Note: The terms "Unidirectional Path Switched Ring" and "UPSR" may appear in Cisco literature. These terms do not refer to using Cisco ONS 15xxx products in a unidirectional path switched ring configuration. Rather, these terms, as well as "Path Protected Mesh Network" and "PPMN," refer generally to Cisco's path protection feature, which may be used in any topological network configuration. Cisco does not recommend using its path protection feature in any particular topological network configuration.

Transaction Language 1 (TL1) is a subset of the input and output messages contained in the International Telecommunications Union (ITU) Man-Machine Language (MML). TL1 provides a standard set of messages that can be used for communicating between operating systems and network elements (NEs), and personnel and network elements. For more information about TL1, refer to Telcordia document GR-833-CORE, *Network Maintenance: Network Element and Transport Surveillance Messages*.

This chapter provides information and procedures for getting started with TL1:

- Command Syntax
- Autonomous Message Syntax
- Command Completion Behavior
- User Security Levels
- Keyboard Shortcuts
- Mixed Mode Timing Support
- Starting Positions for an STS-Nc SPE
- Default Values
- Parameter Types

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Command Syntax

TL1 commands conform to the following syntax:

a:b:c:d:e: ... z;

where:

"a" is the command code

"b" is the target identifier (TID)

"c" is the access identifier (AID) or the user identifier (UID)

"d" is the correlation tag (CTAG)

"e: ... z;" are other positions required for various commands

The TID, AID, and CTAG route and control the TL1 command. Other parameters provide additional information required to complete the action requested by the command. TL1 command codes, parameter names, and parameter values can be either uppercase or lowercase exclusively or any combination of the two, unless specifically noted in the command description.

The TID is a unique name given to each system when it is installed. The name identifies the particular NE (in this case, the ONS 15454, ONS 15310-CL, ONS 15310-MA, or ONS 15600) to which each command is directed. The value of TID can be any TL1 identifier or text string, but it is limited to 20 characters. An identifier contains any number of letters or digits, but must start with a letter. A text string is any alphanumeric or punctuation character or characters enclosed in double quotation marks. The presence of the TID is required in all input commands, but its value can be null (represented by two successive colons). The TID can be null when the operating system directly communicates with the target NE. The recommended value for the TID, when it is used, is the target's common language location identifier (CLLI) code. To establish the TID for a node, use the Provisioning > General tab in CTC.

The AID is an access code used to identify and address specific objects within the NE. These objects include individual pieces of equipment, transport spans, access tributaries, and other objects.

The CTAG is a unique identifier given to each input command by the user. When the NE responds to a specific command, it includes the command's CTAG in the reply. Including the CTAG eliminates confusion about which response corresponds to which command. Valid CTAG values include strings of up to six characters composed of identifiers (alphanumeric, beginning with a letter) or decimal numerals (a string of decimal digits with an optional nontrailing period).

The following specification characters are used throughout this document as vehicles for defining the syntax:

- Angle brackets (< >) enclose a symbol specifier, for example, <CTAG>.
- Square brackets ([ ]) enclose an optional symbol, for example, [<TID>].
- Quotation marks (" ") enclose a literal character, as shown in the following output example:

  SLOT-7:PLUGIN,TC,,,,,,,:\"EQUIPMENT PLUG-IN\",TCC

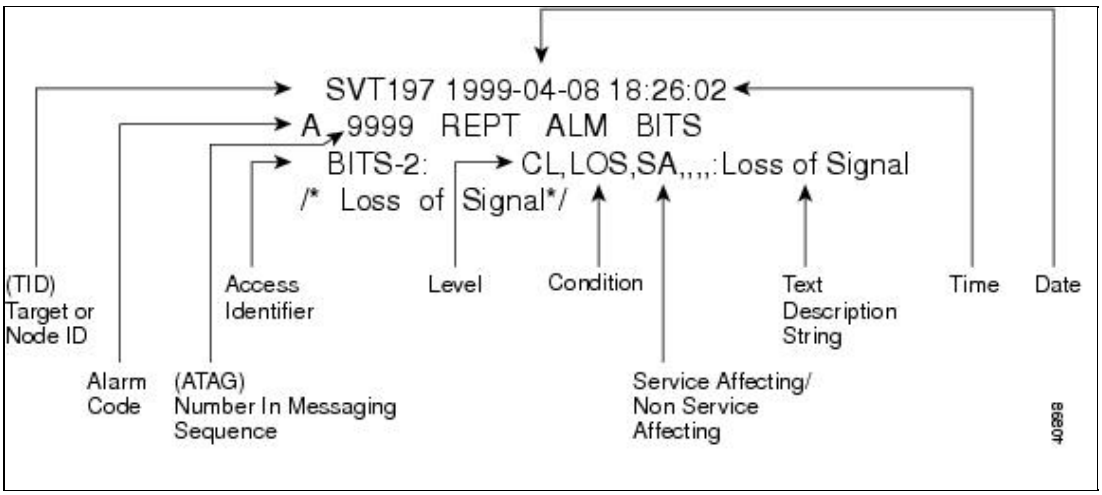
Autonomous Message Syntax

Autonomous messages are used to report alarms, configuration changes, and condition changes. Many of these messages, such as those relating to alarm conditions, are spontaneously triggered by the NE itself without intervention. Other messages, such as those relating to the reporting of periodic condition states or performance data values, are scheduled by the NE user through other commands. Because you do not issue autonomous messages to the NE, they do not include input formats or input examples.

The autonomous TL1 messages are included in the *Cisco ONS SONET TL1 Command Guide*. Figure 1-1 shows the autonomous message format. The autonomous message tag (ATAG) is used for message sequencing. The number is incremented by one for each autonomous message sent by the NE. Cisco NEs use the whole numbers 0000 to 9999 as ATAGs.

Note: Some autonomous messages (REPT DBCHG and REPT EVT SESSION, for example) differ slightly from the format shown in the third line of Figure 1-1.

Figure 1-1: Autonomous Message Format



The alarm code indicates the severity of the autonomous message. Valid values for alarm codes in decreasing order of severity are as follows:

- *C-Critical alarm
- **-Major alarm
- *^-Minor alarm
- A^-Nonalarmed message

Critical, Major, and Minor correspond to the reporting of alarmed events. The Nonalarmed message designation is used when the NE is reporting nonalarmed events, periodic measurements, or the results of previously scheduled diagnostics or audits. If multiple alarms are reported in the same message, the alarm code represents the highest severity of those being reported.

The following is an example of an output message that includes the Critical alarm code:

AB7-56 1970-01-01 16:02:10

*C 100.100 REPT ALM EQPT

"SYSTEM:CR,HITEMP,NSA,,,,:\"High Temperature\",TCC"

Command Completion Behavior

When you enter a TL1 command, one of three completion codes is returned. The completion codes are: completed (COMPLD), partial (PRTL), and deny (DENY). You can specify an explicit, implicit, or explicit with implicit list as explained in the following sections.

General Rules

The following sections contain general rules for AID lists and AID grouped lists.

Explicit List of AIDs-No Wildcards

If a set of AIDs is explicitly listed, including a set of just one AID, then each AID that is listed must complete successfully to return a COMPLD message. If more than one AID is in the set and at least one AID succeeds but all do not, then a PRTL with errors for each failed AID is returned. If all AIDs in the set fail, a DENY with errors for each failed AID is returned.

Figure 1-1: Autonomous Message Format

Implicit List of AIDs-Single AID With Wildcard

If a set of AIDs is implied by the use of the ALL modifier on a single AID, then follow the same rules as in Section Explicit List of AIDs-No Wildcards. The caveat is that the implicit list only includes AIDs that apply to the command. For example, assume SLOT-3 contains an OC-12 card and only STS-3-4 and STS-3-7 are of path-width STS3c while the rest are STS1. An ED-STS1 command with STS-3-ALL AID applies only on the STS1 implicit AID set STS-3-{1,2,3,10,11,12} (with the ED-STS1 command).

No errors will be reported against any member of STS-3-{4,5,6,7,8,9} as they belong to the STS3c AID set.

Apply the following rules to the set:

1. If all valid AIDs match, COMPLD is returned with a matching list of cross-connections.
2. If some valid AIDs match but not all, COMPLD is returned with a matching list of cross-connections.
3. If all valid AIDs fail to match, DENY is returned.

Explicit List Grouped With Implicit List

If the set of AIDs is composed of two subsets, one set including explicitly stated AIDs and the other set implied by one or more AID(s) with the ALL modifier, then follow the rules of Section Explicit List of AIDs-No Wildcards and Section Implicit List of AIDs-Single AID With Wildcard, respectively. Apply the logic in Table 1-1 to the results from the two subsets:

Table 1-1: Explicit List, Implicit List, and Combined List Logic

Explicit List Returns	Implicit List Returns	Combined List Returns
COMPLD	COMPLD	COMPLD plus matching list
COMPLD	DENY	PRTL with errors plus matching list
PRTL	COMPLD	PRTL with errors plus matching list
PRTL	DENY	PRTL with errors plus matching list
COMPLD	PRTL	PRTL with errors plus matching list
DENY	PRTL	PRTL with errors plus matching list
DENY	COMPLD	PRTL with errors plus matching list
PRTL	PRTL	PRTL with errors plus matching list
DENY	DENY	DENY with errors

Example of explicit AID list grouped with implicit AID list:

FAC-1-1&FAC-2-ALL
FAC-3-ALL&FAC-7-ALL
STS-2-ALL&STS-12-1&STS-13-2&STS-14-ALL

Command Completion Behavior for Retrieval of Cross-Connections

When you enter a RTRV-CRS command, one of three completion codes will be returned. The completion codes are: COMPLD, PRTL, and DENY. You can specify an explicit, implicit, or explicit with implicit list as explained in the following sections.

Explicit List of AIDs-No Wildcards

For an explicit list of AIDs on a RTRV-CRS command, an error code will be returned for each AID that fails validation (for example, the user specifies STS-N-13 when SLOT-N only contains an OC-12) or for each AID where no matching cross-connection is found. To determine the completion code, follow the rules from the Explicit List of AIDs-No Wildcards. If the result is either PRTL or COMPLD, then a list of matching cross-connections will accompany the response.

Implicit List of AIDs-Single AID With Wildcard

If a set of AIDs is implied by the use of the ALL modifier on a single AID, then follow the same AID expansion rule as defined in the example from the Implicit List of AIDs-Single AID With Wildcard. Apply the following rules to the set:

1. If all valid AIDs match, COMPLD is returned with a matching list of cross-connections.
2. If some valid AIDs match but not all, COMPLD is returned with a matching list of cross-connections.
3. If all valid AIDs fail to match, DENY is returned.

In the following command example, STS-9-ALL maps to STS-9-{1,2,3,10,11,12}: RTRV-CRS-STS1:<TID>}:STS-9-ALL:<CTAG>. This is because there is a single-port OC-12 card in Slot 3 with STS-3C defined for STS-9-4 and STS-9-7. The set is traversed and returns only the STS1 cross-connections that exist using endpoints in that set. If no cross-connections are retrieved, COMPLD is returned.

Explicit List Grouped With Implicit List

When you have determined the implicit list, apply the rules from Section Implicit List of AIDs-Single AID With Wildcard to the implicit list and the rules from Section Explicit List of AIDs-No Wildcards to the explicit list. Apply the logic in Table 1-1 to the results from the two subsets.

User Security Levels

User security levels limit the amount of time a user can leave the system idle before the TL1 session is locked to prevent unauthorized users from making changes. Higher security levels have shorter timeouts. Starting with Release 4.0, timeouts can be provisioned (by a Superuser) from CTC. If provisioned, it only affects users who are not currently logged in. A user that is logged in has to log out and log back in before the new timeouts will take affect. A Superuser can provision security levels through TL1 with the SET-ATTR-SECUDFLT command. Security levels are listed with each command and message in the Cisco ONS SONET TL1 Command Guide.

Table 1-2 shows security levels and their default timeouts.

Table 1-2: Security Default Timeouts

Security Level	Default Timeout
Retrieve	Unlimited
Maintenance	60 minutes
Provisioning	30 minutes
Superuser	15 minutes

Keyboard Shortcuts

TL1 has the ability to store previously issued commands so that they can be recalled for future use. A maximum of 20 commands are stored. All types of commands are stored, including invalid commands. If the session is a GNE session, it will store commands sent to both the gateway network element (GNE) and the end network element (ENE).

- Pressing **Ctrl-R** recalls the last command issued. Each time Ctrl-R is pressed, a previously issued command is displayed.
- Pressing **Ctrl-F** recalls commands in the forward direction.

After a command has been recalled, you can use the Backspace key to edit the command as necessary. Cursor keys (for example, left and right arrows) are not permitted for editing.

Note: Command recall keys are only available when using a serial port session or an interactive Telnet session (for example, telnet <hostname> 3083).

The CTC TL1 session has its own means for recalling previously issued commands, described in the Open a TL1 Session Through CTC.

Mixed Mode Timing Support

Although TL1 supports mixed mode timing, Cisco strongly advises against its implementation. Mixed mode timing is not a recommended timing mode because of the inherent risk of creating timing loops. Refer to Telcordia document GR-436-CORE, *Digital Network Synchronization Plan* for recommended synchronization planning. Refer to the platform-specific Cisco ONS Procedure Guide for information about setting up timing. For further assistance, contact the Cisco Technical Assistance Center (TAC) at www.cisco.com or call (800) 553-2447 for unresolved problems.

Starting Positions for an STS-Nc SPE

Table 1-3, Table 1-4, and Table 1-5 list possible starting positions for the ONS 15454, ONS 15310-CL, ONS 15310-MA, and ONS 15600 STS-Nc synchronous payload envelope (SPE). In each of table, a "Y" indicates that the position is supported, and an "N" indicates that the position is not supported. More information about the generic NE support requirement can be found in Telcordia GR-253-CORE, *Synchronous Optical Network (SONET) Transport Systems: Common Generic Criteria*.

Table 1-3: Starting Positions for an STS-Nc SPE in an OC-12 Signal

STS-1 Number	STS-3c SPE	STS-6c SPE	STS-9c SPE	STS-12c SPE
1	Y	Y	Y	Y
4	Y	Y	Y	N
7	Y	Y	N	N
10	Y	N	N	N

Table 1-4: Starting Positions for an STS-Nc SPE in an OC-48 Signal

STS-1 Number	STS-3c SPE	STS-6c SPE	STS-9c SPE	STS-12c SPE	STS-24c SPE	STS-48c SPE
1	Y	Y	Y	Y	Y	Y
4	Y	Y	Y	N	Y	N

7	Y	Y	N	N	Y	N
10	Y	N	Y	N	Y	N
13	Y	Y	Y	Y	Y	N
16	Y	Y	Y	N	Y	N
19	Y	Y	Y	N	Y	N
22	Y	N	N	N	Y	N
25	Y	Y	Y	Y	Y	N
28	Y	Y	Y	N	N	N
31	Y	Y	N	N	N	N
34	Y	N	N	N	N	N
37	Y	Y	Y	Y	N	N
40	Y	Y	Y	N	N	N
43	Y	Y	N	N	N	N
46	Y	N	N	N	N	N

Table 1-5: Starting Positions for an STS-Nc SPE in an OC-192 Signal

STS-1 Number	STS-3c SPE	STS-6c SPE	STS-9c SPE	STS-12c SPE	STS-24c SPE	STS-48c SPE	STS-192c SPE
1	Y	Y	Y	Y	Y	Y	Y
4	Y	Y	Y	N	N	N	N
7	Y	Y	N	N	N	N	N
10	Y	N	Y	N	N	N	N
13	Y	Y	Y	Y	N	N	N
16	Y	Y	Y	N	N	N	N
19	Y	Y	Y	N	N	N	N
22	Y	N	N	N	N	N	N
25	Y	Y	Y	Y	N	N	N
28	Y	Y	Y	N	N	N	N
31	Y	Y	N	N	N	N	N
34	Y	N	N	N	N	N	N
37	Y	Y	Y	Y	N	N	N
40	Y	Y	Y	N	N	N	N
43	Y	Y	N	N	N	N	N
46	Y	N	Y	N	N	N	N
49	Y	Y	Y	Y	Y	Y	N
52	Y	Y	Y	N	N	N	N
55	Y	Y	Y	N	N	N	N
58	Y	N	N	N	N	N	N
61	Y	Y	Y	Y	N	N	N
64	Y	Y	Y	N	N	N	N
67	Y	Y	N	N	N	N	N
70	Y	N	N	N	N	N	N
73	Y	Y	Y	Y	N	N	N
76	Y	Y	Y	N	N	N	N

79	Y	Y	N	N	N	N	N
82	Y	N	Y	N	N	N	N
85	Y	Y	Y	Y	N	N	N
88	Y	Y	Y	N	N	N	N
91	Y	Y	Y	N	N	N	N
94	Y	N	N	N	N	N	N
97	Y	Y	Y	Y	Y	Y	N
100	Y	Y	Y	N	N	N	N
103	Y	Y	N	N	N	N	N
106	Y	N	N	N	N	N	N
109	Y	Y	Y	Y	N	N	N
112	Y	Y	Y	N	N	N	N
115	Y	Y	N	N	N	N	N
118	Y	N	Y	N	N	N	N
121	Y	Y	Y	Y	N	N	N
124	Y	Y	Y	N	N	N	N
127	Y	Y	Y	N	N	N	N
130	Y	N	N	N	N	N	N
133	Y	Y	Y	Y	N	N	N
136	Y	Y	Y	N	N	N	N
139	Y	Y	N	N	N	N	N
142	Y	N	N	N	N	Y	N
145	Y	Y	Y	Y	Y	N	N
148	Y	Y	Y	N	N	N	N
151	Y	Y	N	N	N	N	N
154	Y	N	Y	N	N	N	N
157	Y	Y	Y	Y	N	N	N
160	Y	Y	Y	N	N	N	N
163	Y	Y	Y	N	N	N	N
166	Y	N	N	N	N	N	N
169	Y	Y	Y	Y	N	N	N
172	Y	Y	Y	N	N	N	N
175	Y	Y	N	N	N	N	N
178	Y	N	N	N	N	N	N
181	Y	Y	Y	Y	N	N	N
184	Y	Y	Y	N	N	N	N
187	Y	Y	N	N	N	N	N
190	Y	N	N	N	N	N	N

Default Values

This section lists the default values applied by the system when they are not explicitly specified during provisioning.

BLSR

Table 1-6 lists the default BLSR values that are applied by the system when they are not explicitly specified during BLSR provisioning (ENT-BLSR).

Table 1-6: BLSR Default Values

BLSR Parameter	Default
RVRTV	Y
RVTM	5.0 minutes
SRVRTV	Y
SRVTM	5.0 minutes

Cross-Connections

Table 1-7 lists the default cross-connection values that are applied by the system when they are not explicitly specified during circuit creation (ENT-CRS).

Table 1-7: Cross-Connections Default Values

Cross-Connection Parameter	Default
CCT	2WAY for both STSp and VT1 cross-connections

Environment

Table 1-8 lists the default environment alarms and controls values applied by the system when they are not explicity specified during environment alarms and controls provisioning.

Table 1-8: Environment Alarms and Controls Default Values

Commands	Parameter Default
OPR-EXT-CONT	CONTTYPE is provisioned in the respective AID. There is no default for it. It is only used as a filter if entered. DUR always defaults to CONT.
RTRV-ATTR-CONT	There is no default for CONTTYPE. It is only used as a filter if entered.
RTRV-ATTR-ENV	There is no default for both NTFCNCDE and ALMTYPE, which are only used as filters if entered.
RTRV-EXT-CONT	CONTTYPE defaults to the control type associated with the AID.
SET-ATTR-ENV	NTFCNCDE defaults to NR. ALMTYPE defaults to NULL. ALMMSG defaults to \"Env Alarm Input 1\".

Equipment

Table 1-9 lists the default equipment values that are applied by the system when they are not explicitly specified during equipment provisioning.

Table 1-9: Equipment Default Values

Commands	Parameter Default
ALW-SWTOPROTN-EQPT, INH-SWTOPROTN-EQPT, ALW-SWTOWKG-EQPT, and ING-SWTOWKG-EQPT	DIRN defaults to BTH.
ENT-EQPT	PROTID, PRTYPE, RVRTV, and RVTM default to NULL.
SW-DX-EQPT	MODE defaults to NORM.
SW-TOPROTN-EQPT and SW-TOWKG-EQPT	MODE defaults to NORM. DIRN defaults to BTH.

Performance

Table 1-10 lists the default performance values that are applied by the system when they are not explicitly specified during performance provisioning.

Table 1-10: Performance Default Values

Commands	Parameter Default
INIT-REG-<MOD2>	LOCN defaults to NEND (near end).
RTRV-PM-<MOD2>	LOCN defaults to NEND. TMPER defaults to 15 minutes.
RTRV-TH-<MOD2>	MONTYPE defaults to CVL for OCN, EC1, and DSN. MONTYPE defaults to ESP for STSp. MONTYPE defaults to UASV for VT1. MONTYPE defaults to AISSP for the DS1 layer of the DS3XM card. LOCN defaults to NEND. TMPER defaults to 15 minutes.
SET-PMMODE-<STS_PATH>	PMSTATE defaults to ON.
SET-TH-<MOD2>	LOCN defaults to NEND. TMPER defaults to 15 minutes.

Ports

Table 1-11 lists the default port values that are applied by the system when they are not explicitly specified during port provisioning.

Table 1-11: Port Default Values

Ports	Parameter Default
OC-N Line	DCC defaults to N. TMGREF defaults to N. SYNCMSG defaults to Y. SENDDUS defaults to N.

	PJMON defaults to 0. SFBER defaults to 1E-4. SDBER defaults to 1E-7. MODE defaults to SONET. PST defaults to OOS.
EC1 Line	PJMON defaults to 0 (zero) LBO defaults to 0-225 RXEQUAL is Y PST defaults to defaults to OOS
T1 Line (DS1/DS1N)	LINECDE defaults to AMI. FMT defaults to D4. LBO defaults to 0-133. PST defaults to OOS.
T3 Line (DS3, DS3E, DS3NE, DS3XM)	DS3/T3 LINECDE defaults to 0-225. DS3 PST defaults to OOS. DS3E/DS3NE FMT defaults to UNFRAMED. DS3E/DS3NE LINECDE defaults to B3ZS. DS3E/DS3NE LBO defaults to 0-225. DS3 of DS3XM PST defaults to OOS.

SONET Line Protection

Table 1-12 lists the default SONET line protection values that are applied by the system when they are not explicitly specified during SONET line protection provisioning.

Table 1-12: SONET Line Protection Default Values

Commands	Parameter Default
EX-SW-<OCN>	ST (switch type) is optional and for BLSR protection switches only. ST defaults to BLSR RING switch type.
OC-N Line Protection	PROTID defaults to the protecting port of the protection group (SLOT-#(OCN)PORT-#). It is a string that can have a maximum length of 32 characters RVRTV defaults to N (nonrevertive mode). RVTM defaults to 5.0 minutes. PSDIRN defaults to UNI.
OPR-PROTNSW-<OCN>	ST is optional and for BLSR protection switches only. ST defaults to BLSR RING switch type.

STS and VT Paths

Table 1-13 lists the default STS and VT path values that are applied by the system when they are not explicitly specified during STS and VT path provisioning.

Table 1-13: STS and VT Paths Default Values

STS and VT Paths	Parameter Default
STS Path	SFBER, SDBER, RVRTV, and RVTM apply to path protection STS paths only. • SFBER defaults to 1E-4. • SDBER defaults to 1E-6. • RVRTV defaults to N. • RVTM defaults to empty because RVRTV is N when the path protection STSp is created. J1 is implemented on DS1, DS1N, DS3, DS3E, DS3NE, DS3XM, EC1, OC3, OC48AS, and OC192 cards. TRCMODE defaults to the OFF mode. EXPTRC defaults to a copy of the provisioned string or NULL when TRCMODE is OFF. EXPTRC defaults to the user-entered string when TRCMODE is MANUAL. EXPTRC defaults to a copy of the acquired received string or NULL if the string has not been acquired when TRCMODE is AUTO. INCTRC defaults to the incoming string (NULL) when TRCMODE is OFF. INCTRC defaults to a copy of the received string or NULL if the string has not been received when TRCMODE is MANUAL or AUTO.
VT Path	RVRTV and RVTM apply to path protection VT paths only. • RVRTV defaults to N. • RVTM defaults to empty because RVRTV is N when the path protection VT1 is created.

Synchronization

Table 1-14 lists the default synchronization values that are applied by the system when they are not explicitly specified during synchronization provisioning.

Table 1-14: Synchronization Default Values

Synchronization	Parameter Default
BITS	LINECDE defaults to B8ZS. FMT defaults to ESF. SYNCMSG defaults to Y. PST defaults to OOS.
NE-SYNCN	TMMDE defaults to EXTERNAL. SSMGEN defaults to GEN1. QRES defaults to SAME-AS-DUS.

	RVRTV defaults to Y. RVTM defaults to 5.0 minutes.
SYNCN	PRI/SEC QREF defaults to PRS. PRI STATUS defaults to ACT. SEC STATUS defaults to STBY. THIRD QREF defaults to ST3. STATUS defaults to STBY.

Testing

Table 1-15 lists the default testing values that are applied by the system when they are not explicitly specified during testing provisioning.

Table 1-15: Testing Default Values

Commands	Parameter Default
OPR-LPBK	LPBKTYPE defaults to FACILITY.
RLS-LPBK	LPBKTYPE defaults to current existing loopback type.

Parameter Types

This section provides a description of all message parameter types defined for the TL1 messages used in ONS 15454, ONS 15310-CL, ONS 15310-MA, and ONS 15600. Individual parameters are listed within each command description.

ATAG Description

The ATAG is used for message sequencing. There are four streams of autonomous messages and each stream corresponds to a sequence. The sequence numbers increment by one for each autonomous message within that stream. The format and range of ATAG differs for each stream. The four streams are:

1. Alarmed events: These include REPT ALM and REPT EVT (except REPT EVT SESSION) messages as well as the REPT SW autonomous message.

ATAG format: x.y
where:
x is the sequence number of this alarmed event. This is an integer in the range of 0 to 9999.
y is the sequence number of the previous alarmed event that is related to this alarmed event. This is an integer in the range of 0 to 9999.
If there is no such previous related event, then y will be the same as x. For example, the first time an alarm is raised you will receive the autonomous message:

```
TID-000 1998-06-20 14:30:00 * 1346.1346 REPT ALM T1
"FAC-1-1:MN,LOS,NSA,,,,:\"Loss Of Signal\",DS1-14" ;
```

When this alarmed event/condition is cleared, you will receive the autonomous message:

```
TID-000 1998-06-20 14:31:00 A 1349.1346 REPT ALM T1
"FAC-1-1:CL,LOS,NSA,,,,:\"Loss Of Signal\",DS1-14" ;
```

2. Database change messages: The REPT DBCHG message falls into this category.

ATAG format: x where: x is the sequence number of the database change update message. This is an integer in the range of 0 to 9999.
For example:

```
TID-000 1998-06-20 14:30:00 A 96 REPT DBCHG
"TIME=18-01-05,DATE=1970-01-01,SOURCE=2,USERID=CISCO15,
DBCHGSEQ=96:ENT-EQPT:SLOT-3" ;
```

Note: The ATAG is the same as the DBCHGSEQ field in the REPT DBCHG output.

3. Performance monitoring (PM) reports: The REPT PM messages fall into this category.

ATAG format: x where: x is the sequence number of the PM report. This is an integer in the range of 0 to 9999.
For example:

```
TID-000 1998-06-20 14:30:00 A 5 REPT PM DS1
"FAC-3-1:CVL,10,PRTL,NEND,BTH,15-MIN,05-25,14-46" ;
```

This sequence number is global across all existing PM schedules.

4. Autonomous messages specific to a TL1 session: These messages are usually related to the security aspect of the TL1 session. Only the autonomous messages REPT EVT SESSION and CANC fall under this category.

ATAG format: x where: x is the sequence number of the message. This is an integer in the range of 0 to 9999.
For example:

```
TID-000 1998-06-20 14:30:00 A 1 CANC "User" ;
```

CTAG Description

The CTAG is included in each command by the user and is repeated by the NE in the response to allow the user to associate the command and response messages. The valid values for a CTAG are strings of up to 6 characters composed of identifiers (alphanumeric, beginning with a letter) or nonzero decimal numbers (a string of decimal digits with an optional nontrailing period).

A zero in the response field is valid when indicating an error; for example, issuing a semicolon by itself results in:

```
TID-000 1998-06-20 14:30:00
M 0 DENY IISP
/* Input, Garbage */ ;
```

TID Description

The TID is the name of the NE where the command is addressed. TID is the Telcordia name for the system.

Parameter Notes

The following list contains general notes that apply to parameters:

- If a parameter is set to a value that is inconsistent with something already in the database and that value is not changed to a consistent value, then the command will be denied.
- If a parameter is set to a value that is consistent with what is already in the database, but another parameter in the same command is incompatible, then the command will be denied.

- The correct way to issue a command where parameters might be in conflict is to:
    - Issue that command and change all relevant parameters to compatible values.
    - Issue the command again to change the target values.
- The default values for command atributes can be seen using the RTRV commands, provided they are not altered by a provisioning command.
- The default for an optional field of an ED command is either the provisioned default value or the last provisioned value in the previous ED command.