TL 9000 and TS16949 Comparison
Purpose

• This summary is intended to give those familiar with TS16949 requirements a general sense of the additional requirements contained in TL 9000
Overview

• TL 9000 and TS16949 are based on ISO9000-2000
  – TL 9000 adds telecommunications specific requirements
  – TS16949 adds automotive specific requirements
• TL 9000 adders focus on:
  – Continual improvement
  – Customer-organization relationships,
  – Effective performance-based measurements.
• Requirements have been identified for hardware, software, and service
Overview

• TL 9000 includes specific measurements that must be regularly reported to the QuEST Forum for benchmarking purposes.
• TL 9000 targets all suppliers of telecommunications products: hardware, software, and services.
• Unlike TS16949, there is no requirement to perform value added manufacturing to obtain certification.
TL 9000 Standard

• This section includes TL 9000 requirements that are not present in TS16949
• Requirements that are similar to TS16949 requirements are not listed here
• Refer to the actual standards for full details of all requirements
TL 9000 Standard

• 4.2.3 Control of documents
  – Documented procedure for the control of customer supplied documents and data

• 5.2 Customer focus
  – Top management involvement in the customer communication process
  – Establish customer communication methods to:
    • Share expectations
    • Solicit input
    • Improve product quality

• 5.4.2 Quality Management System planning
  – Long and short term quality planning
  – Customer and supplier input to quality planning
5.5.3 Internal communications
   To include:
   – quality performance
   – level of customer satisfaction achieved

6.6.2 Competence, awareness, and training
   Requirements for training that include:
   – Internal course development process
   – Quality improvement concepts
   – Defined training requirements
   – ESD training
   – Advanced quality training
   – Personnel qualification
   – Hazard training (where applicable)
7.1 Planning Product Realization

Provisions for:
- Life cycle modeling
- New product introduction
- Documented procedure for disaster recovery
- Documented procedure for end of life planning
- Configuration management
- Service delivery plan (where applicable)
7.2.2 Review of requirements related to product
   - Actions from product requirements reviews tracked to closure
   - Consideration for product acceptance and handling of problems detected after product acceptance

7.2.3 Customer communication
   Provisions for:
   - Customer notification of problems
   - Assignment of problem severity levels
   - Customer feedback on their problem reports
   - Reporting design and development measurements, when requested by the customer
   Documented procedures for:
   - Problem escalation
   - Product recall process
7.3 Design & Development—
TL 9000 sets forth a detailed project planning process based on the life cycle model, including:
- Numerous project plan specific requirements
- Requirements traceability
- Documented test plans and results
- Documented migration plan (where applicable)
- Documented software integration plan
- Estimation project factors, computer resources
- Regression test planning
- Customer and supplier input to product requirements
- Numerous design and development requirements
- Software component requirements
- Documented allocation of the product requirements to the product architecture
- Numerous design and development output requirements
- Methods to control the release and delivery of software products
- Numerous design change requirements
- Documented procedure for customer notification of design changes
- Interface between problem resolution and configuration management
- Documented procedure for material or component changes
TL 9000 Standard

• 7.4.1 Purchasing
  – Documented procedure that details product requirements and supplier performance feedback
• 7.5.1 Control of Product and Service
  Requires the customer is provided:
  – Service resources
  – Emergency service
  – Installation planning
  – A patching process for software products
  – Data on tool changes required for performing service
Documented procedures for:
  – Patching
  – Tool changes
  – Replication processes
  – Control of software used in service delivery
TL 9000 Standard

• 7.5.3 Identification and traceability
  – Process to identify each product and its level of required control
  – Field Replaceable Units (FRU) shall be traceable throughout the product life cycle
  – Methods to provide traceability of design changes to manufacturing dates, lots, or serial numbers

• 7.5.5 Preservation of product
  – Anti static protection must be supplied where applicable
  – Packaging and label verification must be performed on product ready to ship
  – Software virus protection must be maintained

• 8.2.1 Customer satisfaction
  – Process to collect data directly from customers concerning their satisfaction with the provided products
8.2.4 Monitoring and measurement of product
- Detailed test and inspection documentation, including retesting procedures to assure that production product meets the engineering specifications
- Content and frequency of testing and periodic retesting defined in a documented procedure.
- Software tests performed per documented process and test plan.

8.4 Analysis of data
- Trend analysis of discrepancies found in nonconforming product performed on a regular basis with results utilized as inputs to corrective actions
- Field performance data including no trouble found (NTF), and service performance data analyzed with results utilized for continual improvement