QuEST FORUM ACADEMY
To ensure that your attendance is captured, if you did not access this webinar via the internet directly using WebEx, please remain on the line after the webinar ends and we will capture your name.

IMMEDIATE GRATIFICATION IS NOT FAST ENOUGH

To make Full Screen

For questions, Chat “Host, Presenter & Panelists”

Phone icon identifies speaker
Globe icon identifies presenter

For POLLING, expand here or may auto-expand

To SHARE or for CALLBACK
Who is QuEST Forum?

Global community of Service Providers, Suppliers & Liaisons

Jointly create, develop and share quality management standards, best practices offerings and industry-leading resources

Develops & maintains TL 9000, an information and communication technologies (ICT) industry quality management system standard
## QuEST Forum Members

<table>
<thead>
<tr>
<th>Service Providers</th>
<th>Suppliers</th>
<th>Liaisons</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT&amp;T, Airtel, BT, CenturyLink, Cox Communications, China Mobile, CHINA TELECOM, HughesNet, KPN, NTT, TELUS, Verizon, Tata, Ericsson, Alcatel-Lucent, CISCO, Ciena, Emerson, Corning, Coriant, Dynamic, Hitachi, Inspire the Next, Juniper Networks, LG, Nokia Siemens Networks, Overture, BlackBerry, Sony, Tellabs, Wipro, ZTE, UL, DQS Inc.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Complete Member Directory: [http://questforum.org/member/member_directory.html](http://questforum.org/member/member_directory.html)
What Is TL9000?

- Created by the QuEST Forum
- Globally recognized quality standard, designed to improve communications products: hardware, software, and services
- Built on ISO 9001 and the eight quality principles
- Includes requirements for continual improvement, customer satisfaction, and reporting of industry standard measurements
QuEST Forum Academy

• Offers value to members and prospective members by providing educational opportunities consistent with the intent of TL 9000 and the best practices introduced at QuEST Forum’s conferences.

• Provides a top-quality educational system that supports quality and process improvement focusing upon the needs of the ICT industry.
TL 9000 Validation Audit – 10 Lessons Learned

How to make the results work for your company.

Presented by QuEST Forum

Supervisory Master Trainers & QuEST Forum Fellows

Bob Clancy
BIZPHYX, Inc.

Sheronda Jeffries
Cisco

Ken Koffman
JDSU

Karen Rawson
The DESARA Group

Dave Sanicola
The DESARA Group

Jennifer Simcox
AFL Network Services

Irv Briks
BIZPHYX, Inc.

Tom Yohe
WesTower
You may need to refer to the TL 9000 Handbooks for this webinar!
How Valid are these Certifications?
Validation Audit Project

Purpose was to gather data to assess the effectiveness of the TL 9000 certification process.

Quality management system audits were conducted to confirm there were no **Major** nonconformities.
The Validation Auditors Reviewed

1. Last CB assessment for organizational changes that may have impacted the QMS.
2. Effectiveness of the Corrective Action System and include a sample of corrective actions that are overdue or still open after nine months.
3. Status of any nonconformities from previous CB assessments.
4. Effectiveness of Internal Quality Audit Program/System.
5. A sample of customer TL 9000 audit findings (2nd party audit) to ensure actions were taken and effectively implemented.
6. Effectiveness of the organization’s use of customer satisfaction results.
7. Effectiveness of Management Review and performance against established quality objectives.
8. Current practices to ensure they are accurately reflected in the documented procedures and align with the current TL 9000 release.
9. The TL 9000 measurements system as appropriate to the site.
10 Lessons to Learn

1. Understanding the COP is important for TL 9000 Certification
2. The COP provides information on how to identify Minor, Major and OFIs
3. TL 9000 has specific expectations on how to resolve TL 9000 nonconformities
4. Auditable requirements are contained within the TL 9000 Requirements Handbook and the TL 9000 Measurements Handbook
5. TL 9000 measurements must be submitted on time
6. An incorrect product category selection can result in invalid data for multiple product categories; inaccurate internal benchmarks and wasted effort to recalculate data
7. TL 9000 white papers and guidance documents are helpful
8. Compliance with the counting rules & exclusions is necessary
9. Correction and elimination of causes of nonconformities is necessary to prevent repeat findings
10. Notes within TL 9000 are not auditable yet are helpful for effective implementation
Specialized training was provided to the Validation Project Auditors
Possible Validation Audit Outcomes

- Minor nonconformities were not reported
- If a Major nonconformity was identified
  - TL 9000 Certification may be invalid
Reporting & Corrective Action

A major nonconformity includes:

- The omission of all aspects of a specific requirement of the Handbooks.
- Systemic failure to implement and maintain effective internal audit and management review processes.
- Failure to achieve the fundamental aim of a system element.
- Failure to follow applicable legal/statutory product or service requirements.
- Multiple minor nonconformities within the same element, process or part of the system.
- Where judgment and experience can reasonably demonstrate the likelihood of nonconforming product being shipped or nonconforming service provided.
- Failure to correct minor nonconformities previously raised.
- Consistent submission of data inconsistent with the counting/exclusion rules or conscious lack of resubmitting data known to be inaccurate.
Reporting & Corrective Action

A minor nonconformity includes:

• An observed lapse in following a process, procedure or management system where judgment and experience demonstrate there is minimal risk to the product being supplied.

• Any failure of the audited system to satisfy the effective implementation of a requirement of the TL 9000 Requirements or Measurements Handbook, that is not considered a major nonconformity.
Reporting & Corrective Action

All nonconformities shall be classified as Major or Minor. And all nonconformities require correction and corrective action.

Per the Definitions shown in the Code of Practice for TL 9000 CBs
- **Correction** =
  action to eliminate a detected nonconformity
  (ISO 9000:2005, item 3.6.6)

- **Corrective Action** =
  action to *eliminate the cause* of a detected nonconformity or other undesirable situation
  (ISO 9000:2005, item 3.6.5)
Reporting & Corrective Action

Resolution of nonconformities includes: correction, root cause analysis, and an implementation due date within 30 days following the Organization’s receipt of the audit report. Resolution of a major nonconformity requires acceptable evidence of implementation of the CAP within the CB’s specified timeframe, not to exceed 90 days from the Organization’s receipt of the audit report. Resolution of a minor nonconformity requires acceptable evidence of implementation of the CAP no later than the next scheduled audit. Exceptions to these resolution timeframes shall be approved by the CB, fully justified by the organization and documented.
A TL 9000 Certification shall not be issued until:
• All major nonconformities are fully resolved
• Minor nonconformities are fully resolved or corrective action plans are defined consistent with the 90 day timeframe
You Make the Call: Major, Minor or NO Nonconformity?

TL 9000 Measurements have been submitted late (>3 weeks late) in 8 of the last 12 data submissions.
Answer: Major, Minor or NO Nonconformity?

TL 9000 Measurements have been submitted late (>3 weeks late) in 8 of the last 12 data submissions.

**MAJOR**

What is the requirement?

a) 7.2.3c 2 of Requirements Handbook  
b) 5.4.1c1 of Requirements Handbook  
c) 3.5.2e of Measurements Handbook  
d) 4.2.8 of Measurements Handbook

Chronic Lateness is the key. There are a set of reminders and warnings to help organizations to report on time.
The Date of the Data Submission is KEY!

Late Data Submission Notification

• Automatic e-mails sent to organization seven days and one day prior to due date.
• Registration will be suspended if data is more than three months late.
• CB action is required to remove suspension.
• TL 9000 web site will show: Measurements Probation/Suspension Status for organizations

TL 9000 Late Data Submission Process
Late Data Submission Rules

Normal Submission Date period start

7 days before deadline Month end) → Automatic notification e-mail to

1 day before “late” → Automatic notification e-mail to

Late - Measurements Submission missed (Reporting period end + 7 weeks)

1st month or 2nd month’s data “Late” + 1 day within previous 6 months → RMS shows ‘Probation’ → Automatic e-mail to CB and Organization

Data submission received OK (1st or 2nd month in past 6 that were late) - Automatic ‘Certified’ status on RMS and automatic e-mails to Organization and CB

1 month “Late” by 3 months + 1 day or 3rd month’s data “late” in last 6 months → RMS shows ‘Suspension’ → Automatic e-mail to CB and Organization

RMS changed to show Suspended status
Once data submission(s) received OK ‘Certified’ status only through CB, e-mails inform CB

For any submission Difficulties - Use the Contact Us function on the website to resolve and/or prevent automatic “Status” change
You Make the Call: Major, Minor or NO Nonconformity?

The product category for TL 9000 Measurements has been *incorrectly assigned*. The product category for switches is in use; however, this organization clearly designs and manufactures core routers.
Major, Minor or NO Nonconformity?

The product category for TL 9000 Measurements has been *incorrectly assigned*. The product category for switches is in use; however, this organization clearly designs and manufactures core routers.

**Answer:** MAJOR

What is the impact of an organization selecting an incorrect Product Category?

a. invalid data for two product categories
b. inaccurate internal benchmarks
c. data recalculation effort is required
d. all of the above
Product Category Selection

So how do you know if you are in the right product category?

There is a white paper on Product Category Selection


Can also see 3.2 of MBH plus Table A-1
# Product Category Selection

## And Validation Guidelines


---

**Table A-1 Product Category Definitions**

<table>
<thead>
<tr>
<th>Category Code</th>
<th>Category Name</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Switching</td>
<td>Equipment used for the physical or virtual interconnection of communication channels in response to a signal system. The switching category is broadly defined to include packet or circuit switched architectures.</td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>Circuit Switch</td>
<td>Equipment used for the termination of subscriber lines and/or trunk lines and the dynamic interconnection of these ports or channels in a digital transmission facility. A circuit switch establishes a dedicated circuit as opposed to a virtual circuit, in response to a signal. Stored Program Control (SPC) is the most common type of switching equipment used at end offices and tandem offices. These systems use either analog or digital switching. The switching system used must have the capability to sense, receive and be actuated by signals, e.g., access line signals or inter-office in-band or common-channel signaling. This category includes all circuit switches regardless of transmission medium, i.e., wireline or wireless.</td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>Packet Switch</td>
<td>Equipment used for switching or routing data on virtual, as opposed to dedicated, circuits. The service is packet switched in that the customer's data are transported as a sequence of data blocks (packets) that do not exceed a specified size. This packetization permits data from many data conversations to share a given transmission facility economically through statistical multiplexing. Such data conversations are known as virtual circuits, which are full-duplex and connection-oriented.</td>
<td></td>
</tr>
</tbody>
</table>

---

**Note 1**: The information in this table may have changed. The latest release of this table and its effective date are available via the TL 9000 website (tl9000.org/links.html).

**Note 2**: Product categories listed in REF or italicized will be used for possible data aggregation only. Measurements must be submitted per the lower product category listing.

**Note 3**: Bolded text in the product category definition indicates the primary function of the product category. This is the function to use for outage measurements.
You Make the Call: Major, Minor or NO Nonconformity?

The organization has claimed an exemption from reporting OFR stating that it has never had an overdue problem report. A review of the problem reports for the last 12 months indicates there have been no overdue problem reports.
Major, Minor or NO Nonconformity?

The organization has claimed an exemption from reporting OFR stating that it has never had an overdue problem report. A review of the problem reports for the last 12 months indicates there have been no overdue problem reports.

ANSWER:

MAJOR
Poll Question:

Where is this requirement within the Measurement Handbook?
a) 4.2.8a of the MHB
b) Table A-2 NOTE 2
c) Both a) and b) above?

Participants: Please check your handbook for the reference.

Even if you are perfect you should report the data so it can contribute to the performance data reports.
Sample OFR Trend Chart

- **Best In Class**
- **Worst In Class**
- **Industry Average**

Values range from 0 to 100.
You Make the Call: Major, Minor or NO Nonconformity?

Upon reviewing the corrective action system you sample 10 corrective actions that have been closed from three to six months ago. The review provided the information shown on next screen.
<table>
<thead>
<tr>
<th>Sample #</th>
<th>Open Date</th>
<th>Closed Date</th>
<th>RCA</th>
<th>Effectiveness Check</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/12</td>
<td>3/3</td>
<td>YES</td>
<td>3/1</td>
<td>Customer</td>
</tr>
<tr>
<td>2</td>
<td>1/31</td>
<td>2/22</td>
<td>N/A</td>
<td>2/15</td>
<td>Internal Audit</td>
</tr>
<tr>
<td>3</td>
<td>2/15</td>
<td>2/15</td>
<td>N/A</td>
<td>2/15</td>
<td>Internal Audit</td>
</tr>
<tr>
<td>4</td>
<td>2/22</td>
<td>3/1</td>
<td>N/A</td>
<td>2/27</td>
<td>Internal Audit</td>
</tr>
<tr>
<td>5</td>
<td>3/24</td>
<td>7/1</td>
<td>YES</td>
<td>6/15</td>
<td>Customer</td>
</tr>
<tr>
<td>6</td>
<td>4/1</td>
<td>5/1</td>
<td>N/A</td>
<td>4/22</td>
<td>Internal Audit</td>
</tr>
<tr>
<td>7</td>
<td>4/15</td>
<td>5/22</td>
<td>YES</td>
<td>5/12</td>
<td>Process</td>
</tr>
<tr>
<td>8</td>
<td>4/29</td>
<td>5/12</td>
<td>YES</td>
<td>5/5</td>
<td>Process</td>
</tr>
<tr>
<td>9</td>
<td>5/1</td>
<td>7/2</td>
<td>N/A</td>
<td>6/30</td>
<td>Internal Audit</td>
</tr>
<tr>
<td>10</td>
<td>5/1</td>
<td>7/11</td>
<td>N/A</td>
<td>7/1</td>
<td>Internal Audit</td>
</tr>
</tbody>
</table>

Further observation showed that the problems in samples 2,3,4,6,9 and 10 were still occurring.
You Make the Call: Major, Minor or NO Nonconformity?

Answer: Major

Corrective actions were not effective yet nonconformities were closed.

What is the requirement?

a) 8.5.2b of Requirements Handbook
b) 8.4.1c.1 of Requirements Handbook
c) 8.5.2f of Requirements Handbook
d) 8.5.3b of Requirements Handbook
10 Lessons Learned

1. Understanding the COP is important for TL 9000 Certification
2. The COP provides information on how to identify Minor, Major and OFIs
3. TL 9000 has specific expectations on how to resolve TL 9000 nonconformities
4. Auditable requirements are contained within the TL 9000 Requirements Handbook and the TL 9000 Measurements Handbook
5. TL 9000 measurements must be submitted on time
6. An incorrect product category selection can result in invalid data for multiple product categories; inaccurate internal benchmarks and wasted effort to recalculate data
7. TL 9000 white papers and guidance documents are helpful
8. Compliance with the counting rules & exclusions is necessary
9. Correction and elimination of causes of nonconformities is necessary to prevent repeat findings
10. Notes within TL 9000 are not auditable yet are helpful for effective implementation
TL 9000 Validation Audit – 10 Lessons Learned

How to make the results work for your company

For more information, please visit:

• Code of Practice for TL 9000 Certification Bodies

• Additional Measurements Audit Training

• Product Category Selection And Validation Guidelines
Validation Audit Project Status

- Validation Audits commenced in the Americas in 2010 & concluded globally in 2011
- Data Analyzed
- Action thresholds reviewed
- Solution Brainstorming
- Change Ideas under development
# Action Thresholds

## QuEST Forum Validation Audit Confidence Interval

<table>
<thead>
<tr>
<th>Sites</th>
<th>Problem Site Count</th>
<th>Failures</th>
<th>High</th>
<th>Midpoint</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certs=800</td>
<td>12</td>
<td>0</td>
<td>22.1%</td>
<td>11.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Site=1700</td>
<td>12</td>
<td>1</td>
<td>32.7%</td>
<td>16.5%</td>
<td>0.4%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>40.8%</td>
<td>21.9%</td>
<td>2.9%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>47.6%</td>
<td>27.1%</td>
<td>6.6%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>53.4%</td>
<td>32.1%</td>
<td>10.8%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>58.4%</td>
<td>36.8%</td>
<td>15.1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>62.7%</td>
<td>41.1%</td>
<td>19.6%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>66.6%</td>
<td>45.3%</td>
<td>23.9%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>70.0%</td>
<td>49.1%</td>
<td>28.2%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>73.0%</td>
<td>52.7%</td>
<td>32.4%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>75.7%</td>
<td>56.0%</td>
<td>36.4%</td>
<td></td>
</tr>
</tbody>
</table>

- 3rd Party Process Function Well
- Individual Issue, 3rd Party Process OK
- Investigation Required
- 3rd Party Process Review Required

Sites Audited

Problem site count from VA Audits

Problem site extrapolation estimates
RESULT: 5/12 VALIDATION AUDITS HAD MAJORS IDENTIFIED!

TL 9000 Compliance
- Records support ISO 9001 only; no TL 9000 compliance

Measurements
- Wrong product categories were reported; going back to 2003
- Wrong product category table used
- Where 24 months of data resubmittals were required only 12 months were submitted
- March 2011 audit report approved MHB version 4.5 but the organization’s first data submission to 4.5 was July 2011
- No compliance to Code of Practice Measurement Audit Record Requirements

Corrective Action
- Minors found that should have been majors
- Unclosed minors not raised to majors
- No evidence of correction
- Root Causes were a repeat

Internal Audit
- Measurements not part of internal audit program.
SUCCESS TO DATE

• Code of Practice Change #1*: CBs shall have a documented process to ensure auditors correctly apply Major/Minor/OFI classifications

• Code of Practice Change #2*: CBs shall require additional pre-audit information about the application of TL 9000 requirements to assist them in planning effective audits

• New step for certification and scope expansion: QuEST Forum will review and approve category selections to ensure TL 9000 measurements are reported in the proper categories. (Pilot in works, full implementation to follow when complete)

• **TL 9000 Validation Audit – 10 Lessons Learned** webinar and follow-on learning opportunities planned through QuEST Forum Academy

• *These and potentially additional Code of Practice changes will take effect when the next revision is released, date TBD.
• Weekly meetings

• Join the team and be part of the solution!
SPECIAL THANKS TO LAURA COPLON
QuEST Forum AB/CB Sub-Team Co-Lead
THANK YOU FOR PARTICIPATING
QuEST Forum Academy

You will be directed to a survey and your feedback is appreciated.
Nigel Croft, ISO TC 176 SC2 Chair will present the ISO 9001:2015 DIS
Tuesday, July 1, 2014
10:00am CT (16:00 GMT – 5)
To suggest potential education topics and presenters for QuEST Forum Academy, please “Contact Us” at:
http://questforum.org/about/contact_us.html
Does your company operate in the ICT space? Are you a QuEST Forum member? If not, sign up today and reap the immediate benefits of membership.

http://questforum.org/member/overview.html

For additional information, please visit:

http://tl9000.org
http://questforum.org

Thank You!
Thank you.