installation jobs completed by SBC POCO - Total	35.4%	34.2%	37.2%	31.5%	38.7%	39.1%	37.2%

ABC's rank in the metric among all other Suppliers in the product category is indicated in blue below:

**Supplier Ranking**

Rank	Supplier	Performance (%)
1	ABC	87.8%
2		97.2%
3		87.8%
4		87.4%
5		87.4%

# Assessments Include Customer Satisfaction Feedback about Supplier Performance

## Survey Results Report

Type: Products/Supplies Survey: [Redacted]  
 Start Date: [Redacted] End Date: [Redacted]  
 Avg Score: 7.81

Page 1

### Introduction

Thank you for participating in SBC's Supplier Satisfaction survey. The survey is sponsored by SBC's Procurement organization and asks for your feedback on one of our external suppliers. Your response and comments are important to SBC and to the supplier being reviewed. Your identity will be kept anonymous and will not be made available to the supplier without your permission, so you may be candid in your answers.

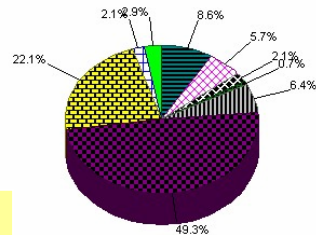
All responses to this survey will be summarized and shared with the supplier, providing feedback on their performance and identifying strengths and areas that may require improvement.

If you have any questions about this process or you would like to speak to a member of the Supplier Quality Management Team directly about an issue you are having with a supplier, please feel free to contact:

Thank you very much for taking the time to complete this survey.

## Survey Demographics Report

No. Of Respondents by SBC Organization



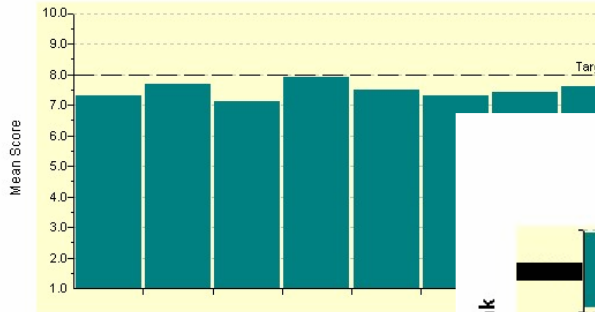
Organization	No.	%
Procurement	4	2.9%
New Technology Introduction (NTI)	3	2.1%
Network Planning and Engineering	22	22.1%
Marketing/Sales	0	0%
Corporate Finance	0	0%
Engineering & Construction	49	49.3%
ESAC/NOCI	0	0%
Information	0	0%
Network Tec	0	0%
Network Services	0	0%
Other	0	0%

## Survey Category Summary Report Report

### Category Summary Report

Friday,

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	Quality	Availability & Delivery	Future Orientation & Innovation	Customer Service	Supplier Relationship	Product
May 2003	7.3	7.7	7.1	7.9	7.5	7.7
Target	8	8	8	8	8	8

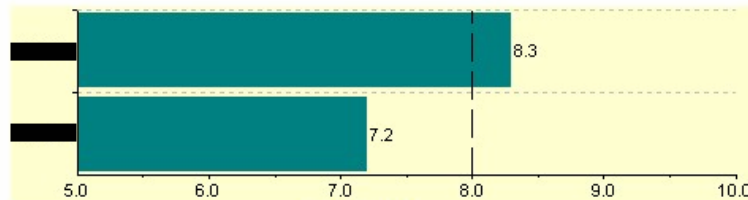
PROPRIETARY INFORMATION

The information contained herein is for use within SBC Communication

## Survey Ranking Report Report

### Supplier Ranking

Rank



Target = 8.0

**Good** →

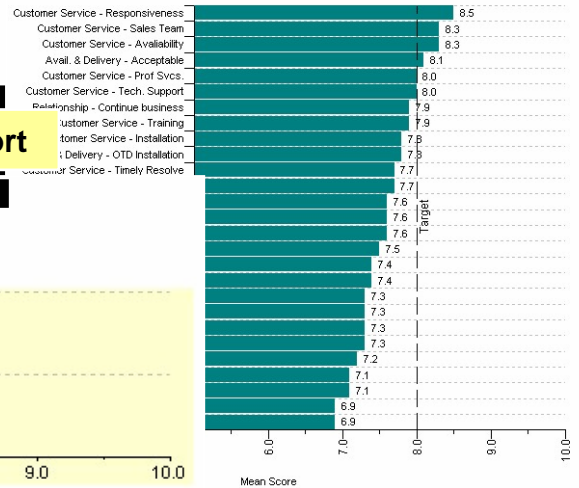
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## Survey Question Summary Report Report

### Question Summary Report

Dani  
Friday, December 1, 2006

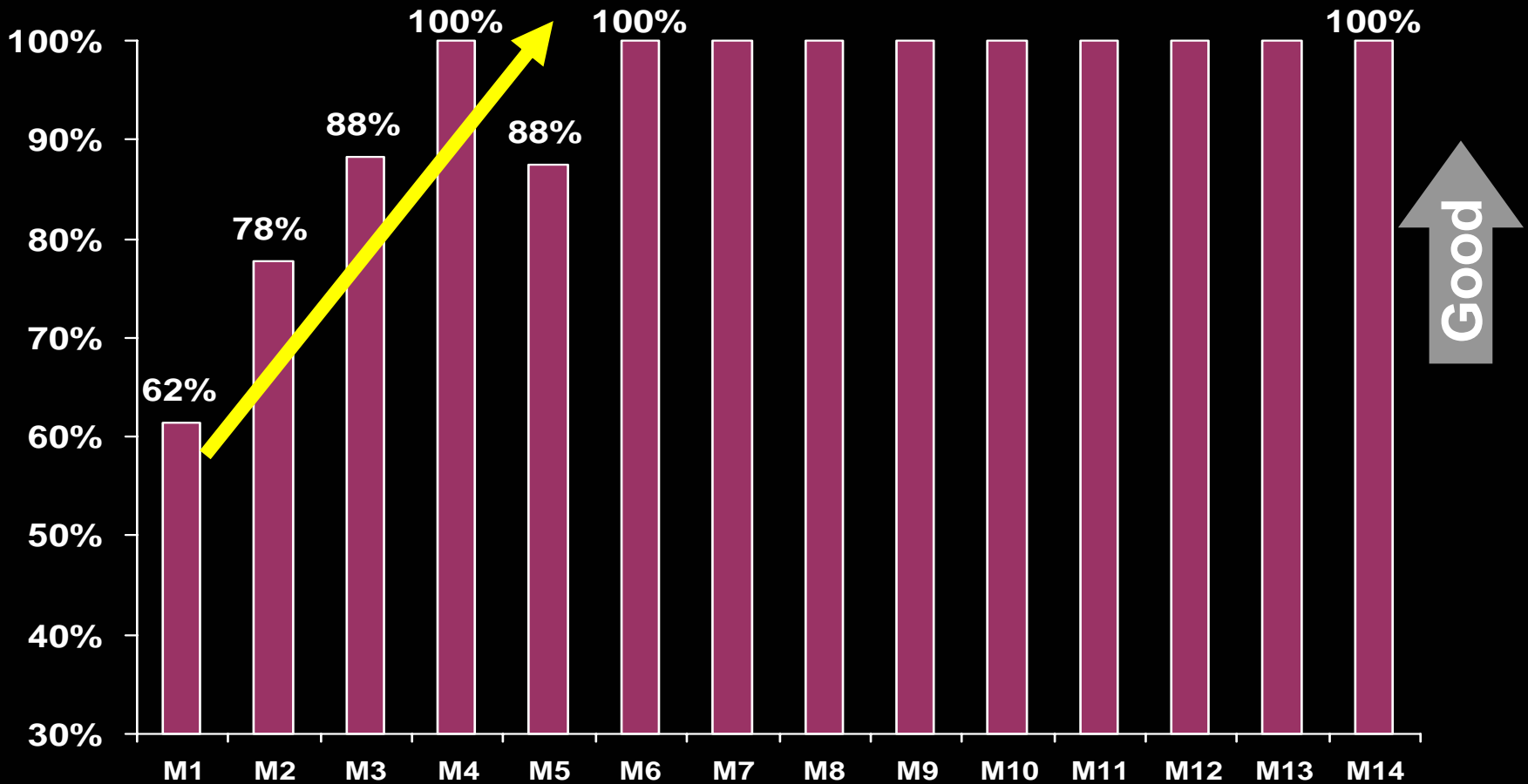


Mean Score

Does TL 9000 benefit the supply chain?

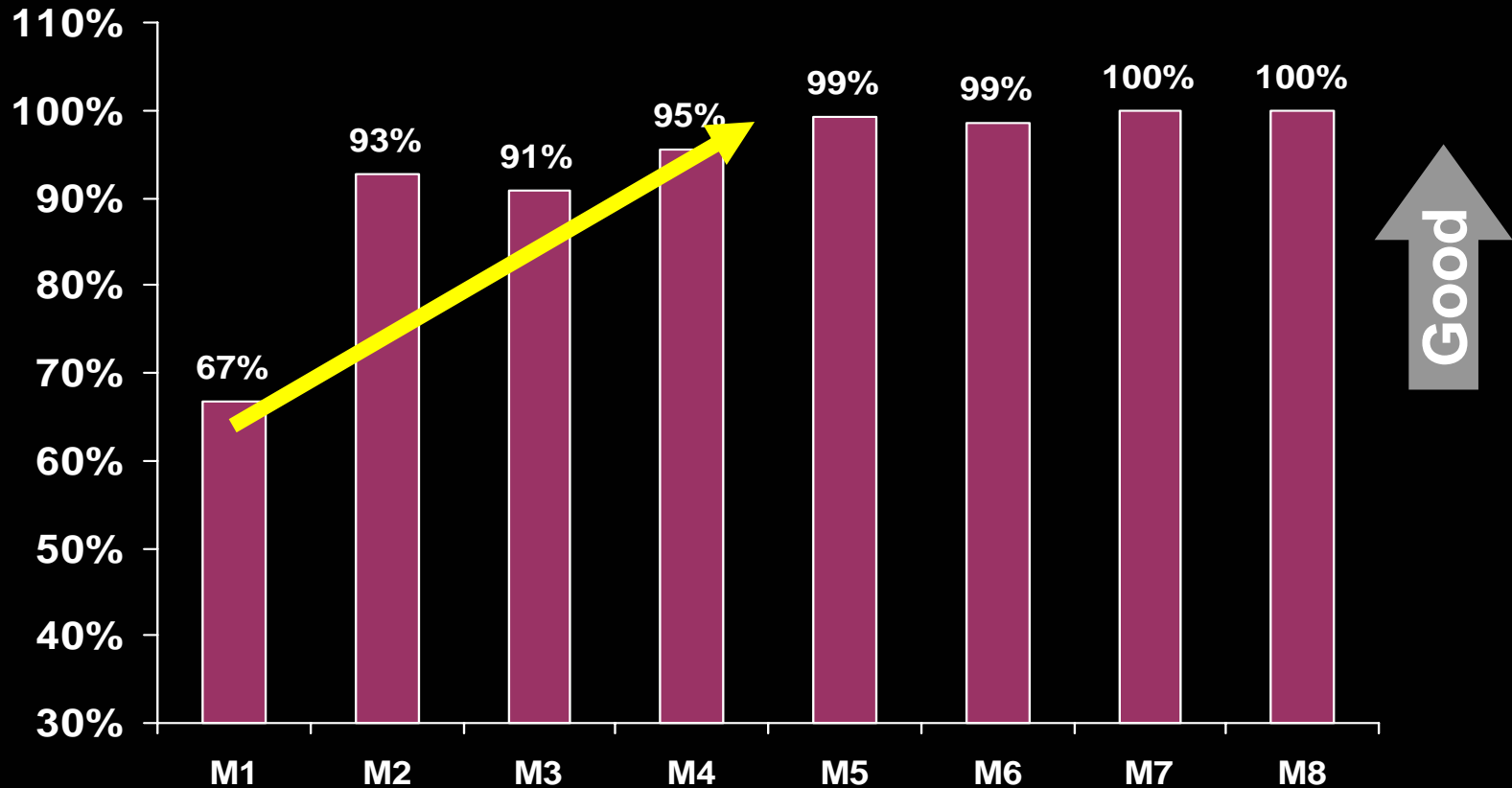
**The results complete the story....**

### 3.2.2.2 Loop Carrier: Supplier Improved Response Time to Fix Problems (FRT) by 38% Percentage Points in 6 Months...and Sustained Performance



\*Report reflects pre-merger SBC data

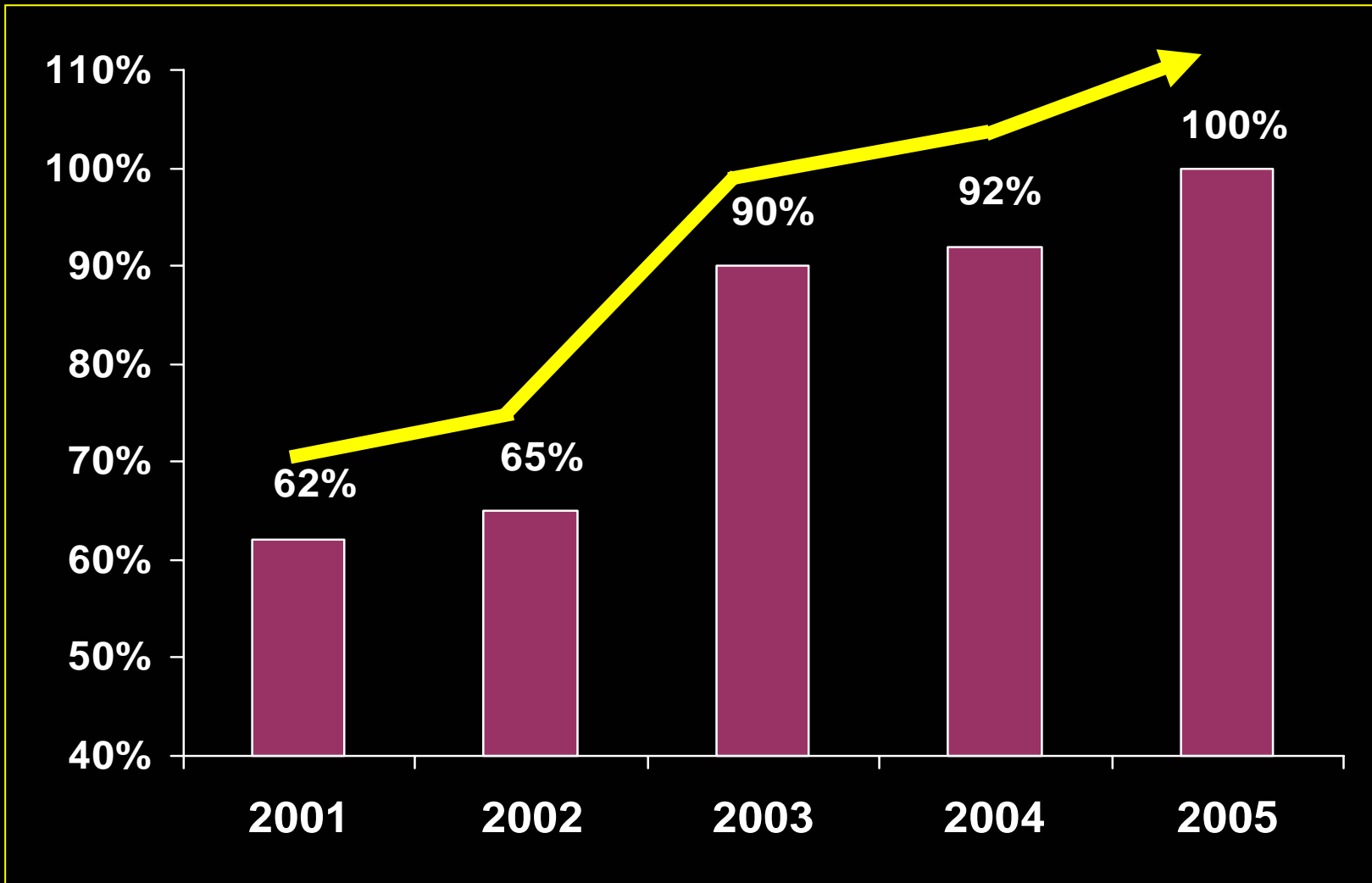
## 4.1.3 Test Support Software: On Time Delivery (OTI) Improved 32+ Percentage Points in 5 Months



\*Report reflects pre-merger SBC data

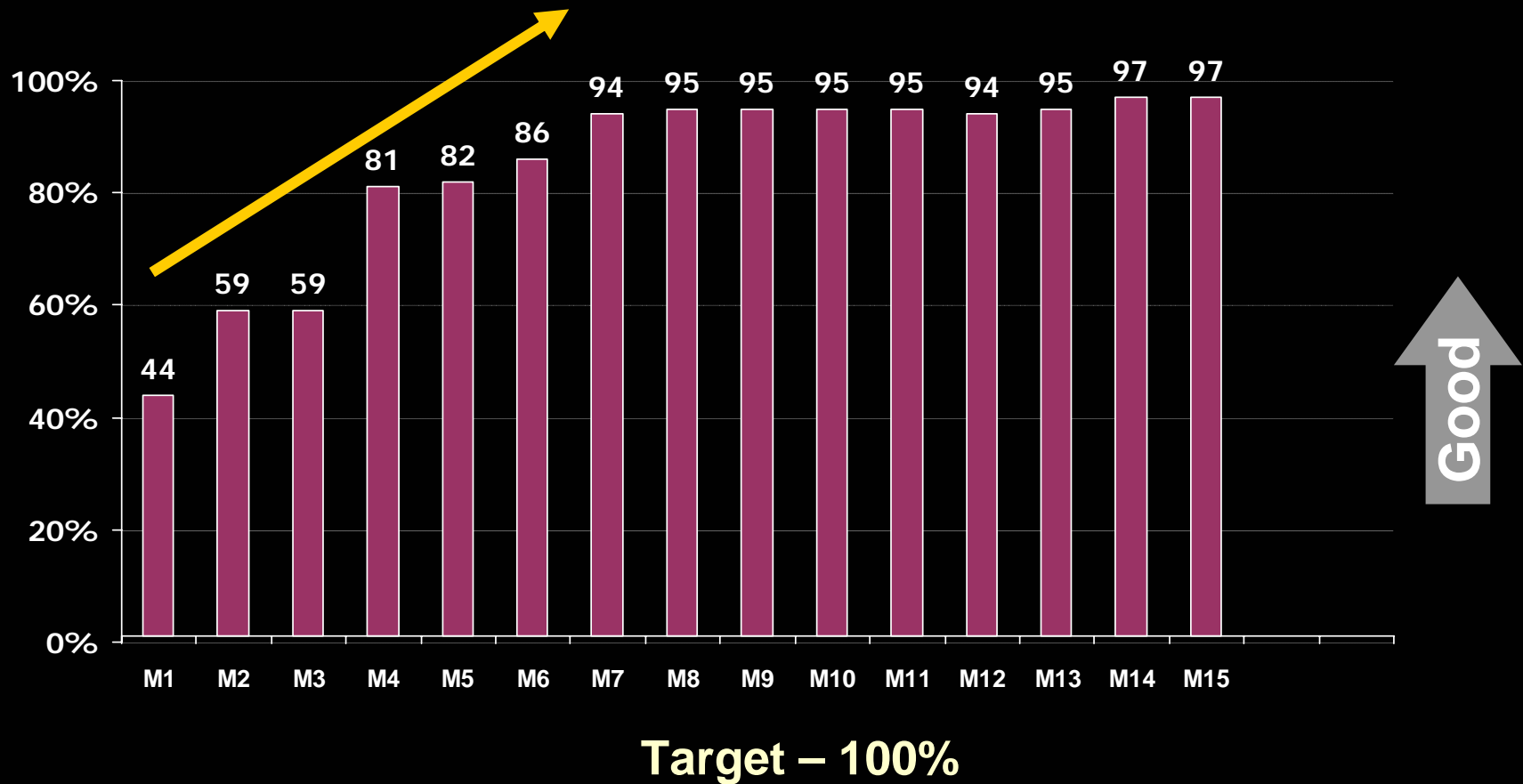


## 2.2 Signaling Transfer Point – Year over year gains in On Time Delivery (OTI) for this critical supplier



\*Report reflects pre-merger SBC data

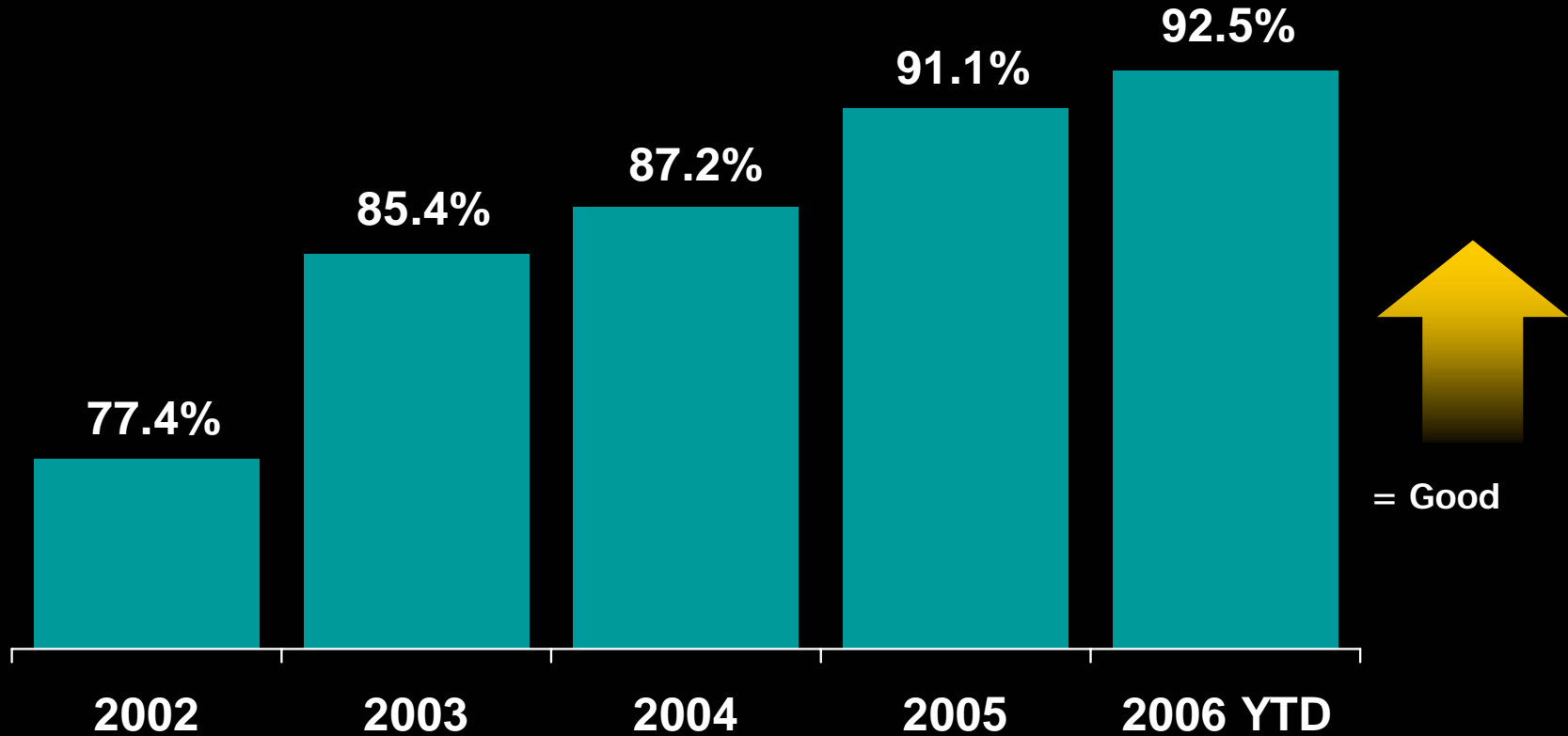
# On Time Delivery for Fifty+ Installation Vendors Improved Over 50 Percentage Points in 7 months



\*Report reflects pre-merger SBC data

# Does TL 9000 and the Quality Process Really Work?

Composite Supplier Performance Results Shows Year-Over-Year Improvements in “Metrics Performing at Target”



# Critical Success Factors

- Leadership, Leadership, Leadership
- TL 9000 - Industry-accepted performance standards & measurements
- Standard reports agreed to by supplier, client & contracting organization
- Quality Managers within sourcing organization - up front engagement with client & supplier
- Easy to use web tools - configurable, fast, customizable
- One AT&T Supplier Performance process and Toolkit

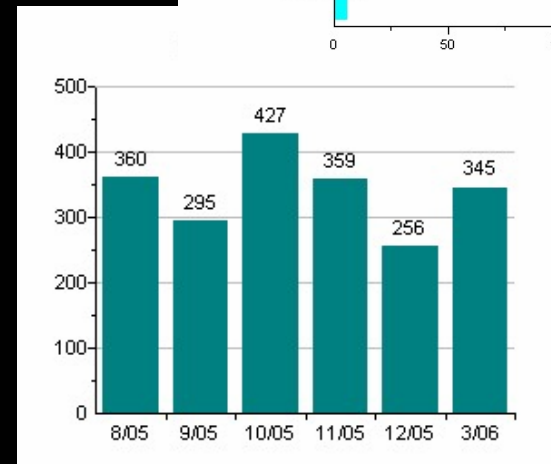
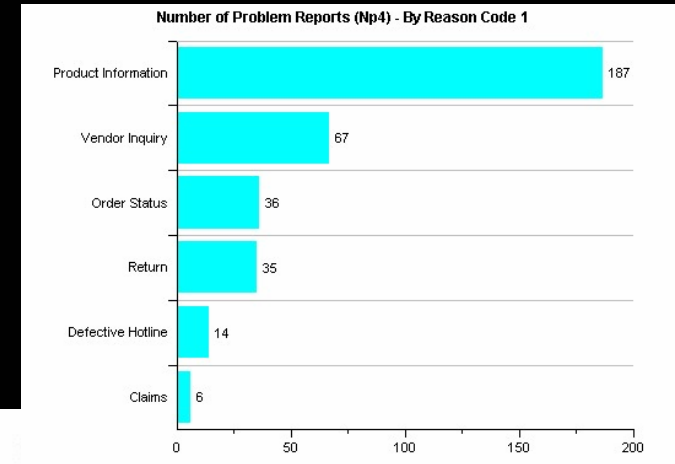
# TL 9000 Registered in 2005!

We are proud  
of our  
**Procurement  
Team!**



# Procurement Registered Functions

- Warehouse Operations & Logistics
- Inventory Planning
- Strategic Sourcing
- Purchasing
- Procurement Systems
- Fleet Operations
- Supplier Quality
- Supplier Diversity



# Value of TL 9000 & QuEST Forum

✓ Single Set of standardized Requirements & Measurements

✓ Sets the Industry Quality Standard worldwide

✓ Access to Industry Benchmark data



# The Value of TL 9000 & QuEST Forum

✓ Enhanced supplier partnerships & joint quality programs

✓ Sharing of Best Practices across the industry



✓ Supply chain excellence = great service = **customer satisfaction**



■ Thank you!

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