SOTS Overview
Agenda

- What is SOTS?
- Why use SOTS?
- SOTS-specific Terminology
- The SOTS – TL connection
- Where do I start? A SOTS checklist
- SOTS field demystified
- Timeline considerations
- Reconciliation process
- Additional sources of information
What is SOTS?

**SOTS**: - *noun.*
“Standard Outage Template System”. A business process standard provided as a means to automate and/or centralize the exchange of outage data between the registered organization and their customers.
Why use SOTS?

- Outage details
- Population data
- Problem Report / Outage Details

Service Provider Customer

Supplier Organization
Why use SOTS?

- Promotes complete and accurate data representation
- Offers consistency when capturing details
- Efficient and economical
- Comprehensive enough to be useful to key users of the data
SOTS-specific Terminology

Data File
- Header Record
  - Data Record
    - *
    - Data Record
      - *
      - Data Record

Administrative File
- Administrative Report
  - Optional
SOTS-specific Terminology

Header Record - The first record in each SOTS file submission. It provides the recipient information with which to determine what type of data is to follow.
# SOTS Header Record

<table>
<thead>
<tr>
<th>Mandatory</th>
<th>Field</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>SOTS Revision</td>
<td>Number</td>
</tr>
<tr>
<td>Yes</td>
<td>Company Name</td>
<td>String (80 char max)</td>
</tr>
<tr>
<td>Yes</td>
<td>Date File Sent</td>
<td>YYYY-MM-DD</td>
</tr>
<tr>
<td>Yes</td>
<td>Sequence Number</td>
<td>Number</td>
</tr>
<tr>
<td>Yes</td>
<td>Response Email</td>
<td>String (80 char max)</td>
</tr>
<tr>
<td>Yes</td>
<td>Records In File</td>
<td>Number</td>
</tr>
<tr>
<td>No</td>
<td>Test Mode</td>
<td>‘true’ or ‘false’</td>
</tr>
</tbody>
</table>
SOTS-specific Terminology

Data Record - A record that contains the information collected for an individual outage event using the Standard Outage Template.
## SOTS Data Record

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Field Name</th>
<th>Field Type [length]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandatory</td>
<td>Outage ID Number</td>
<td>alphanumeric [15 char]</td>
</tr>
<tr>
<td>Mandatory</td>
<td>Record Status</td>
<td>alpha [10 char]</td>
</tr>
<tr>
<td>Mandatory</td>
<td>Company Name</td>
<td>alpha [50 char]</td>
</tr>
<tr>
<td>Mandatory</td>
<td>Partial Impact</td>
<td>NNN</td>
</tr>
<tr>
<td>Mandatory</td>
<td>Excess Time</td>
<td>Time [HHH:MM]</td>
</tr>
<tr>
<td>Dependent</td>
<td>Excess Time Details</td>
<td>Text [4096 char]</td>
</tr>
<tr>
<td>Mandatory</td>
<td>Inability to Access Time</td>
<td>Time [HHH:MM]</td>
</tr>
<tr>
<td></td>
<td>:</td>
<td>:</td>
</tr>
<tr>
<td></td>
<td>:</td>
<td>:</td>
</tr>
<tr>
<td>Mandatory</td>
<td>Amount of Service Affected</td>
<td>NNNNNNNNN</td>
</tr>
<tr>
<td>Mandatory</td>
<td>Type of Service Affected</td>
<td>alphanumeric [20 char]</td>
</tr>
<tr>
<td>Mandatory</td>
<td>Outage Classification</td>
<td>enumerated (See Outage Classifications worksheet)</td>
</tr>
<tr>
<td>Mandatory</td>
<td>Attributable To</td>
<td>enumerated (Customer, Product, External)</td>
</tr>
<tr>
<td>Optional</td>
<td>Description of Service Failure</td>
<td>Text [4096 char]</td>
</tr>
<tr>
<td>Optional</td>
<td>Root Cause Analysis</td>
<td>Text [4096 char]</td>
</tr>
<tr>
<td>Mandatory</td>
<td>Supplier Contacted?</td>
<td>enumerated (Y/N)</td>
</tr>
<tr>
<td>Dependent</td>
<td>Supplier Ticket Number</td>
<td>alphanumeric [20 char]</td>
</tr>
</tbody>
</table>
SOTS-specific Terminology

Administrative Report - A report that contains key fields from all data records for outage events that were recorded and transmitted for a single product category for a particular Organization for the reporting period.
# SOTS Administrative Report

<table>
<thead>
<tr>
<th>Company</th>
<th>Company Name</th>
<th>Product Category</th>
<th>Product Category</th>
<th>Report Period (RP)</th>
<th>Period of Report</th>
<th>Report Contact</th>
<th>Report Contact Name</th>
<th>ReportContactPhone</th>
<th>Phone Number</th>
<th>ReportContactEmail</th>
<th>email address</th>
<th>SOTS Data Record Count</th>
<th>nnnn</th>
<th>Duration Sums:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>All Total and Partial Outages: HHHHHHH:MM:SS</td>
</tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Attributable to Product: HHHHHHH:MM:SS</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Attributable to Customer: HHHHHHH:MM:SS</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td>Attributable to Other: HHHHHHH:MM:SS</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Excess Time: HHHHHHH:MM:SS</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td>Unable to Access Time: HHHHHHH:MM:SS</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Install Base at end of RP (From Table A-2):</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Network Elements: nnn,nnn</td>
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<td></td>
<td></td>
<td>Terminations: nnn,nnn</td>
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<td></td>
<td>Record Summary</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Record Summary</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outage ID</th>
<th>Outage Classification</th>
<th>Atributable To</th>
<th>Total/Partial</th>
<th>Sched</th>
<th>?</th>
<th>…</th>
<th>…</th>
<th>…</th>
</tr>
</thead>
<tbody>
<tr>
<td>outage ID #</td>
<td>SOTS Classification *</td>
<td>Charge to *</td>
<td>T or P</td>
<td>Y or N</td>
<td>…</td>
<td>…</td>
<td>…</td>
<td>…</td>
</tr>
</tbody>
</table>
SOTS and Related TL Processes

Customer (Service Provider)
- Event occurs in Customer Network
  - Organization Assistance Requested?
    - Organization Called
      - Event Recorded in Organization Database

Organization (Supplier)
- Event Recorded in Organization Database

TL 9000 Measurements Repository
- TL 9000 Reports Prepared/Submitted for TL 9000 Recognition

Measurement Repository (UTD)
Event occurs in Customer Network

Customer (Service Provider)

Organization Assistance Requested?

Organization Called

Create/Transmit SOTS Records

Reconcile Discrepancies

Event Recorded in Customer Database

Organization (Supplier)

Event Recorded in Organization Database

Reconcile Discrepancies

TL 9000 Reports Prepared/Submitted for TL 9000 Recognition

TL 9000 Based Reports Prepared/Submitted for Customer

Measurement Repository (UTD)

Future Purchasing Decisions

Operations (Network Reliability)

Service Architecture

Scorecards

TL 9000 Measurements Repository
The SOTS – TL connection

- SOTS template comment section
- MHB section 6.1.4 (SO) and 6.2.4 (SONE)
- Appendix A Table A-1 Product Category
- Appendix A Table A-2 (Normalization Units)
- Appendix A Table A-3 (Network Element Impact Outage Definitions)
- MHB glossary
- Quest Forum website examples
Where do I start?

Partnership
Where do I start?

To automate or not to automate, that is the question…
SOTS checklist

- Identify the Technical point of contact for both the Customer and the Organization

- Identify the Operational contacts for resolving differences i.e. 1st, 2nd, 3rd level

- Schedule a meeting for the Operational and Technical contacts to brief them on the SOTS process

- Agree on the Communication format, e.g. e-mail, FTP, UUCP
SOTS checklist

- Agree on the frequency and schedule of processing for Data Records
  - Batch vs Individual Record transmittal
  - Retransmission of data

- Special Email addresses to be used
  - sots-data@company.com
  - sots-admin@company.com

- Review the SOTS Template
  - How fields will be populated.
  - Formatting conventions used for each field
<table>
<thead>
<tr>
<th>Data Type</th>
<th>Field Name</th>
<th>Field Type [length]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandatory</td>
<td>Outage ID Number</td>
<td>alphanumeric [15 char]</td>
</tr>
<tr>
<td>Mandatory</td>
<td>Record Status</td>
<td>alpha [10 char]</td>
</tr>
<tr>
<td>Mandatory</td>
<td>Company Name</td>
<td>alpha [50 char]</td>
</tr>
<tr>
<td>Mandatory</td>
<td>Partial Impact</td>
<td>NNN</td>
</tr>
<tr>
<td>Mandatory</td>
<td>Excess Time</td>
<td>Time [HHH:MM]</td>
</tr>
<tr>
<td>Dependent</td>
<td>Excess Time Details</td>
<td>Text [4096 char]</td>
</tr>
<tr>
<td>Mandatory</td>
<td>Inability to Access Time</td>
<td>Time [HHH:MM]</td>
</tr>
<tr>
<td>Mandatory</td>
<td>Amount of Service Affected</td>
<td>NNNNNNNN</td>
</tr>
<tr>
<td>Mandatory</td>
<td>Type of Service Affected</td>
<td>alphanumeric [20 char]</td>
</tr>
<tr>
<td>Mandatory</td>
<td>Outage Classification</td>
<td>enumerated (See Outage Classifications worksheet)</td>
</tr>
<tr>
<td>Mandatory</td>
<td>Attributable To</td>
<td>enumerated (Customer, Product, External)</td>
</tr>
<tr>
<td>Optional</td>
<td>Description of Service Failure</td>
<td>Text [4096 char]</td>
</tr>
<tr>
<td>Optional</td>
<td>Root Cause Analysis</td>
<td>Text [4096 char]</td>
</tr>
<tr>
<td>Mandatory</td>
<td>Supplier Contacted?</td>
<td>enumerated (Y/N)</td>
</tr>
<tr>
<td>Dependent</td>
<td>Supplier Ticket Number</td>
<td>alphanumeric [20 char]</td>
</tr>
</tbody>
</table>
**A SOTS field demystified**

**Field Name:** Amount of Service Affected  
**Product Type:** Sonet Transport System  
**Product Category:** 3.2.2.1.2.1  
**Information Source:** SOTS Template comments

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Field Name</th>
<th>Field Type [length]</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandatory</td>
<td>Amount of Service Affected</td>
<td>NNNNNNN</td>
<td>Numerical value of amount of service or network capacity affected. Only used when the NU is other than NE/System. If NE/System, the value should be 0. (NE/System uses Partial Impact value - see above.)</td>
</tr>
</tbody>
</table>
**Field Name:** Amount of Service Affected  
**Product Type:** Sonet Transport System  
**Product Category:** 3.2.2.1.2.1  
**Information Source:** MHB Appendix A Table A-2

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**Table A-2**  Measurement Applicability Table (Normalized Units)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TL 9000 Measurement Symbols (see Table A-6)</td>
<td>NPR</td>
<td>SO</td>
<td>SONE</td>
<td>FR</td>
<td>SFQ</td>
<td>SPR</td>
<td></td>
</tr>
</tbody>
</table>

---

**OC-1**
<SOTSHeader>
  <SOTSRevision>1234</SOTSRevision>
  <CompanyName>SP1 Communications</CompanyName>
  <DateFileSent>2009-03-02</DateFileSent>
  <SequenceNumber>11011426</SequenceNumber>
  <ResponseEmail>joe@jomail.com</ResponseEmail>
  <RecordsInFile>5</RecordsInFile>
  <TestMode>False</TestMode>
</SOTSHeader>

<SOTSInfo>…All fields for version 2.0</SOTSInfo>
<OutageID>123</OutageID>
<RecordStatus>New or Revised or Deleted</RecordStatus>
<CompanyName>Cisco</CompanyName>
>TotalOutageDuration>01:02:03</TotalOutageDuration>
<PartialOutageDuration>22:00:00</PartialOutageDuration>
<Manufacturer>Cisco</Manufacturer>
<AmountServiceAffected>5</AmountServiceAffected>
>TypeServiceAffected>OC-48</TypeServiceAffected>
<OutageClassification>Hardware Failure</OutageClassification>
>DescriptionOfServiceFailure>this went down</DescriptionOfServiceFailure>
<SupplierContacted>Y</SupplierContacted>
<SupplierTicketNumber>123456</SupplierTicketNumber>
</SOTSInfo>
Sample CSV File

1,2,ABC,3/1/2007,456780,bkipping@att.com,1,False,
10000,New,Service Provider,,SNJOCA,
1/30/2007,USA,Kentucky,BEAVER DAM,,Kipping,Belle,
18007576700,bkipping@att.com,
1/26/2007,15:00:22,001:50:16.00,000:00:00,0,0:00,,0:00,Y,Manufacturer Name,XXX Series,NA,1.2.3,OC-48,NA,N,N,N,Y,
96,OC-1,HARDWARE FAILURE,Product,N,NA,On 1/19/07 during the turn-up of a Gig-E trunk the two ES Gig ports on the Beaver Dam XXX Series BVDMKYMA47W were found to be defective. As a result the entire switch had to be replaced. Customer replaced parts from stock and opened this case for tracking only.,Both es gig-e ports on the bvdmkyma47w XXX Series are defective.,Y,605205720
SOTS Timeline

- Outage Event Occurs
- SOTS Data Record Transmitted to Organization
- Organization Verifies Data
  - Ok?
    - Yes: Done
    - No: Work with Customer to Align Data
      - Correct Customer and/or Organization Database
- Reporting Period Ends
- Reconciliation Period Begins
- Reconciliation Period Ends
Reconciliation Process

Validate counts and summations

OK? (Y -> Done, N -> Compare data records)

Compare data records

All discrepancies identified? (N -> Validate counts and summations, Y -> Sync up data records)

Sync up data records

Make changes

Abide by Customer decision (Y -> Agreement?, N -> Escalate)

Upper Level Reached? (Y -> Agreement?, N -> Escalate)

Agreement? (Y -> Make changes, N -> Changing database?)

Changing database? (Y -> Organization proposes corrections, N -> Customer)

Organization proposes corrections

Agreement?

Customer

Organization
Additional Information

http://tl9000.org/sots/overview.html

- Documentation (including checklist)
- Header Record Template
- SOTS v2 Data Record Template
- Generic SOTS Implementation Design Guide
- Frequently Asked Questions
- Administrative Report Template (Optional)
Questions or Contact

Use Contact Us on any page of questforum.org
or
tl9000.org

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information@questforum.org