



## Preface

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**August 3, 2007 OL-3743-40**

This document describes the command line interface commands used to provision and maintain the Cisco BTS 10200 Softswitch Call Agent (CA), Feature Server (FS), Element Management System (EMS), and Bulk Data Management System (BDMS) for Releases 4.1, 4.2, 4.4.0, 4.4.1 and 4.5.



**Note**

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The Cisco BTS 10200 Softswitch interworks with a wide range of network elements (NEs), but there are certain limitations. Some features involve using NEs deployed in the service provider network, for example, gateways, media servers, announcement servers, eMTAs, and SIP phones. See the “Component Interoperability” section of the Release Notes document for a complete list of the specific peripheral platforms, functions, and software loads used in system testing for interoperability with the Cisco BTS 10200 Softswitch Release 4.x software. Earlier or later releases of platform software may be interoperable and it may be possible to use other functions on these platforms. The list certifies only that the required interoperation of these platforms, along with the functions and the protocols listed, were successfully tested with the Cisco BTS 10200 Softswitch.

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## Audience

This guide is designed for Cisco BTS 10200 Softswitch users and system administrators.

## Modification History

[Table 1](#) lists the modification history notations used in this document. Subsequent sections list the actual changes by release. Changes made for Releases 4.2, 4.4.0, 4.4.1 and 4.5 are also noted within the text of the document as given in the table.

**Table 1** *Document Release Notation*

<b>Release</b>	<b>Information is Noted As:</b>
All	Not noted.
4.2	Release 4.2 and all subsequent releases. Does not include Release 4.1.
4.4.0	Release 4.4.0 and all subsequent releases, unless otherwise stated. For example: “Release 4.4.0 and 4.5” means the item is included in Releases 4.4.0 and 4.5, but not 4.4.1.

**Table 1 Document Release Notation (continued)**

Release	Information is Noted As:
4.4.1	Release 4.4.1 and all subsequent releases. Does not include Releases 4.1, 4.2 or 4.4.0.
4.5	Release 4.5 and all subsequent releases. Does not include Releases 4.1, 4.2, 4.4.0 or 4.4.1.
Not supported as of Release	Designates tokens that may list as the result of a CLI command, but are not used in the release.
Obsolete in Release	Designates tokens, values or rules that are no longer supported as of a particular release, but are supported in prior releases.

## Release 4.5.1

The following changes were made in Release 4.5.1. It is not an inclusive list.

- Added tokens CHARGE-TYPE and CHARGE-BAND-UNIT to the Destination table.
- New *Block Information* command added to the [Session Management Activity Commands](#).
- In the COS Restrict table, II-WB-LIST changed to II-RESTRICT.
- In the Media Gateway Profile table, for the CODEC-NEG-SUPP token, codec usage has changed when condec-negsupp=Y.
- For medium configurations, ISDN table database usage was increased to 2000 active D-channels.
- Added token FORCED to the Exchange Code table.
- Added list of supported call types to the Usage Guidelines of the National White Black list table. This applies to all releases.
- BPC-ID is obsolete in the Signal Connection Control Part Route table for Releases 4.5 and 4.5.1.
- Added token PADDED-CC to the International Dial Plan table.
- Added mtv.sh information to the Signaling System 7 Trace command. This applies to all 4.x releases.
- The following changes were made to the Office Code table:
  - Added token FORCED.
  - Added new rules.
- Added new rules to the National Destination Code table.
- Added new rules to the Exchange Code table.
- Changed the descriptions for Q761-ISUP-BASE and Q761-ISUP-CHINA values for the CAUSE-CODE-TYPE token.
- Added the value Q767-COLOMBIA to the User Part Variant table.
- Added Measurements for the Columbia ISUP to Appendix I.
- Modified the descriptions of the SEND-BDN-FOR-EMG and
- Added usage guideline for the SEND-GROUP-DN token in the ISDN Trunk Group Profile table. Applies to all releases.

- In the Billing Record Query table, more than one value cannot be specified for the ORDER token.
- Added Office Service id Precedence information to Appendix B, Office Table Features.
- For the END-TIME and START-TIME tokens in the Billing Record Query table, removed the sentence “Response is returned in GMT time.”
- Added bits 3, 5 and 6 to the PROPRIETARY-SUPP token in the ISDN Trunk Group Profile table.
- Added SIA-TG-VALIDATE-SOURCE-IP to the Call Agent Configuration table in Appendix A.
- Added ciscouser information to the Preface; as well as cautions to the delete transaction queue and download database commands. This change also applies to Release 4.5.
- MGCP-T-LONGTRAN value is in seconds, not milliseconds. Applies to all releases.
- Expanded definition of CLH for MLHG. Applies to all releases.
- For CFB (List of Features) in Appendix B, added TDPn=T\_EXCEPTION and TIDn=T\_NOT\_REACHABLE.
- The NANP-WB-LIST column in COS Restrict table was renamed to NATIONAL-WB-LIST (all releases).
- Added the token SPARE1-SUPP to the Media Gateway Profile table.
- Added the following France ISUP values for the DISPLAY token in the Measurement ISUP Summary table:
  - MEAS\_SGA\_TXA\_RX
  - MEAS\_SGA\_TXA\_TX
  - MEAS\_SGA\_ITX\_RX
  - MEAS\_SGA\_ITX\_TX
- Added ISUPs for France and Poland to Appendix I.
- Added section concerning Extended Read Access Commands to the Preface.
- Added the following values to the ID token of the User Part Variant table:
  - Q761-ETSIV3-FRENCH
  - Q761-ETSIV2-POLAND
- Added the token SEND-SIP-181-RESP to the Softswitch Trunk Group Profile table.
- The IPTOS-RTP-LOWDELAY token default is N. This applies to all releases.
- The MGCP-SIG-TOS-PRECEDENCE token default is 3. This applies to all releases.
- Mexico ISUP is supported.
- Changed ranges for the MGCP-MAX1-RETRIES and MGCP-MAX2-RETRIES tokens in the Media Gateway Profile table.
- Added the following tokens to the SS7 Q761 Trunk Group Profile table: AOC-ENABLED, CRG-ABILITY

## Release 4.5

The following changes were made in Release 4.5. It is not an inclusive list.

- The following changes were made to the Office Code table:
  - Added token FORCED.

- Added new rules.
- Added new rules to the National Destination Code table.
- Added new rules to the Exchange Code table.
- Added SIP-3XX-REROUTE-ON-LOCAL-DOMAIN to the Call Agent Configuration table in Appendix A.
- For the query call-trace command, MGW has been replaced with RGW.
- Length of the BILLING-FILE-PREFIX token changed to 64 characters.
- Subnet is no longer supported for the *query call-trace* command.
- Added EM-PRIVACY-IND-SUPP to Appendix A. Used by EM Billing.
- The token USE-GRP-DN in the ISDN Trunk Group Profile table moved to the Subscriber table.
- Added the EXCHANGE-TYPE token to the SS7 Q767 Trunk Group Profile table.
- Added CIDS, CIDSD and CIDSS to the Feature Profile Base table.
- Added complete command security level list by noun and verb.
- Added the following to the SIPT ISUP Version Base table:
  - Added the value GTD to the ID token.
  - Added the value SIPT-GTD to the BASE token.
- Added the following values to the ID token of the User Part Variant table:
  - Q761\_STANDARD97 (Q.761 base variant—97 version)
  - Q761\_ETSIv3 (Base ETSI v3 variant)
  - Q761\_ETSIv3\_HUNGARY (Hungarian variant)
- Added the THROTTLE token to the *status mgw*, *status trunk-grp*, *status trunk-termination* and *status subscriber-termination* commands.
- Added Hungary and France ISUP display values to Appendix G.
- The following measurement SIA display values are obsoleted. These values will still execute, but will always contain a value of zero:
  - SIA\_TOTAL\_SUCC
  - SIA\_TOTAL\_FAIL
  - SIA\_TOTAL\_OUTG\_MSG\_FAIL
  - SIA\_TOTAL\_INCOM\_MSG\_FAIL
- In the SCTP Association Profile table, the tokens HB-TIMEOUT and MAX-PATH-RETRANS cannot be changed.
- Added WAIT token to all status, control and equip commands in Chapter 17: ADM Commands.
- Added the following tokens to the Transaction Queue table: USER-ID, TERMINAL-ID and STATUS.
- Added the tokens AUTO-REFRESH, DISPLAY, LIMIT, ORDER and START-ROW to every show and report command where applicable.

**Note**


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The tokens AUTO-REFRESH, DISPLAY, LIMIT, ORDER and START-ROW apply to all previous releases of this document.

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- Added new command: Number Resource Utilization and Forecast for NANPA audit.
- The *change ems ntp-server* command is obsolete.
- Added new query command: query-call-trace.
- In the SCTP Association table, the tokens DSCP and IP-TOS-PRECEDENCE are obsolete.
- For the AOR To Subscriber table:
  - The add and delete commands are obsolete
  - Added the SEQUIRE-FQDN token
- In the Maintenance and Administration of System Component Commands chapter, replaced references to MySQL with Oracle.
- The status-ss7 is now obsolete.
- In the H.323 Gateway table, PASSWORD can be changed without taking the gateway out of service.
- In the Stream Control Transmission Protocol Association table, the maximum size of the HTTP-FEATURE-SERVER-ID is 8.
- In the Signaling System 7 Q761 Trunk Group Profile table, the default is 20 for the CHARGE-ORIG token.
- The following changes were made to the Routing Key table:
  - Subsystem-grp-id is required if si=SCCP.
  - Cross-check the opc-id and subsystem-grp-id across the Subsystem table when the routing-key is added with si=scp.
  - The opc-id and subsystem-grp-id combine to make a unique key if si=scp.
  - If a dpc-id is specified, the net-ap values for OPC and DPC must be the same.
- Added the tokens PASS-UNREC-PARAM-WITHOUT-PCI and T4 to the SS7 Q761 Trunk Group Profile table.
- Added the following values to the DISPLAY token in the AIN Services Feature Server table:
  - AINSVC\_LOC\_LNP\_QUERY
  - AINSVC\_LOC\_LNP\_QUERY\_SUCC
  - AINSVC\_LOC\_LNP\_FAIL\_APP
  - AINSVC\_LOC\_LNP\_QUERY\_RN\_FOUND
  - AINSVC\_LOC\_LNP\_QUERY\_NO\_RN
- Added notation “Not provisionable—provisioned in the User Part Variant Base table” to the following tokens in the User Part Variant table:
  - MAX-BLOCK-MASTER-RANGE
  - MAX-BLOCK-SLAVE-RANGE
  - MAX-PARALLEL-JOBS
  - MAX-RESET-MASTER-RANGE
  - MAX-RESET-SLAVE- RANGE
  - PROTO-FAM
  - RESET-SUPPORTED
- The following changes were made to the Feature table:

- FNAME is now a foreign key to the Feature Profile Base table.
- Added token FNAME5.
- The value for the following tokens is now 32: VALUE1, VALUE2, VALUE3 and VALUE4.
- Added PS-TRIGGER to the Trigger Identification Descriptions table. Removed the following triggers:
  - ACCOUNT\_CODE
  - D\_OF\_TRIGGER
  - ENUM-TRIGGER
  - O\_ABANDON
  - O\_ANSWER
  - O\_CALLED\_PARTY\_BUSY
  - O\_DISCONNECT
  - O\_EXCEPTION
  - O\_NO\_ANSWER
  - O\_NOT\_REACHABLE
  - O\_REANSWER
  - O\_SUSPEND
  - ORIGINATION\_ATTEMPT
  - T\_ABANDON\_DP
  - T\_DISCONNECT
  - T\_EXCEPTION
  - T\_NOT\_REACHABLE
  - T\_REANSWER
  - T\_SUSPEND
- Added the following tokens to the Quality of Service table:
  - FAX-T38-ENABLED
  - FORCED
  - MAX-DQOS-AUTH-BANDWIDTH
  - CLIENT-TYPE
  - DOCSIS-DSCP-TOS
  - DOCSIS-DSCP-TOS-BITMASK
  - DQOS-DSCP-TOS-BITMASK
- Added the following tokens to the DN2subscriber table:
  - END-TIME
  - LAST-CHANGED
  - START-TIME
  - PORTED-IN
  - VIRTUAL-DN

- Added the following tokens to the Class of Service Restriction table:
  - BLOCK-900
  - BLOCK-976
  - BLOCK-DA
  - BLOCK-INFO
  - BLOCK-INTL
  - BLOCK-INTL-OPER-ASSIST
  - BLOCK-NANP-OPER-ASSIST
  - BLOCK-TW
  - PROMPT-METHOD
  - ALLOW-CALLS-ON-IVR-FAILURE
- Added the following values to the Valid Nature of Dial Values table.
  - LNP
  - BLV
  - SPEED-CALL
- The valid return code combinations MDCX 3xx through 9xx when mgcp-msg=mdcx have changed to Valid Values of Call Action=None and Valid Values of Endpoint Action=EP\_ACTION\_NONE.
- Added the following tokens to the Carrier table:
  - LNP-QUERY
- In the Activity table, the ENABLED token default is now Y; the ID token is now 32 in length.
- Added the following MO and MT rules to the Trunk Group table:
  - When configuring a trunk group, set the direction token to OUT when the MGCP-PKG-TYPE is MO.
  - When configuring a trunk group, set the direction token to IN when the MGCP-PKG-TYPE is MT.
- Added Automatic Completion and Expansion of CLI commands.
- Added Context Sensitive Help section.
- In the Dial Plan table, the range for MIN-DIGITS is 1–64. Added the FORCED token.
- The following DISPLAY values were obsoleted in the Measurement SIA Summary table:
  - SIA\_ATTENDED\_TRANSFER
  - SIA\_MWI\_NOTIFY\_TX\_FAIL
  - SIA\_SIP\_INCOM\_FAIL
  - SIA\_SIP\_INCOM\_INIT
  - SIA\_SIP\_INCOM\_SUCC
  - SIA\_SIP\_OUTG\_FAIL
  - SIA\_SIP\_OUTG\_INIT
  - SIA\_SIP\_OUTG\_SUCC
  - SIA\_UNATTENDED\_TRANSFER

- The following DISPLAY values were added to the Measurement SIA Summary table:
  - SIA\_AUDIT\_BCM\_CALL\_RELEASED
  - SIA\_AUDIT\_CALL\_RELEASED
  - SIA\_AUDIT\_CCB\_FREED
  - SIA\_AUDIT\_REGCONTACT\_FREED
  - SIA\_INCOM\_FAIL
  - SIA\_INCOM\_INIT
  - SIA\_INCOM\_SUCC
  - SIA\_OUTG\_FAIL
  - SIA\_OUTG\_INIT
  - SIA\_OUTG\_SUCC
  - SIA\_SECURE\_FQDN\_VIOLATION\_REQ
  - SIA\_SECURE\_FQDN\_VIOLATION\_RESP
- The following DISPLAY values were added to the Measurement ISUP Summary table:
  - ISUP\_ABNORMAL\_REL\_RX
  - ISUP\_ABNORMAL\_REL\_TX
  - ISUP\_ACM\_RX
  - ISUP\_ACM\_TX
  - ISUP\_ANM\_RX
  - ISUP\_ANM\_TX
  - ISUP\_ARR\_RX
  - ISUP\_ARR\_TX
  - ISUP\_BLA\_RX
  - ISUP\_BLA\_TX
  - ISUP\_BLO\_RX
  - ISUP\_BLO\_TX
  - ISUP\_CCL\_RX
  - ISUP\_CCL\_TX
  - ISUP\_CCR\_RX
  - ISUP\_CCR\_TX
  - ISUP\_CFN\_RX
  - ISUP\_CFN\_TX
  - ISUP\_CGB\_RX
  - ISUP\_CGB\_TX
  - ISUP\_CGBA\_RX
  - ISUP\_CGBA\_TX
  - ISUP\_CGU\_RX
  - ISUP\_CGU\_TX

- ISUP\_CGUA\_RX
- ISUP\_CGUA\_TX
- ISUP\_CON\_RX
- ISUP\_CON\_TX
- ISUP\_COT\_RX
- ISUP\_COT\_TX
- ISUP\_CPG\_RX
- ISUP\_CPG\_TX
- ISUP\_CQM\_RX
- ISUP\_CQM\_TX
- ISUP\_CQR\_RX
- ISUP\_CQR\_TX
- ISUP\_CRA\_RX
- ISUP\_CRA\_TX
- ISUP\_CRG\_RX
- ISUP\_CRG\_TX
- ISUP\_CRM\_RX
- ISUP\_CRM\_TX
- ISUP\_CVR\_RX
- ISUP\_CVR\_TX
- ISUP\_CVT\_RX
- ISUP\_CVT\_TX
- ISUP\_EXM\_RX
- ISUP\_EXM\_TX
- ISUP\_FAA\_RX
- ISUP\_FAA\_TX
- ISUP\_FAC\_RX
- ISUP\_FAC\_TX
- ISUP\_FAR\_RX
- ISUP\_FAR\_TX
- ISUP\_FOT\_RX
- ISUP\_FOT\_TX
- ISUP\_FRJ\_RX
- ISUP\_FRJ\_TX
- ISUP\_FWT\_RX
- ISUP\_FWT\_TX
- ISUP\_GRA\_RX
- ISUP\_GRA\_TX

- ISUP\_GRS\_RX
- ISUP\_GRS\_TX
- ISUP\_IAM\_RX
- ISUP\_IAM\_TX
- ISUP\_IDR\_RX
- ISUP\_IDR\_TX
- ISUP\_INF\_RX
- ISUP\_INF\_TX
- ISUP\_INR\_RX
- ISUP\_INR\_TX
- ISUP\_IRS\_RX
- ISUP\_IRS\_TX
- ISUP\_LPA\_RX
- ISUP\_LPA\_TX
- ISUP\_LPM\_RX
- ISUP\_LPM\_TX
- ISUP\_MSG\_RX
- ISUP\_MSG\_TX
- ISUP\_NRM\_RX
- ISUP\_NRM\_TX
- ISUP\_OLM\_RX
- ISUP\_OLM\_TX
- ISUP\_OPR\_RX
- ISUP\_OPR\_TX
- ISUP\_PAM\_RX
- ISUP\_PAM\_TX
- ISUP\_PRI\_RX
- ISUP\_PRI\_TX
- ISUP\_REL\_RX
- ISUP\_REL\_TX
- ISUP\_RES\_RX
- ISUP\_RES\_TX
- ISUP\_RLC\_RX
- ISUP\_RLC\_TX
- ISUP\_RSC\_RX
- ISUP\_RSC\_TX
- ISUP\_SAM\_RX
- ISUP\_SAM\_TX

- ISUP\_SGM\_RX
  - ISUP\_SGM\_TX
  - ISUP\_SUS\_RX
  - ISUP\_SUS\_TX
  - ISUP\_UBA\_RX
  - ISUP\_UBA\_TX
  - ISUP\_UBL\_RX
  - ISUP\_UBL\_TX
  - ISUP\_UCIC\_RX
  - ISUP\_UCIC\_TX
  - ISUP\_UNEXPECT\_MSG\_RX
  - ISUP\_UNRECOG\_MSG\_RX
  - ISUP\_UPA\_RX
  - ISUP\_UPA\_TX
  - ISUP\_UPT\_RX
  - ISUP\_UPT\_TX
  - ISUP\_USR\_RX
  - ISUP\_USR\_TX
- Added the following DISPLAY values to the Measurement TCAP Protocol Summary table:
    - TCAP\_OPERATION\_REQ\_RX
    - TCAP\_OPERATION\_CONFIRM\_RX
    - TCAP\_OPERATION\_IND\_RX
    - TCAP\_COMPONENT\_REQ\_RX
    - TCAP\_COMPONENT\_CONFIRM\_RX
    - TCAP\_COMPONENT\_IND\_RX
    - TCAP\_DATA\_IND\_RX
    - TCAP\_UDATA\_IND\_RX
    - TCAP\_DATA\_REQ\_RX
    - TCAP\_DELIMITER\_REQ\_RX
    - TCAP\_DELIMITER\_IND\_RX
    - TCAP\_OPEN\_IND\_RX
    - TCAP\_OPEN\_CONFIRM\_RX
    - TCAP\_STATUS\_IND\_RX
    - TCAP\_DIALOG\_CONFIRM\_RX
    - TCAP\_CLOSE\_IND\_RX
    - TCAP\_ABORT\_IND\_RX
    - TCAP\_BIND\_CONFIRM\_RX
    - TCAP\_STAT\_CONFIRM\_RX

- TCAP\_NOTICE\_IND\_RX
- TCAP\_STAT\_IND\_RX
- Added the following DISPLAY values to the Measurement AIN Tools Summary table:
  - AINSVC\_LOC\_LNP\_FAIL\_APP
  - AINSVC\_LOC\_LNP\_QUERY
  - AINSVC\_LOC\_LNP\_QUERY\_NO\_RN
  - AINSVC\_LOC\_LNP\_QUERY\_RN\_FOUND
  - AINSVC\_LOC\_LNP\_QUERY\_SUCC
- Added the following DISPLAY values to the POTS Class of Service Feature Server table:
  - POTS\_COS\_TOLLFREE\_BLOCKED
  - POTS\_TDISC\_CALLS\_OUTG\_BLOCKED
  - POTS\_COS\_TOT\_AUTH\_IVR\_SESSION
  - POTS\_COS\_TOT\_ACCT\_IVR\_SESSION
  - POTS\_COS\_TOT\_IVR\_FAIL
- The following POTS Miscellaneous Feature Server table DISPLAY token values are obsoleted:
  - POTS\_LCD\_AUTH\_ATTEMPTS. Use POTS\_LCD\_AUTH\_ATTMP.
  - POTS\_LCD\_AUTH\_SUCCESS. Use POTS\_LCD\_AUTH\_SUCC.
  - POTS\_LCD\_FORCED\_DISCONNECT. Use POTS\_LCD\_FORCED\_DISC.
- Added the values SIM\_AUDIT\_CCB\_FREED and SIM\_AUDIT\_SIP\_CCB\_FREED to the DISPLAY token in the Measurement SIM Summary table.
- Added Session Initiation Protocol values to the DISPLAY token of the Measurement SIA Summary table, the Measurement SIM Summary table, the Measurement POTS Miscellaneous Feature Server Summary table and the Measurement AIN Tools Summary table.
- Added the following tokens to the Measurement Trunk Group Summary table:
  - TRKGRP-EXCHANGE
  - TRKGRP-NAME
  - CALL-AGENT-ID
- Added the following values to the DISPLAY token of the Measurement MGCP Signaling Adapter Summary table:
  - MGCP\_AUCX\_TX
  - MGCP\_AUCX\_ACK\_RX
  - MGCP\_AUCX\_NACK\_RX
- Added the following values to the DISPLAY token of the Measurement Billing Summary table:
  - BILLING\_TOTAL\_AIRLINES
  - BILLING\_TOTAL\_CNA
  - BILLING\_TOTAL\_DA\_INTER
  - BILLING\_TOTAL\_DA\_INTL
  - BILLING\_TOTAL\_INTL\_OPR
  - BILLING\_TOTAL\_INTL\_WZ1

- BILLING\_TOTAL\_LB\_TEST
- BILLING\_TOTAL\_NAT\_OPR BILLING\_TOTAL\_RAILWAYS
- BILLING\_TOTAL\_SVC\_CODE
- BILLING\_TOTAL\_MOBILE
- BILLING\_TOTAL\_UAN
- Added value definitions to the PROTOCOL-VERSION token in the Electronic Surveillance Server table.
- The following tokens were added to the Media Gateway Profile table: MGCP-TO-SUPP, MGCP-QDISCARD-SUPP, MGCP-TEST-CONN-SUPP and SDP-CAP-ENCODE-TYPE.
- Db-license file provisioning is not required.
- The token MAX-INIT-RTO value in the Stream Control Transmission Protocol Association table is now SMALLINT:1000–3000 (Default = 1000).
- The token MAX-LINES in the MultiLine Hunt Group table is obsolete.
- The following changes were made to the Trunk Group table:
  - Added the tokens TG, SCRIPT-SUPP, VOICE-INFO-TRANSFER-CAP, VOICE-LAYER1-USERINFO and PERFORM-LNP-QUERY.
  - The TG token is a unique key.
  - Added two values, DYNAMIC and LINE, to the MGCP-PKG-TYPE token.
  - Added usage rule for MGCP-PKG-TYPE token.
  - The MD value for MGCP-PKG-TYPE is now supported.
  - The token PFX-DIGITS is 1-10 digits.
- The following changes were made to the Subscriber table:
  - Added the tokens ACCOUNT-ID, BILLING-TYPE, FORCED, LNP-TRIGGER, PORTED-IN, PRIVACY-MANAGER-ID, SECURE-FQDN, VMWI, SDT-MWI, VOICE-MAIL-ID and DN-STATUS.
  - The SECURE-FQDN token is a unique key.
  - The COUNTRY token has no default.
  - Added rule regarding use of FORCED in add commands.
  - The delete subscriber command now deletes all subscriber related records such as those in the Subscriber Feature Data table and the Subscriber Service Profile table.
  - TERM-TYPE=RG is not supported.
  - In the POLICY-ID token the value RG is not supported.
- The following changes were made to the Destination table:
  - The CALL-TYPE token is a foreign key to the Call Subtype table.
  - Added the tokens ACQ-LNP-Query and CALL-SUBTYPE.
  - The RING-TYPE-DN1 token value is now a range from 1 to 7.
  - The test-line value for the CATEGORY token is obsolete.
- Added Database Usage Default sections for Small, Medium, Routeserver, Local Number Portability (LNP) and Cable8 configurations to Appendix D.
- The TCAP-VERSION token is obsoleted in the Subsystem table.

- The Subsystem Profile table is obsolete.
- Added new tables AAA Server Group, Call Type Profile, Call Subtype, Subsystem Group, Region Code, Directory Number to Routing Number, Signal Connection Control Part Route and Directory Number to Gateway Number.
- For medium and large configurations, up to 30 OPCs can be provisioned per Cisco BTS 10200 Softswitch. For small configurations, up to 8 OPCs can be provisioned per Cisco BTS 10200 Softswitch.
- Added the subsystem-grp-id token to the following tables:
  - Service Logic Host Route
  - Signaling Connection Control Part Route
  - Routing Key
- Obsolete the ssn-id token in the following tables
  - Service Logic Host Route
  - Signaling Connection Control Part Route
  - Routing Key
- Added new section on Subsystem Group control and status commands.
- The OPC-ID token is now required in the “control subsystem” command.
- The SDT and SDT-TYPE tokens in the Vertical Service Code table are obsolete.
- Added new delete rule to the Service table.
- In the Digit Map table, the DIGIT-PATTERN token size is now 2048 ASCII characters.
- In the Changed Number table, made the following changes:
  - Added new tokens: END-TIME, LAST-CHANGED and START-TIME.
  - Added new delete and show command examples.
- In the Audio Segment and Audio Sequence tables, the description token is now 512 ASCII characters.
- In the Route table, added the following new tokens:
  - NEXT-ACTION
  - ANNC-ID
  - OVERFLOW-DN
- In the ISDN D-Channel table, added the following new tokens
  - DCHAN-FORMAT
  - DCHAN-SUBSLOT.
- The following changes were made to the Digit Manipulation table:
  - The token MATCH-NOA is 40 ASCII characters
  - The token REPLACE-NOA is 32 ASCII characters.
  - Added the following values to the MATCH-NOA token: PORTED-NUMBER-WITHOUT-RN, PORTED-NUMBER-WITH-RN, NON-UNIQUE-INTL, NON-UNIQUE-NATIONAL and NON-UNIQUE-SUBSCRIBER.
- Added tokens OVERDECADIC-DIGITS-SUPP, NOA-BASED-ROUTING and NOA-ROUTE-PROFILE-ID to the Dial Plan Profile table.

- Added the following call types to the Call Type table:
  - ANA
  - MOBILE
- Added the following feature information to Appendix B:
  - CFC
  - CFC-DN-CHG-ACT
  - CFC-ACT
  - CFC-DEACT
  - CFCI
  - CFCI-NO-DN-VRFY
  - NSA
  - NSA-ACT
  - PS
  - PS-MANAGE
  - PS-O
  - SLE
  - VM
  - VM-ACCESS
  - VMA
  - VMA-ACT
  - VM-ACT
  - VMA-DEACT
  - VM-DEACT
  - Added column “VALUE 5.”
- Added the following rules to the Stream Control Transmission Protocol table:
  - The remote-port and remote-tsap-addr1 cannot be the same.
  - The remote-port and remote-tsap-addr2 cannot be the same.
- Added the following note to the Call Agent Configuration table: When the Cisco BTS 10200 Softswitch looks for provisioned values, Call Agent Configuration table is read first to provide a value. If the Call Agent Configuration table is not provisioned, the system then reads the Call Agent Configuration Base table and returns that default value.
- The IKE-KEY token description has changed in the Aggregation, Media Gateway Profile, Electronic Surveillance Server and Radius Profile tables.
- Modified the description of the IKE-KEY-ENCR token in the Aggregation, Media Gateway Profile, Electronic Surveillance Server and Radius Profile tables.
- Modified the description of the IPSEC-SA-ESP-CS token in the Aggregation, Media Gateway Profile, Electronic Surveillance Server and Radius Profile tables.
- Added the following types to the Check Possible Values Types and Values table (these types are not provisionable in this release):
  - MGCP-T38-FAX-MODE-PREF1

- MGCP-T38-FAX-MODE-PREF1
- MGCP-T38-FAX-MODE-PREF1
- MGCP-T38-FAX-MODE-PREF2
- MGCP-T38-FAX-MODE-PREF2
- MGCP-T38-FAX-MODE-PREF2
- MGCP-T38-FAX-MODE-PREF3
- MGCP-T38-FAX-MODE-PREF3
- MGCP-T38-FAX-MODE-PREF3
- Point of Presence (POP) table changes:
  - Added the following tokens: ENUM-PROFILE-ID, ENUM-SUPP, CLLI-CODE-ID, CUSTOMER-SUPPORT-DN, IVR-DN, OFFICE-SERVICE-ID, POLICY-SERVER, PRIVACY-MANAGER-ID, SENSOR-ID, TEMP-DISC-COS-RESTRICT-ID, TEMP-DISC-SERVICE-ALLOWED, VIRTUAL-NSA-SUBSCRIBER-ID, VOICE-MAIL-ID
  - Added information to the TIMEZONE token; TIMEZONE token is now optional, and is a foreign key to the Timezone table.
  - Added cos-restrict-id for temporarily disconnected subscribers.
  - LATA token range has changed from 100–65535 to 100–99999. Token defaults to 99999 if not provisioned.
  - The STATE token changed to VARCHAR(16) and is uppercase only. Use two uppercase characters for U.S. states. For example: TX, CA, and so forth.
  - JIP token value is now numeric.
- Added list of 4.5 timezone values to Appendix C.
- Channel Associated Signaling Trunk Group Profile table changes:
  - Added tokens: TEST-LINE-TYPE, PLAY-DIAL-TONE, PLAY-RINGBACK-TONE, SEND-ANI, INBAND-INFO, NO-ANSWER-TIMER and NO-ANSWER-ACTION.
  - Modified the values for SIG-TYPE.
  - The SIG-TYPE value MF-FGD has been obsoleted.
  - Added the SIG-TYPE value LINE.
  - The MGCP-PKG-TYPE token is obsoleted. Token moved to the Trunk Group table.
  - The OSS-SIG token is obsoleted. Use new token OSS-SIG-TYPE.
  - The tokens TEST-LINE and NO-TEST-TRUNK are now optional.
- Media Gateway table changes:
  - Added token: NODE.
- Media Gateway Profile table changes:
  - Added tokens: FAX-FAILURE-HANDLING, FAX-INBAND-METHOD, T38-FXR-LOOSE-SUPP, T38-FXR-GW-SUPP, NLB-SUPP, MGCP-MSG-PIGGYBACK-SUPP, MGCP-MAX-KEEPALIVE-INTERVAL, MGCP-REQ-ID-SUPP, MGCP-PIGGYBACK-MSG-SUPP, and PARALLEL-NETWLOOP-SUPP.
  - Marked obsoleted: “if fax-pref-mode=FAX-T38CAMODE, then fax-t38-camode-supp=Y” and “if fax-pref-mode=FAX-INBAND, then fax-inband-supp=Y” from the usage guidelines.

- Added rule for MGCP-MAX-KEEPALIVE-INTERVAL.
  - Added rule for PARALLEL-NETWLOOP-SUPP.
  - Added the value MD to the MGCP-DEFAULT-PKG token.
- Added BAU-URI token to the Announcement table.
- Call Park Subscriber Group table changes:
  - Added token: CPRK-DIGIT-MAP-STRING.
- Exchange Code table changes:
  - Added primary key token digit-string.
  - NDC token now optional.
  - Digit-string token is created by concatenating NDC + EC.
- Office Code table changes:
  - NDC token now optional.
  - Digit-string range changed to 1–14 ASCII characters.
- Subscriber table changes:
  - Added tokens: PORTED-IN, FORCED, BILLING-TYPE, ACCOUNT-ID, VOICE-MAIL-ID, VOICE MAIL ID, and PRIVACY-MANAGER-ID.
  - Added expanded description to the temp-unavailable value of the STATUS token.
  - Added forced rule.
  - The delete subscriber command deletes all subscriber related records such as subscriber-feature-data and subscriber-service-profile.
  - The token SEND-BILLING-DN is obsolete.
- Subscriber Profile table changes:
  - Added tokens: TEST-LINE-TYPE, VOICE-MAIL-ID, INTERLATA-PFX1-OPT and PRIVACY-MANAGER-ID.
- Subscriber Feature Data table changes:
  - Added values NSA, PM, VM, and VMU to the fname token.
  - Added new value “T” to the active token.
  - Added value FDN4 to the type token.
- The following changes were made to the Feature Server table:
  - Table containment area now includes FSAIN.
  - Added new 3PTY value to the type token.
  - Added new token EXTERNAL-FEATURE-SERVER.
- The following new tables were added:
  - Script
  - Trigger NOD Escape List
  - Feature Profile Base
  - Feature Configuration Base
  - Feature Configuration Base Check Possible Values

- Feature Configuration Check Possible Values
- Subscriber Time of Day Schedule
- Common Language Location Identifier
- Emergency Number List
- Nature of Address Route Profile
- Nature of Address Route
- Added the token policy-server-id to the Aggregation table.
- The following changes were made to the Users table:
  - It is now possible to change user attributes DAYS-VALID and WARN using the “change user” command.
  - Added token PASSWORD.
  - Added note in the Examples section on using the PASSWORD token in the add command.
- Subscriber table: added new delete rule.
- Screen List Editing table: added new value, NSA, to the fname token.
- Added Application Server table to the Features chapter.
- Vertical Service Code table: added two Second Dial Tone Indicator tokens.
- Custom Dial Plan table: added sdt-type token.
- Softswitch Trunk Group Profile table changes:
  - The following tokens are obsoleted: ECHO-SUPP-REQUIRED, SATELLITE-CIRCUIT, SEND-CPN, SEND-OCN, SEND-REDIR-NUM, SEND-ATP, SEND-GAP, SEND-GN, SEND-JIP, CC-DIVERSION-SUPP AND SEND-CIP.
  - The following new tokens were added: SEND-FULL-E164, SCALE-FACTOR, MAX-FORWARDS, HOP-COUNTER-SUPP, HOP-COUNTER-MAX, USE-CMSS-RESRC-MGMT, USE-RESOURCE-MGMT, ES-SUPP, AUDIT-THRESHOLD, SIP-TIMER-PROFILE-ID, SEND-CIC-PARAM, USE-PAI-HDR-FOR-ANI, APPLY-USER-PRIVACY, and DNS-SRV-ADV-ON-RETRANS-TIMEOUT.
  - Added two rules for add.
- Display token values for ETSI are supported.
- Display token values for Chile, Israel and Australia ISUPs are not supported.
- Added new tokens SEND-FS-CALLP and REMOTE-FAX-PORT-RETRIEVAL-MSG to the H.323 Terminal Profile and H323 Trunk Group Profile tables.
- The following rules are no longer required for the H323 Trunk Group Profile table:
  - If fax-pref-mode=FAX-T38-CAMODE, then fax-t38-camode-supp=Y;
  - If transport-pref-mode=UDP-MODE, then annexe-supp=Y;
  - If h245-tunneling = AUTO or ENABLE, then facility-supp=Y;
- The following rules are no longer required for the H.323 Terminal Profile table:
  - If fax-pref-mode (in QOS table) = fax-t38-gwmode, then fax-t38-gwmode-supp=Y;
  - If fax-pref-mode (in QOS table) = fax-t38-camode, then fax-t38-camode-supp=Y;
  - If fax-pref-mode (in QOS table) = fax-inband, then fax- inband-supp=Y;
  - If dtmf-pref-mode (in QOS table) = dtmf-cisco-rtp, then dtmf-cisco-rtp-supp=Y;

- If dtmf-pref-mode (in QOS table) = dtmf-h245-alpha, then dtmf-h245-alpha-supp=Y;
  - If dtmf-pref-mode (in QOS table) = dtmf-h245-signal, then dtmf-h245-signal-supp=Y;
  - If dtmf-pref-mode (in QOS table) = dtmf-rfc2833, then dtmf-rfc2833=Y;
- The H.323 Terminal Profile table tokens FAX-T38-CAMODE-SUPP and FAX-T38-GWMODE-SUPP are obsoleted.
- In the Call Detail Block table, 108 and NLB test calls are supported under the type token.
- The following values were added to the SERVICE-TYPE token for billing:
  - call-forward-combination
  - no-solicitation-announcement
  - privacy-screening
  - voice-mail
  - voice-mail-access
- The following values were added to the TYPE token for billing:
  - calling-number-announcement
  - interlata-da
  - international-da
  - universal-access-number
- The loopback-test (108 test calls) value of the TYPE token in the Call Detail Block table is obsoleted.
- Added Appendix F covering timezones and timezone localities for billing and call processing.
- The FREQ token in the Activity table is now mandatory.
- The following changes were made to the Activity Base table:
  - Added example for the *show activity-id* command.
  - Added four new activity ids: SIA-MEMORY-PERIODIC-AUDIT, SIA-MEMORY-SCHEDULED-AUDIT, SIM-MEMORY-PERIODIC-AUDIT and SIM-MEMORY-SCHEDULED-AUDIT.
  - The ID token is now 32 characters.
  - The VALID-FREQ token is now 64 characters.
  - Added the following tokens: AUDIT-COUNT-RANGE-FROM, AUDIT-COUNT-RANGE-TO, AUDIT-INTERVAL-RANGE-FROM, AUDIT-INTERVAL-RANGE-TO, and FIXED-TIME-INTERVAL
- The following changes were made to the Aggregation table:
  - Modified the description of the TSAP-ADDR token.
  - The IPSEC-SA-GRACE- PERIOD token range has changed; notes added.
  - The IKE-GROUP token range has changed.
  - Added token: TYPE.
- Added Appendix H: Data Values for DiffServ Code Point and Type of Service Parameters.
- Added examples and made corrections to the PacketCable chapter.
- The Measurement TSA Summary table is obsoleted. Display values are now part of the Measurement TCAP Summary table.

- The Measurement INAP Summary table is obsolete.
- Added example for the Measurement Trunk Group Usage Summary table showing how to use the reporting option to gather statistics on a per Pop basis.
- Added the following display values for the Measurement Call Processing Summary table:
  - CALLP\_LB\_TEST\_SUCC
  - CALLP\_NCT\_TEST\_SUCC
  - CALLP\_NCT\_TEST\_FAIL
  - CALLP\_NLB\_TEST\_SUCC
  - CALLP\_NLB\_TEST\_FAIL
  - CALLP\_TEST\_ROUTE\_SUCC
  - CALLP\_TOTAL\_TDISC\_ORIG\_ATTMP
  - CALLP\_T38\_FAX\_MEDIA\_SETUP\_SUCC
  - CALLP\_T38\_FAX\_MEDIA\_SETUP\_FAIL
- Added the following display values for the POTS Local Feature Server table:
  - POTS\_CFC\_ACT\_ATTMP
  - POTS\_CFC\_ACT\_FAIL
  - POTS\_CFC\_ACT\_SUCC
  - POTS\_CFC\_DEACT\_ATTMP
  - POTS\_CFC\_DEACT\_FAIL
  - POTS\_CFC\_DEACT\_SUCC
  - POTS\_CFC\_DN\_CHG\_ACT\_ATTMP
  - POTS\_CFC\_DN\_CHG\_ACT\_FAIL
  - POTS\_CFC\_DN\_CHG\_ACT\_SUCC
  - POTS\_CFC\_FORWARD\_ATTMP
  - POTS\_CFC\_FORWARD\_FAIL
  - POTS\_CFC\_FORWARD\_SUCC
  - POTS\_CFC\_INTERROG\_ATTMP
  - POTS\_CFC\_INTERROG\_FAIL
  - POTS\_CFC\_INTERROG\_SUCC
  - POTS\_NSA\_INVOKE\_ABANDON
  - POTS\_NSA\_INVOKE\_ATTMP
  - POTS\_NSA\_INVOKE\_FAIL
  - POTS\_NSA\_INVOKE\_SUCC
- Added the following display values for the Measurement TCAP Protocol Summary table:
  - TCAP\_ABORT\_IND\_RX
  - TCAP\_BIND\_CONFIRM\_RX
  - TCAP\_CLOSE\_IND\_RX
  - TCAP\_COMPONENT\_CONFIRM\_RX

- TCAP\_COMPONENT\_IND\_RX
  - TCAP\_COMPONENT\_REQ\_RX
  - TCAP\_DATA\_IND\_RX
  - TCAP\_DATA\_REQ\_RX
  - TCAP\_DELIMITER\_IND\_RX
  - TCAP\_DELIMITER\_REQ\_RX
  - TCAP\_DIALOG\_CONFIRM\_RX
  - TCAP\_NOTICE\_IND\_RX
  - TCAP\_OPEN\_CONFIRM\_RX
  - TCAP\_OPEN\_IND\_RX
  - TCAP\_OPERATION\_CONFIRM\_RX
  - TCAP\_OPERATION\_IND\_RX
  - TCAP\_OPERATION\_REQ\_RX
  - TCAP\_STAT\_CONFIRM\_RX
  - TCAP\_STAT\_IND\_RX
  - TCAP\_STATUS\_IND\_RX
  - TCAP\_UDATA\_IND\_RX
- Added the following display values to the Measurement ISUP Summary table. These counters replace the SGA counters in previous releases.
    - ISUP\_ABNORMAL\_REL\_RX
    - ISUP\_ABNORMAL\_REL\_TX
    - ISUP\_ACM\_RX
    - ISUP\_ACM\_TX
    - ISUP\_ANM\_RX
    - ISUP\_ANM\_TX
    - ISUP\_ARR\_RX
    - ISUP\_ARR\_TX
    - ISUP\_BLA\_RX
    - ISUP\_BLA\_TX
    - ISUP\_BLO\_RX
    - ISUP\_BLO\_TX
    - ISUP\_CCL\_RX
    - ISUP\_CCL\_TX
    - ISUP\_CCR\_RX
    - ISUP\_CCR\_TX
    - ISUP\_CFN\_RX
    - ISUP\_CFN\_TX
    - ISUP\_CGB\_RX

- ISUP\_CGB\_TX
- ISUP\_CGBA\_RX
- ISUP\_CGBA\_TX
- ISUP\_CGU\_RX
- ISUP\_CGU\_TX
- ISUP\_CGUA\_RX
- ISUP\_CGUA\_TX
- ISUP\_CON\_RX
- ISUP\_CON\_TX
- ISUP\_COT\_RX
- ISUP\_COT\_TX
- ISUP\_CPG\_RX
- ISUP\_CPG\_TX
- ISUP\_CQM\_RX
- ISUP\_CQM\_TX
- ISUP\_CQR\_RX
- ISUP\_CQR\_TX
- ISUP\_CRA\_RX
- ISUP\_CRA\_TX
- ISUP\_CRG\_RX
- ISUP\_CRG\_TX
- ISUP\_CRM\_RX
- ISUP\_CRM\_TX
- ISUP\_CVR\_RX
- ISUP\_CVR\_TX
- ISUP\_CVT\_RX
- ISUP\_CVT\_TX
- ISUP\_EXM\_RX
- ISUP\_EXM\_TX
- ISUP\_FAC\_RX
- ISUP\_FAC\_TX
- ISUP\_FAR\_RX
- ISUP\_FAR\_TX
- ISUP\_FOT\_RX
- ISUP\_FOT\_TX
- ISUP\_FRJ\_RX
- ISUP\_FRJ\_TX
- ISUP\_FWT\_RX

- ISUP\_FWT\_TX
- ISUP\_GRA\_RX
- ISUP\_GRA\_TX
- ISUP\_GRS\_RX
- ISUP\_GRS\_TX
- ISUP\_IAM\_RX
- ISUP\_IAM\_TX
- ISUP\_IDR\_RX
- ISUP\_IDR\_TX
- ISUP\_INF\_RX
- ISUP\_INF\_TX
- ISUP\_INR\_RX
- ISUP\_INR\_TX
- ISUP\_IRS\_RX
- ISUP\_IRS\_TX
- ISUP\_LPA\_RX
- ISUP\_LPA\_TX
- ISUP\_LPM\_RX
- ISUP\_LPM\_TX
- ISUP\_MSG\_RX
- ISUP\_MSG\_TX
- ISUP\_NRM\_RX
- ISUP\_NRM\_TX
- ISUP\_OPR\_RX
- ISUP\_OPR\_TX
- ISUP\_PAM\_RX
- ISUP\_PAM\_TX
- ISUP\_PRI\_RX
- ISUP\_PRI\_TX
- ISUP\_REL\_RX
- ISUP\_REL\_TX
- ISUP\_RES\_RX
- ISUP\_RES\_TX
- ISUP\_RLC\_RX
- ISUP\_RLC\_TX
- ISUP\_RSC\_RX
- ISUP\_RSC\_TX
- ISUP\_SAM\_RX

- ISUP\_SAM\_TX
  - ISUP\_SGM\_RX
  - ISUP\_SGM\_TX
  - ISUP\_SUS\_RX
  - ISUP\_SUS\_TX
  - ISUP\_UBA\_RX
  - ISUP\_UBA\_TX
  - ISUP\_UBL\_RX
  - ISUP\_UBL\_TX
  - ISUP\_UCIC\_RX
  - ISUP\_UCIC\_TX
  - ISUP\_UNEXPECT\_MSG\_RX
  - ISUP\_UNRECOG\_MSG\_RX
  - ISUP\_USR\_RX
  - ISUP\_USR\_TX
- In the Measurements chapter, INAP is obsoleted.
  - Added Appendix I: ISUP Measurement Counters.
  - In the Media Gateway Profile table, the token SPARE2-SUPP is used to specify network loopback test calls.
  - SS7 display values have been changed to AUDIT values in the Measurement Audit Summary table. The following display values have been added:
    - AUDIT\_SS7\_TRUNK\_STATE\_SYNCED
    - AUDIT\_SS7\_LONG\_DUR\_EXCEEDED
    - AUDIT\_FS\_TOTAL\_SIP\_RESP\_TMO
    - AUDIT\_FS\_TOTAL\_SIP\_NOACK\_TMO
    - AUDIT\_FS\_TOTAL\_CA\_SWITCHOVER
    - AUDIT\_SIP\_CCB\_FREED
    - AUDIT\_SIP\_CALL\_RELEASED
    - AUDIT\_SIP\_BCM\_CALL\_RELEASED
    - AUDIT\_SIP\_REGCONTACT\_FREED
  - Added the following display values to the Measurement Billing Summary table:
    - BILLING\_TOTAL\_LB\_TEST
    - BILLING\_TOTAL\_INTL\_OPR
    - BILLING\_TOTAL\_NAT\_OPR
    - BILLING\_TOTAL\_AIRLINES
    - BILLING\_TOTAL\_RAILWAYS
    - BILLING\_TOTAL\_SVC\_CODE
    - BILLING\_TOTAL\_INTL\_WZ1

- BILLING\_TOTAL\_CNA
- BILLING\_TOTAL\_DA\_INTER
- BILLING\_TOTAL\_DA\_INTL
- BILLING\_TOTAL\_UAN
- Added the following display values to the Measurement Trunk Group Usage Summary table:
  - TRKGRP\_EXCHANGE
  - TRKGRP\_GLARE\_COUNT
  - TRKGRP\_LBLK\_TRK\_USAGE
  - TRKGRP\_MAINT\_TRK\_USAGE
  - TRKGRP\_NAME
  - TRKGRP\_OOS\_TRK\_USAGE
  - TRKGRP\_RBLK\_TRK\_USAGE
  - TRKGRP\_TOTAL\_INS\_TRK
  - TRKGRP\_UEQP\_TRK\_USAGE
- Added the display value ANM\_EMG\_CKT\_UNAVAIL to the Announcement Measurements Summary table.
- In the Screening List Editing table the following changes were made:
  - Added the value NSA to the fname token.
  - Added tokens FORCED and LAST-CHANGED.
  - Added delete command examples using the FORCED token.
- Added the following call types:
  - Automatic number announcement (ANA)
  - InterLATA DA call (DA-INTERLATA)
  - International DA Call (DA-INTL)
  - International call within World Zone 1 (INTL-WZ1)
  - Universal Access Number (UAN)
- VACANT call type: removed default call type.
- The following changes were made to the Call Agent Configuration table in Appendix A:
  - Added the following T38 values:
    - MGCP-T38-FAX-MODE-PREF1: Not provisionable.
    - MGCP-T38-FAX-MODE-PREF2: Not provisionable.
    - MGCP-T38-FAX-MODE-PREF3: Not provisionable.
    - CODEC-T38-PTIME
    - T38-MAX -BIT-RATE: Not provisionable.
    - T38-MAX -BUFFER-SIZE: Not provisionable.
    - T38-MAX -DATAGRAM-SIZE: Not provisionable.
  - The following values are obsoleted:
    - MGCP-MIN-RETRANSMIT-COUNT

- MGCP-MAX-RETRANSMIT-COUNT
- MGCP-PING-ATTEMPTS
- MGCP-PING-DURATION
- MGCP-TIMER-VAL
- MIN-SE
- SESSION-EXPIRES
- DEFAULT-IVR-SCRIPT-PKG-TYPE
- FQDN-FOR-EXTERNAL-FS
- SCTP-IP-TOS-PRECEDENCE
- The following values were added:
  - ACCT-CODE-PROMPT-DELAY
  - ACCT-CODE-PROMPT-TIMEOUT
  - ACCT-CODE-PROMPT-TONE
  - COT-ACTIVATION-LEVEL
  - FEATURE-RECONNECT-TMR
  - EMG-SUSPEND-TMR
  - ENUM-QUERY-RESPONSE-TIMER
  - ENUM-QUERY-RETRY-COUNT
  - INACTIVE-CONN-MODE-BEFORE-ANSWER
  - MGCP-MAX-KEEPALIVE-AUEP
  - MGCP-MAX-KEEPALIVE-ICMP
  - MGCP-RTO-MAX
  - NCT-TEST-SERVICE-AFFECTING
  - NLB-TEST-SERVICE-AFFECTING
  - TEST-TRUNK-GRP-DIGITS
  - TEST-TRUNK-MEMBER-DIGITS
  - BEST-EFFORT-ON-QOS-FAIL
  - DEFAULT-OCB-PROFILE-ID
  - DEFAULT-PRIVACY-MANAGER-ID
  - DEFAULT-VOICE-MAIL-ID
  - ENCRYPTION-KEY
  - RADIUS-AUTHORIZATION-ALLOWED
  - RADIUS-SERVER-ADDRESS
  - WHISPER-TONE-TIMER
  - SCTP-DSCP
  - SIP-TIMER-PROFILE-ID
  - SUB-MAX-FORWARDS
  - SUB-SESSION-TIMER-ALLOWED

- SIA-REG-MAX-EXPIRES-SECS
- SIA-REG-MIN-EXPIRES-SECS
- REFER-ACCEPT-TIMER-SECS
- SESSION-EXPIRES
- REFER-ABANDON-TIMER-SECS
- MAX-SESSION-EXPIRES
- MAX-SUBSCRIPTION-LEVEL
- MGCP-T-HIST.
- RELEASE-CALL-ON-LCD-TRIGGER-FAILURE.
- The default value for SIA-REG-MIN-EXPIRES-SECS changed to 1800.
- The following types have no default values: CODEC-G722-PTIME, CODEC-G723-1A-H-PTIME, CODEC-G723-1A-L-PTIME, CODEC-G723-1-H-PTIME, CODEC-G723-1-L-PTIME, CODEC-G726-16K-PTIME, CODEC-G726-24K-PTIME, CODEC-G726-32K-PTIME, CODEC-G726-40K-PTIME, CODEC-G728-PTIME, CODEC-G729AB-PTIME, CODEC-G729B-PTIME, CODEC-G729E-PTIME, CODEC-G729-PTIME, CODEC-PCMA-PTIME, CODEC-T38-PTIME and CODEC-PCMU-PTIME.

## Release 4.4.1

The following changes were made in Release 4.4.1. It is not an inclusive list.



### Note

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The OCB Profile and OCB K Value tables are supported in this release.

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- Added TGID value to the TRUNK-SUB-GRP-TYPE token of the Softswitch Trunk Group Profile table.
- Added the token AAA-SERVER-GRP-ID to the Point of Presence table.
- For the measurement provisioning command, the ALL value for the TYPE token is obsolete.
- In the User Part Variant table, added the Q761\_STANDARD value to the ID token.
- Added the tokens SEND-EARLY-BKWD-MSG and EARLY-BKWD-MSG-TMR to the Trunk Group table.
- In the H.323 Gateway to Gatekeeper table, the GK-IP-ADDR token must now be entered in dot notation: A.B.C.D.
- Added feature information for limited call duration (LCD) to Appendix B.
- Added new table Generic Transparency Descriptor (GTD) and table listing supported GTD parameters.
- Added the following new tables for IVR functionality:
  - Audio Segment
  - Audio Sequence
  - IVR Script Profile
  - Language

- The following rules were added to the Subscriber table:
  - if subscriber category=individual/pbx, mlhg-id and ctxg-id are not provisionable.
  - if subscriber category=mlhg/mlhg-individual/mlhg-pref-indiv, ctxg-id is not provisionable.
  - if subscriber category=ctxg/ctxg-individual/ctxg-tg, mlhg-id is not provisionable.
- Added the token ALARM-STATE to the Alarm Log/Event Log table.
- Added the following values for the Measurement POTS Miscellaneous Feature Server Summary table display token:
  - POTS\_LCD\_AUTH\_ATTEMPTS
  - POTS\_LCD\_AUTH\_SUCCESS
  - POTS\_LCD\_AUTH\_FAIL
  - POTS\_LCD\_REAUTH\_FAIL
  - POTS\_LCD\_FORCED\_DISCONNECT
- In the ADM chapter, Address of Record to Subscriber (aor2sub) table, the status and control commands are obsoleted. Use the change command to control an aor2sub ID, and the show command to check the status.
- Added the token USE-PACKETCABLE-IAP to the Electronic Surveillance Server table for CALEA SII support.
- Added the following values and note to the ID token of the Activity table:
  - MEDIA-ALIVE-EM
  - MGCP-TERM
  - SS7-CIC




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**Note** Note: Enter these values in upper case. These values are case-sensitive.

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- Added note to the id token of the Activity Base table that the values are case-sensitive.
- In the Call Agent table, the token tsap-addr-sidea is now tsap-addr.
- In the Call Agent Configuration table:
  - Added example of add command.
  - Delete command is now supported
  - The tokens batch-mode-supp and batch-latency are obsoleted.
- In the Local Access and Transport Area table, the LATA id range is increased to 99999.
- In the Call Agent Profile table:
  - Removed the add and change rule “cms-id cannot equal the mgc-id.”
  - Cms-id is now mandatory. Default is 99999.
  - Default for the feid token is now 33333.
  - Mgc-id is now mandatory. Default is 99999.
  - The token cms-supp is obsolete.
  - Removed the token mgc-supp.
  - Removed the token gtd-supp.

- Removed the token es-intercept-type.
  - Added the tokens FORCED and PCMM-SUPP.
- For the cdb-billing-supp token:
- Added the token ALARM-STATUS to the Alarm or Event Log command.
- In the Softswitch Trunk Group Profile table the value for the SIPT-ISUP-VER token is no longer restricted to GR317.
- Added the following values for the Measurement POTS Miscellaneous Feature Server Summary table display token:
  - POTS\_LCD\_AUTH\_ATTEMPTS
  - POTS\_LCD\_AUTH\_SUCCESS
  - POTS\_LCD\_AUTH\_FAIL
  - POTS\_LCD\_REAUTH\_FAIL
  - POTS\_LCD\_FORCED\_DISCONNECT
- In the ADM chapter, Address of Record to Subscriber (aor2sub) table, the status and control commands are no longer supported. Use the change command to control an aor2sub id, and the show command to check the status.
- Added the token use-packetcable-iap to the Electronic Surveillance Server table for CALEA SII support.
- Added the following values and note to the ID token of the Activity table:
  - MEDIA-ALIVE-EM
  - MGCP-TERM
  - SS7-CIC
  - Note: Enter these values in upper case. These values are case-sensitive.
- Added note to the ID token of the Activity Base table that the values are case-sensitive.
- In the Call Agent Configuration table:
  - Added example of add command.
  - Delete command is now supported
  - The tokens batch-mode-supp and batch-latency are no longer supported.
- In the Call Agent Profile table:
  - Removed the add and change rule “cms-id cannot equal the mgc-id.”
  - Cms-id is now mandatory. Default is 99999.
  - Default for the FEID token is now 33333.
  - MGC-ID is now mandatory. Default is 99999.
  - Removed the tokens CMS-SUPP, MGC-SUPP, GTD-SUPP and ES-INTERCEPT-TYPE.
  - For the CDB-BILLING-SUPP token:
    - Added the caution: Cisco strongly recommends that you do not set both CDB-BILLING-SUPP and EM-BILLING-SUPP to Y. Attempting to generate both types of records simultaneously can significantly degrade system performance.
    - Added the note: To set both the cdb-billing-supp and em-billing-supp tokens to Y, include FORCED=Y in the command line.

- For the EM-BILLING-SUPP token:
  - Added the caution: Cisco strongly recommends that you do not set both CDB-BILLING-SUPP and EM-BILLING-SUPP to Y. Attempting to generate both types of records simultaneously can significantly degrade system performance.
  - Added the note: To set both the cdb-billing-supp and em-billing-supp tokens to Y, include FORCED=Y in the command line.
- For the FEID token:
  - Default is now 33333.
  - Amended note: This optional token becomes a mandatory token if the CMS-SUPP token, the MGC-SUPP token, or both are set to Y (yes) in Releases 4.1 and 4.2. This token is optional in Release 4.4.1 regardless of whether the CMS-SUPP token, the MGC-SUPP token, or both are set to Y (yes).
- Added new table Check Positive Values table. Moved the Check Positive Values Valid Types and Values table from Appendix A to Chapter 1.
- Added new token SEND-ALERT to the DB Usage table.
- Added the following tokens to the Trunk Group table: STATUS-MONITORING.
- Added the new token KEEPALIVE-METHOD to the Media Gateway Profile table. In Release 4.4.1, the Cisco BTS 10200 Softswitch uses the value NONE for this token to replace the mgw-monitoring flag in MGW table.
- Destination table:
  - Added new call type UAN.
  - Added new route type SCRIPT.
  - Added new token SCRIPT-ID.
- New tables:
  - Script
  - Network Element
  - GTD Parameter Values
- Cause Code Map Profile table: deleted tokens DEFAULT-STD-CAUSE-CODE and DEFAULT-ACTION.
- Measurements:
  - Added new report and clear commands for call-tools, ain-tools and pct-tools.
  - Added new types: call-tools, ain-tools, and pct-tools.
- Deleted the token MGW-MONITORING-ENABLED in the Media Gateway table.
- Added new tokens ES-SUPP and AUDIT-THRESHOLD to the Softswitch Trunk Group Profile table.
- Changed range to 0–30 seconds for the STATUS-ENQ-TIMER in the H323 Gateway table.
- TIME-TO-LIVE token moved from the H323 GW2GK table to the H323 Gateway table.
- Added the following types to the Call Agent Configuration table in Appendix A:
  - trunk-audit-interval
  - exchange-type
  - ar-announcement-response-timer-tanc

- ar-invalid-digit-counter
- ar-announcement-response-timeout-counter
- ar-dn-voiceback-option
- ar-name-voiceback-option
- default-ivr-route-guide-id
- Added caution for no support of Telnet.
- The measurement DISPLAY tokens for ITU-Chile ISUP are not supported.
- DISPLAY token values for ETSI, Israel and Australia ISUPs are not supported.
- Added database usage tables for small, medium, large, routeserver and LNP configurations.
- Removed the delete rules for the IPSec Kerberos Old Service Keys table.
- Added expanded information for the ACC-REQ-RETRANSMIT and ACC-RSP-TIMER tokens in the Radius Profile table.
- Updated all information of all occurrences of the IKE-CS token.
- Values pertaining to the MGX8260 are no longer supported.
- Added new tokens GTD-MODE and GTD-PARMS to the Softswitch Trunk Group Profile table.

## Release 4.4.0

The following changes were made in Release 4.4.0. It is not an inclusive list.

- MGP command is obsolete.
- Added new query commands: query-lnp, query-lidb and query-toll-free.
- In the Call Agent table, the token TSAP-ADDR-SIDEA is now TSAP-ADDR.
- Added the AR-ACTIVATION-LEVEL token to the Point of Presence table.
- The following changes were made to the Billing Account Address table:
  - BILLING-FILE-PREFIX token now VARCHAR(20): 1–20 (Default = bil) characters.
  - Added new token SFTP-SUPP.
- The Hardware Monitoring “change node” and “show node” commands are no longer supported.
- Removed the Call Agent Configuration token h323-max-reattempt-count from Appendix A.
- Modified descriptions of the CODEC-NEG-SUPP, MGCP-HAIRPIN-SUPP, MGCP-HAIRPIN-Z2-SUPP, and the MGCP-CONN-ID-AT- GW-SUPP tokens in the Media Gateway Profile table.
- Added change command to the Measurement Provisioning table.
- Added the following expanded information to the MGCP-DEFAULT-PKG token of the Media Gateway Profile table: “If the mgcp-variant=TGCP, the mgcp-pkg-type must be set to IT (ISUP trunk).”
- In the Call Agent Configuration table in Appendix A:
  - Changed the default values for SIA-SIG-TOS-LOWDELAY and SIA-SIG-TOS-PRECEDENCE to Y and 3.
  - Added SIP-SUB-SEND-CPG-ON-HOLD-SIGNAL, ACCT-CODE-PROMPT-DELAY, AUTH-CODE-PROMPT-DELAY, DEFAULT-OCB-PROFILE-ID.
- Added ISUP values for Israel and Australia to the ID token in the User Part Variant Base table.

- Added the token EXCHANGE-TYPE to the Signaling System 7 Q761 Trunk Group Profile table for ETSI v2 ISUP.
- Added the token EXCHANGE-TYPE to the Call Agent Configuration table in Appendix A.
- Made the following changes to the ISDN Trunk Group Profile table:
  - added new tokens T-304, T037, GENDIGIT-IE-CODESET, GENDIGIT-IE-SUPP, MAX-RESTART-COUNT, MAX-SERVICE-COUNT, OVERLAP-SENDING-SUPP, OVERLAP-RECEIVING-SUPP and GENDIGIT-TOD-INFODIGIT.
  - For the interface-type token: USER value is now valid; added value SYMMETRIC (Not Used).
- Added values to the measurement DISPLAY tokens for ISDN, ETSI, Israel and Australia.
- In the ISDN D Channel table, changed DCHAN-PORT range from 0–255 to 0–32768. Added VSXM note.
- Added Outgoing Call Barring (OCB) Profile and OCB K Value tables.
- Added token OCB-PROFILE-ID to the Point of Presence (POP) table.
- Changed N value description of the BLOCK-EAWOPIC token in the POP table from “Route to LEC” to “Route to LECOSS.”
- Added new table: Local Number Portability Profile.
- Added new appendix: ISUP Message Counters.
- The following changes were made to the Users section of the Security chapter:
  - Removed note regarding the reset password command.
  - Rephrased note regarding user prompt for password. Users connecting by SSH are not prompted to change their password upon first logging in; since SSH is now the default, users will never be prompted to change their password.
  - Added the tokens FIRST and START-TIME.
- Added new Chapter for Interactive Voice Response.

## Release 4.2.1

The following changes were made in Release 4.2.1. It is not an inclusive list.

- The MGCP-CMD-SEQ-SUPP token in the MGW Profile table is not configurable.
- Added new table TIMEZONE.

## Release 4.2

The following changes were made in Release 4.2. It is not an inclusive list.

- Added the following information to the Usage Guidelines section for the Subscriber Feature Data table: use Table B-1 “List of Features” to determine the correct tokens to provision features. For example, when provisioning CFU to allow forwarding to international numbers, you must provision TYPE3 and VALUE3.
- Added Release 4.2 Database Usage default section to Appendix D.
- Updated configurable parameters in Appendix A.

- Added the following tokens to the Subscriber table: H323-TERM-ID, SEND-BDN-AS-CPN and SEND-BDN-FOR-EMG.
- The following Subscriber table token definitions were modified.
  - Term-type—added H323 Term Type
  - Privacy—added USER as a privacy type
- Added the token, VIDEO-CODEC-TYPE to the Quality of Service table.
- The following new tables were added:
  - ANI Screening
  - ANI Screening Profile
  - H.323 Terminal
  - H.323 Terminal Profile
  - SIP Timer Profile
  - SIPT ISUP Version Base
  - SIPT ISUP Version Alias
- The following tokens were added to the Trunk Group table: ANI-SCREENING, ANI-SCREENING-PROFILE-ID and SEND-RDN-AS-CPN.
- The token TRUNK-SUB-GRP is provisionable for H323.
- Added new point-code-type value THAILAND to the DPC table.
- Added new point-code-type value THAILAND to the OPC table.
- The tokens H245-TUNNELING and CALL-START-MODE were deleted from the H323 Gateway table and moved to the H323 Trunk Group Profile and H323 Termination Profile tables.
- The following new tokens were added to the H323 Gateway table: STATUS-ENQ-TIMER, CODEC-NEG-TIMER, CODEC-NEG-ATTEMPTS and SOURCE-BASED-ROUTING.
- Updated display values for the ISUP summary command in the Measurements chapter with values for Thailand and ITU-HongKong.
- Updated Measurement chapter command examples to include the output-type token.
- Updated the “change ems” command regarding the ntp-server token.
- Added DB-Usage tables for Routeserver and LNP configurations for 4.2, in addition to updating Small and Medium configuration tables.
- Made the following changes to the Call Agent Configuration table in Appendix A:
  - added type H323-MAX-LOOP-COUNT
  - added type DEFAULT-LNP-PROFILE-ID
  - added type SUB-SESSION-TIMER-ALLOWED
  - changed the default to Y for the TYPE CODEC-MOD-DURING-CALL token
  - changed to-value of the type MGCP-INIT-TERMS to 5000
  - changed default value for SCP-RESPONSE-TMR to 3
- In the AOR2SUB table, noted that the default for the STATUS token is OOS.
- Corrected value of the announcement timer token in the Announcement table from VARCHAR to INTEGER.
- The MGCP-CMD-SEQ-SUPP token in the Media Gateway Profile table is configurable only as N.

- The following changes were made to the Softswitch Trunk Group table:
  - The following tokens were added: USE-SIPT-ISUP-BASE and SIPT-ISUP-BASE
  - PROTOCOL-TYPE: updated SIP\_T value definition.
  - Add rules no longer apply.

## Release 4.1

The following changes were made in Release 4.1. It is not an inclusive list.

- Added the System Health command.
- Added Audit Circuit Identification Code command.
- Added SS7-trace command.
- In the Dial Plan Profile table, the following information was added to the NANP-DIAL-PLAN token: if this token is set to N, then the NOA token in the Dial Plan table defaults to UNKNOWN.
- The following call-types were added to the Call Type table:
  - AIRLINE
  - INTL-WZ1
  - RAILWAYS
  - SVC-CODE
  - NAT-OPR
- Chapter 26 has been renamed to Maintenance and Administration of System Component Commands.
- Returnable Status States and Success and Failure Responses sections in Chapter 26 have moved to the *Cisco BTS 10200 Operations and Maintenance Manual*.
- The PROPRIETARY-SUPP token must be set to 8 when provisioning NI2 in the ISDN Trunk Group Profile table.
- All -unsupp tokens changed to -supp.
- Added new CAUSE-CODE-TYPE values.
- Updated Subscriber table with MAC-ID.
- Changed TCPRK in CPSG table to a VARCHAR.
- Defined rules for the MGCP Retcode Action table.
- Added a new token REFER-TRIGGER to the Trigger ID table.
- Set token mgcp-cmd-seq-supp=N in MGW Profile table.
- Changed range value for MGCP-T-TRAN to 8000.
- Set token FEATURE-SERVER-SO-ON-CA-CONN-LOSS=Y.
- Added a new term-type=NONE in the Subscriber table.
- Added new FEATURE-SERVER type (HTTP) in the Feature server table. The HTTP Server is used by the SIP Phone to activate/deactivate call forwarding features.
- Now allow up to 64 digits in the Dial Plan table.
- Now allow a minimum of 3 digits and a maximum of 64 digits in the International Dial Plan table.

- Added new value=BBG for type=CC in the Feature table. The new value is used for CFVABBG.
- Updated description in the Trunk Group table DPC field.
- Ext2subscriber table is now also provisioned in the Call Agent.
- Added new token tRUNK-SUB-GRP to the Trunk Group table, which is used for SIP to identify a unique TG between two Call Agents.
- Removed tokens IPSEC-CMS-CONTROL-PORT, and IPSEC-AGGR-CONTROL-PORT from the Radius Profile table.
- Added new value NA for freq, day-of-month, day-of-week to the Activity table.
- In the Trunk Group table, traffic-type=local is now the default.
- Added mgcp-pkg-type=NA for SIP and H323 trunk groups.
- In the POP table, cnam-option=none is now the default.
- In the Special Call Type table, call-type is now a required field.
- In the CAS Trunk Group Profile table, added mf-oss-type=na as the default. Rule was also modified.
- In the MGW Profile table, added new mgw-type=unspecified as the default.
- In the QOS table, codec-type default is now PCMU.
- In the QOS table, max-dqos-auth-bandwidth=high is now the default for the default-bc token.
- Added PacketCable chapter.
- New tables:
  - ACTIVITY
  - ACTIVITY-BASE
  - AOR2SUB
  - AUTH-REALM
  - CALL-CTRL-ROUTE
  - CIPHERSUITE
  - CIPHERSUITE-PROFILE
  - DPC
  - HTTP-FEATURE-SERVER
  - IPSEC-KERBEROS
  - IPSEC-KERBEROS-KEYS
  - IPSEC-POLICY
  - IPSEC-SA
  - MAC2SUB
  - MGCP-RETCODE-ACTION
  - OPC
  - ROUTING-KEY
  - SCCP-NW
  - SCCP-ROUTE
  - SCTP-ASSOC

- SCTP-ASSOC-PROFILE
  - SERVING-DOMAIN-NAME
  - SG
  - SG-GRP
  - SGP
  - SLHR
  - SLHR-PROFILE
  - SS7-Q761-TG-PROFILE
  - STATIC-CONTACT
  - SUBSYSTEM
  - SUBSYSTEM-PROFILE
  - SUP
  - USER-AUTH
  - USER-PART-VARIANT
  - USER-PART-VARIANT-BASE
- Added SS7 CQM diagnostic command responses.
  - Removed all references to the MAC tool.
  - Added note to User section regarding necessity of provisioning new-password for new user.
  - SP-ID in the Technical Prefix Group table changed from optional to mandatory.
  - Added CHK-POS-VAL column to Appendix A.
  - Added DB-Usage tables for Small and Medium configurations for 4.1.
  - Events and Alarms:
    - In the subscribe/unsubscribe commands “level” is changed to “severity.”
    - “Number” can be any value from 1 through 200. It is no longer limited to 150.
    - “Threshold” and “throttle” cannot be used with the show command—returns the error message “invalid key(s) found.”
  - The token MGCP-PKG-TYPE was moved from the Announcement Trunk Group Profile table to the Trunk Group table.
  - In the Signaling System 7 ANSI Trunk Group Profile table, for the cot-tone token, added note stating: “The Cisco BTS 10200 Softswitch does not support 2 wire side emulation in transponder COT testing.” Marked “2W-TO-2W—Tx High (2010 Hz), Rx Low (1780 Hz),” and “2W-TO-4W—Tx High (2010 Hz), Rx Low (1780 Hz),” as obsolete.
  - In the Signaling System 7 Q761 Trunk Group Profile table, for the cot-tone token, added note stating: “The Cisco BTS 10200 Softswitch does not support 2 wire side emulation in transponder COT testing.” Marked “2W-TO-2W—Tx High (2010 Hz), Rx Low (1780 Hz),” and “2W-TO-4W—Tx High (2010 Hz), Rx Low (1780 Hz),” as not supported.
  - Added new values and changed VARCHAR for the CAUSE-CODE-TYPE token.
  - Added values for the Measurement ISUP Summary DISPLAY tokens for China ISUP.
  - Softswitch Trunk Group table: changed values for redirect-supported token.
  - Added Batch Data Retrieval (Paging) information and examples.

- Removed tokens: NAT-800-MSGTYPE, CAR-800-TTYPE, CAR-800-MSGTYPE, LNP-TTYPE, and CNAM-TTYPE from Appendix A.
- In the Destination table, marked the CARRIER-OPERATOR call type as “not used.”
- Added note to the Multiline Hunt Group table ID token: “When you are provisioning a multiline hunt group, add the MLHG-ID to every subscriber in the group. While the MLHG will work when the mlhg-id is added to just the main subscriber; account codes will not work unless the MLHG-ID is added to all subscribers of the MLHG.”
- Added note to the Billing chapter to state that a hyphen is not allowed in the BILLING-FILE-PREFIX token. Also removed hyphen from the example.
- In the Appendix D, Database Usage, changed the following for all medium configurations:
  - NDC 800 N 800 800 Y N N Y
  - EXCHANGE-CODE 50000 N 50000 50000 Y N N Y
  - OFFICE-CODE 50000 Y 50000 50000 Y Y N Y
- The following parameters in Appendix A are obsolete:
  - MGA-SIG-TOS-LOWDELAY
  - MGA-SIG-TOS-PRECEDENCE
  - MGA-SIG-TOS-RELIABILITY
  - MGA-SIG-TOS-THROUGHPUT
- The following changes were made to the Stream Transmission Control Protocol table:
  - Added value definitions for the DSCP token.
  - Added new rule.

## Conventions

This section outlines the conventions used within this book and in the commands used to provision and maintain the Cisco BTS 10200 Softswitch.

## Document

This document uses the following conventions:

- If only a single option from a list is allowed, the choices are separated by a vertical bar (|).
- Table tokens are specified as table-name::token-name syntax.
- Token names in Syntax Descriptions are in uppercase for easy scanning of information.
- The following terms are used in the table descriptions:

- Table Containment Area

The hardware component a table resides in. For example, Call Processing tables reside within the Call Agent (CA). Operations, Administration, Maintenance, and Provisioning (OAMP) tables reside in the EMS. The casual-wb-list resides in the plain old telephone service (POTS) Feature Server.

- Primary Key Token(s)

A mandatory, unique key.



**Note** A primary key cannot be changed—it identifies the record.

Some primary key tokens are optional. In these cases, the token does not have to be entered from the CLI, but the default value for the token is always used by the system.

- Unique Key Token(s)

Provides a unique index (secondary key).

- Foreign Key Token(s)

References tokens in foreign (other) tables. The table of the foreign key is listed in the table cell. When a token has a Foreign Key designation, validation is performed to ensure that the value of the token matches the value of that token in the referenced table.

- Mandatory tokens are preceded by an asterisk. If an asterisk is not present, the token is optional.

- Dependencies

In some cases, information must be entered into other tables before information can be entered into a given table. Tables with these requirements have *dependencies*.

For example, you cannot add a dial plan unless a dial plan ID exists.

- SideA/SideB

Each Cisco BTS 10200 Softswitch component (Call Agent, Feature Server, Element Management System, and Bulk Data Management System) operates in redundant mode. Each component has two sides, labeled A and B, loaded on different machines during installation. You cannot change these assignments during operation. Side A is designated as “primary” and Side B as “secondary.” During normal operations, Side A is active and Side B is standby.

## Notes, Cautions, Warnings, and Tips

Notes, cautions, warnings, and tips are used throughout the document where applicable.



**Note** Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the manual.



**Tip** Means *the following information will help you solve a problem*. The tips information might not be troubleshooting or even an action, but could be useful information or information that might save time.



**Caution** Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

**Warning****IMPORTANT SAFETY INSTRUCTIONS**

**This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. To see translations of the warnings that appear in this publication, see the translated safety warnings that accompanied this device.**

**Note: SAVE THESE INSTRUCTIONS**

**Note: This documentation is to be used in conjunction with the specific product installation guide that shipped with the product. See the Installation Guide, Configuration Guide, or other enclosed additional documentation for further details.**

## Command Structure

The following conventions apply to the commands:

- All commands start with a verb.
- A noun immediately follows the verb if appropriate.
- All primary keys must be specified in add, change, or delete commands.
- A primary key cannot be changed—it identifies the record.
- All parameters must be specified in a “token-name=value” pair. However, when a parameter (token) is referenced by another table, a full table-name qualifier is required. For example, in the Local Service Area table, the token is ID; but, because the table is referenced by the LSA Profile table, the command is entered as lsa-id. Likewise, the token is also specified as lsa-id when used in the LSA Profile table.
- Each value is terminated by a semicolon.
- A token can contain several values separated by commas.
- All token names, command verbs, and command nouns are case insensitive.
- All values entered after the equal sign (=) in a command are case sensitive.

**Caution**

You must enter system component names in the case in which they were originally added to the system. For example, if a Call Agent ID was entered in lowercase (ca146), you must always enter it in lowercase. If it was entered in uppercase (CA146), you must always enter it in uppercase or you will get an error message.

Likewise, feature tokens are always entered in uppercase, or you will receive the message “*Reply: Database is void of entries.*” For example, enter AC\_ACT, not ac\_act.

- White space is allowed in a value field if the value type is an ASCII character string.
- Any alphanumeric character and spaces can be used in specified values.
  - All fields that are alphanumeric characters by definition are stored in string form in the database.

- If a token has a default value, the value is considered optional when entering a command. However, the token itself can be required, but its default value is automatically entered into the system.
- Optional fields can become *required* based on the provisioning of another token. For example, in the Destination table, carrier-id (optional) becomes required if route-type=Carrier.
- All fields that represent digit strings are entered and displayed in the proper dial plan format with a dash (-) but only the numeric characters are stored in the database. The international dial-plan digits should not contain dashes.
- All dashes (-) in the token fields are converted to underscores ( \_ ) when they are stored in the database.

**Caution**

Exception—you must type feature tokens with an underscore ( \_ ) or you will receive the message “Reply: Database is void of entries.” For example, enter AC\_ACT, not AC-ACT.

## Ciscouser

The “ciscouser” login is a high-level security login for TAC and other Cisco BTS 10200 Softswitch support personnel that restricts access to certain commands. Anyone else trying to execute such commands receives an error message.

## User and Command Privilege Levels

The system administrator assigns a User Privilege Level (UPL) to a user's login. There are 10 levels, 1 to 10, with 10 being the highest (system administrator level). Similarly, each command has a Command Privilege Level (CPL), 1 to 10, associated with it. A user must have a UPL equal to or higher than the command's CPL to use that command. The system will deny users with UPLs lower than the CPL. The system administrator can change a user's UPL as well as the CPL of any command. The default Security CPL values are:

**Table 2 Noun/Verb Command Default Security Privilege Levels**

Noun	Verb	Default Security Level
aaa-server-grp	add	8
aaa-server-grp	audit	8
aaa-server-grp	change	5
aaa-server-grp	delete	8
aaa-server-grp	help	1
aaa-server-grp	show	2
activity	add	8
activity	audit	8
activity	change	5
activity	delete	8
activity	help	1

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
activity	show	2
activity-base	help	1
activity-base	show	2
activity-summary	report	3
aggr	add	8
aggr	audit	8
aggr	change	8
aggr	delete	8
aggr	help	1
aggr	show	2
aggr	status	8
alarm	ack	7
alarm	clear	7
alarm	help	1
alarm	show	2
alarm-log	help	1
alarm-log	show	3
alarm-report	help	1
alarm-report	subscribe	3
alarm-report	unsubscribe	3
all-ss7-cics	audit	2
all-ss7-cics	help	1
ancement	add	8
ancement	audit	8
ancement	change	5
ancement	delete	8
ancement	help	1
ancement	show	2
ani	add	8
ani	audit	8
ani	change	5
ani	delete	8
ani	help	1
ani	show	2
ani-screening	add	8
ani-screening	audit	8

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
ani-screening	change	5
ani-screening	delete	8
ani-screening	help	1
ani-screening	show	2
ani-screening-profile	add	8
ani-screening-profile	audit	8
ani-screening-profile	change	5
ani-screening-profile	delete	8
ani-screening-profile	help	1
ani-screening-profile	show	2
ani-wb-list	add	8
ani-wb-list	audit	8
ani-wb-list	delete	8
ani-wb-list	help	1
ani-wb-list	show	2
annc	add	8
annc	audit	8
annc	change	5
annc	delete	8
annc	help	1
annc	show	2
annc-tg-profile	add	8
annc-tg-profile	audit	8
annc-tg-profile	change	8
annc-tg-profile	delete	8
annc-tg-profile	help	1
annc-tg-profile	show	2
annc-trunk	add	6
annc-trunk	audit	6
annc-trunk	change	6
annc-trunk	delete	6
annc-trunk	help	1
annc-trunk	show	2
annc-trunk-termination	diag	2
annc-trunk-termination	help	1
aor2sub	audit	8

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
aor2sub	change	8
aor2sub	help	1
aor2sub	show	2
application	change	1
application	control	1
application	help	1
application	show	1
application	status	1
app-server	add	8
app-server	audit	8
app-server	change	5
app-server	delete	8
app-server	help	1
app-server	show	2
audio-segment	add	8
audio-segment	audit	8
audio-segment	change	5
audio-segment	delete	8
audio-segment	help	1
audio-segment	show	2
audio-seq	add	8
audio-seq	audit	8
audio-seq	change	5
audio-seq	delete	8
audio-seq	help	1
audio-seq	show	2
auth-code	add	8
auth-code	audit	8
auth-code	change	5
auth-code	delete	8
auth-code	help	1
auth-code	show	2
auth-code-grp	add	8
auth-code-grp	audit	8
auth-code-grp	change	5
auth-code-grp	delete	8

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
auth-code-grp	help	1
auth-code-grp	show	2
auth-realm	add	8
auth-realm	audit	8
auth-realm	change	5
auth-realm	delete	8
auth-realm	help	1
auth-realm	show	2
backhaul-set	add	8
backhaul-set	audit	8
backhaul-set	change	5
backhaul-set	delete	8
backhaul-set	help	1
backhaul-set	show	2
bdms	control	1
bdms	help	1
bdms	status	1
billing-acct-addr	change	9
billing-acct-addr	help	1
billing-acct-addr	show	2
billing-alarm	change	5
billing-alarm	help	1
billing-alarm	show	2
billing-cdb	change	5
billing-cdb	help	1
billing-cdb	show	2
billing-file	help	1
billing-file	report	6
billing-record	help	1
billing-record	report	6
ca-config	add	8
ca-config	audit	8
ca-config	change	8
ca-config	delete	8
ca-config	help	1
ca-config	show	2

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
ca-config-base	help	1
ca-config-base	show	2
ca-config-base-pos-val	help	1
ca-config-base-pos-val	show	2
call-agent	add	8
call-agent	audit	6
call-agent	change	5
call-agent	control	6
call-agent	delete	8
call-agent	get-trace	2
call-agent	help	1
call-agent	set-trace	6
call-agent	show	2
call-agent	status	2
call-agent-profile	add	8
call-agent-profile	audit	8
call-agent-profile	change	5
call-agent-profile	delete	8
call-agent-profile	help	1
call-agent-profile	show	2
call-ctrl-route	add	6
call-ctrl-route	audit	6
call-ctrl-route	change	6
call-ctrl-route	delete	6
call-ctrl-route	help	1
call-ctrl-route	show	3
call-subtype	help	1
call-subtype	show	2
call-trace	help	1
call-trace	query	2
call-trace-summary	help	1
call-trace-summary	report	3
call-type	help	1
call-type	show	2
call-type-profile	add	8
call-type-profile	audit	8

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
call-type-profile	change	8
call-type-profile	delete	8
call-type-profile	help	1
call-type-profile	show	2
carrier	add	8
carrier	audit	8
carrier	change	5
carrier	delete	8
carrier	help	1
carrier	show	2
cas-tg-profile	add	8
cas-tg-profile	audit	8
cas-tg-profile	change	5
cas-tg-profile	delete	8
cas-tg-profile	help	1
cas-tg-profile	show	2
cas-trunk-termination	diag	2
cas-trunk-termination	help	1
casual-wb-list	add	8
casual-wb-list	audit	8
casual-wb-list	delete	8
casual-wb-list	help	1
casual-wb-list	show	2
cause-code-map	add	8
cause-code-map	audit	8
cause-code-map	change	5
cause-code-map	delete	8
cause-code-map	help	1
cause-code-map	show	2
cause-code-map-profile	add	8
cause-code-map-profile	audit	8
cause-code-map-profile	change	5
cause-code-map-profile	delete	8
cause-code-map-profile	help	1
cause-code-map-profile	show	2
centrex-grp	add	8

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
centrex-grp	audit	8
centrex-grp	change	5
centrex-grp	delete	8
centrex-grp	help	1
centrex-grp	show	2
changed-number	add	8
changed-number	audit	8
changed-number	change	8
changed-number	delete	8
changed-number	help	1
changed-number	show	2
ciphersuite	add	8
ciphersuite	audit	8
ciphersuite	change	8
ciphersuite	delete	8
ciphersuite	help	1
ciphersuite	show	2
ciphersuite-profile	add	8
ciphersuite-profile	audit	8
ciphersuite-profile	change	8
ciphersuite-profile	delete	8
ciphersuite-profile	help	1
ciphersuite-profile	show	2
circuit-code	add	8
circuit-code	audit	8
circuit-code	change	8
circuit-code	delete	8
circuit-code	help	1
circuit-code	show	2
cli-code	add	8
cli-code	change	5
cli-code	delete	8
cli-code	help	1
cli-code	show	2
cmdpar	add	10
cmdpar	change	10

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
cmdpar	delete	10
cmdpar	show	10
cmdtab	add	10
cmdtab	change	10
cmdtab	delete	10
cmdtab	show	10
command-alias	add	10
command-alias	delete	10
command-alias	show	10
command-level	change	8
command-level	help	1
command-level	show	2
command-table	change	10
command-table	help	3
command-table	reset	10
command-table	show	3
cos-restrict	add	8
cos-restrict	audit	8
cos-restrict	change	5
cos-restrict	delete	8
cos-restrict	help	1
cos-restrict	show	2
cpsg	add	8
cpsg	audit	8
cpsg	change	8
cpsg	delete	8
cpsg	help	1
cpsg	show	2
ctxg	add	8
ctxg	audit	8
ctxg	change	5
ctxg	delete	8
ctxg	help	1
ctxg	show	2
cust-grp	add	8
cust-grp	audit	8

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
cust-grp	change	5
cust-grp	delete	8
cust-grp	help	1
cust-grp	show	2
custom-dial-plan	add	8
custom-dial-plan	audit	8
custom-dial-plan	change	5
custom-dial-plan	delete	8
custom-dial-plan	help	1
custom-dial-plan	show	2
custom-dial-plan-profile	add	8
custom-dial-plan-profile	change	5
custom-dial-plan-profile	delete	8
custom-dial-plan-profile	help	1
custom-dial-plan-profile	show	2
database	audit	10
database	download	10
database	help	1
db-license	add	10
db-license	change	10
db-license	delete	10
db-license	show	10
db-route	show	10
db-size	add	10
db-size	change	10
db-size	delete	10
db-size	show	10
db-usage	change	6
db-usage	help	1
db-usage	show	2
debug-report	help	1
debug-report	subscribe	3
debug-report	unsubscribe	3
destination	add	6
destination	audit	6
destination	change	6

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
destination	delete	6
destination	help	1
destination	show	3
dial-plan	add	8
dial-plan	audit	8
dial-plan	change	5
dial-plan	delete	8
dial-plan	help	1
dial-plan	show	2
dial-plan-profile	add	8
dial-plan-profile	audit	8
dial-plan-profile	change	5
dial-plan-profile	delete	8
dial-plan-profile	help	1
dial-plan-profile	show	2
digit-map	add	8
digit-map	audit	8
digit-map	change	5
digit-map	delete	8
digit-map	help	1
digit-map	show	2
digman	add	8
digman	audit	8
digman	change	8
digman	delete	8
digman	help	1
digman	show	2
digman-profile	add	8
digman-profile	audit	8
digman-profile	change	8
digman-profile	delete	8
digman-profile	help	1
digman-profile	show	2
dn2cust-grp	add	8
dn2cust-grp	audit	8
dn2cust-grp	change	5

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
dn2cust-grp	delete	8
dn2cust-grp	help	1
dn2cust-grp	show	2
dn2gn	add	8
dn2gn	audit	8
dn2gn	change	8
dn2gn	delete	8
dn2gn	help	1
dn2gn	show	2
dn2rn	add	8
dn2rn	audit	8
dn2rn	change	8
dn2rn	delete	8
dn2rn	help	1
dn2rn	show	2
dn2subscriber	add	5
dn2subscriber	audit	5
dn2subscriber	change	5
dn2subscriber	delete	5
dn2subscriber	help	1
dn2subscriber	show	2
dn-feat-list	help	1
dn-feat-list	show	2
dn-line-feat	show	2
dn-sd-list	help	1
dn-sd-list	show	2
dn-summary	help	1
dn-summary	report	6
dpc	add	6
dpc	audit	6
dpc	change	6
dpc	delete	6
dpc	help	1
dpc	show	3
dpc	status	2
ds1	add	8

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
dsl	audit	8
dsl	delete	8
dsl	help	1
dsl	show	2
element-manager	control	1
element-manager	help	1
element-manager	status	1
emergency-number-list	add	8
emergency-number-list	audit	8
emergency-number-list	change	5
emergency-number-list	delete	8
emergency-number-list	help	1
emergency-number-list	show	2
ems	add	1
ems	change	1
ems	help	1
ems	show	1
ess	add	10
ess	audit	10
ess	change	10
ess	delete	10
ess	help	1
ess	show	10
event-log	help	1
event-log	show	3
event-prov	change	5
event-prov	help	1
event-prov	show	2
event-queue	add	1
event-queue	delete	1
event-queue	help	1
event-queue	show	1
event-report	help	1
event-report	subscribe	3
event-report	unsubscribe	3
exchange-code	add	8

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
exchange-code	audit	8
exchange-code	delete	8
exchange-code	help	1
exchange-code	show	2
ext2subscriber	add	8
ext2subscriber	audit	8
ext2subscriber	change	5
ext2subscriber	delete	8
ext2subscriber	help	1
ext2subscriber	show	2
feature	add	6
feature	audit	8
feature	change	6
feature	delete	6
feature	help	1
feature	show	3
feature-config	add	8
feature-config	audit	8
feature-config	change	8
feature-config	delete	8
feature-config	help	1
feature-config	show	2
feature-config-base	help	1
feature-config-base	show	2
feature-config-base-pos-val	help	1
feature-config-base-pos-val	show	2
feature-profile-base	help	1
feature-profile-base	show	2
feature-server	add	8
feature-server	audit	8
feature-server	change	5
feature-server	control	6
feature-server	delete	8
feature-server	get-trace	2
feature-server	help	1
feature-server	set-trace	6

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
feature-server	show	2
feature-server	status	2
fs-audit-profile	add	8
fs-audit-profile	audit	8
fs-audit-profile	change	5
fs-audit-profile	delete	8
fs-audit-profile	help	1
fs-audit-profile	show	2
gtd-parm-values	help	1
gtd-parm-values	show	3
h323-gw	add	8
h323-gw	audit	8
h323-gw	change	5
h323-gw	control	6
h323-gw	delete	8
h323-gw	help	1
h323-gw	reset	2
h323-gw	show	2
h323-gw	status	2
h323-gw2gk	add	8
h323-gw2gk	audit	8
h323-gw2gk	change	5
h323-gw2gk	delete	8
h323-gw2gk	help	1
h323-gw2gk	show	2
h323-term	add	8
h323-term	audit	8
h323-term	change	5
h323-term	delete	8
h323-term	help	1
h323-term	show	2
h323-term-profile	add	8
h323-term-profile	audit	8
h323-term-profile	change	5
h323-term-profile	delete	8
h323-term-profile	help	1

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
h323-term-profile	show	2
h323-tg-profile	add	8
h323-tg-profile	audit	8
h323-tg-profile	change	5
h323-tg-profile	delete	8
h323-tg-profile	help	1
h323-tg-profile	show	2
help	help	3
hg-dn-find	help	1
hg-dn-find	show	2
hg-dn-list	help	1
hg-dn-list	show	2
hg-sequence	help	1
hg-sequence	show	2
history	help	3
history	report	3
history	show	3
http-feature-server	add	8
http-feature-server	audit	8
http-feature-server	change	5
http-feature-server	delete	8
http-feature-server	help	1
http-feature-server	show	2
ii-restrict-list	add	8
ii-restrict-list	audit	8
ii-restrict-list	delete	8
ii-restrict-list	help	1
ii-restrict-list	show	2
ii-wb-list	add	8
ii-wb-list	audit	8
ii-wb-list	change	8
ii-wb-list	delete	8
ii-wb-list	help	1
ii-wb-list	show	6
intl-dial-plan	add	6
intl-dial-plan	audit	6

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
intl-dial-plan	change	6
intl-dial-plan	delete	6
intl-dial-plan	help	6
intl-dial-plan	show	6
intl-dial-plan-profile	add	8
intl-dial-plan-profile	audit	8
intl-dial-plan-profile	change	5
intl-dial-plan-profile	delete	8
intl-dial-plan-profile	help	1
intl-dial-plan-profile	show	2
intl-wb-list	add	8
intl-wb-list	audit	8
intl-wb-list	delete	8
intl-wb-list	help	1
intl-wb-list	show	2
ipsec-kerberos	add	8
ipsec-kerberos	audit	8
ipsec-kerberos	change	8
ipsec-kerberos	delete	8
ipsec-kerberos	help	1
ipsec-kerberos	show	2
ipsec-kerberos-keys	audit	8
ipsec-kerberos-keys	delete	8
ipsec-kerberos-keys	help	1
ipsec-kerberos-keys	show	2
ipsec-policy	add	8
ipsec-policy	audit	8
ipsec-policy	delete	8
ipsec-policy	help	1
ipsec-policy	show	2
ipsec-sa	add	8
ipsec-sa	audit	8
ipsec-sa	change	8
ipsec-sa	delete	8
ipsec-sa	help	1
ipsec-sa	show	2

**Table 2** Noun/Verb Command Default Security Privilege Levels (continued)

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
isdn-bchan	audit	8
isdn-bchan	help	1
isdn-bchan	show	2
isdn-dchan	add	8
isdn-dchan	audit	8
isdn-dchan	change	5
isdn-dchan	control	2
isdn-dchan	delete	8
isdn-dchan	help	1
isdn-dchan	show	2
isdn-intf	add	8
isdn-intf	audit	8
isdn-intf	delete	8
isdn-intf	help	1
isdn-intf	show	2
isdn-tg-profile	add	8
isdn-tg-profile	audit	8
isdn-tg-profile	change	5
isdn-tg-profile	delete	8
isdn-tg-profile	help	1
isdn-tg-profile	show	2
isdn-trunk-termination	diag	2
isdn-trunk-termination	help	1
ivr-script-profile	add	8
ivr-script-profile	audit	8
ivr-script-profile	change	5
ivr-script-profile	delete	8
ivr-script-profile	help	1
ivr-script-profile	show	2
language	add	8
language	change	5
language	delete	8
language	help	1
language	show	2
lata	add	8
lata	audit	8

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
lata	change	5
lata	delete	8
lata	help	1
lata	show	2
lata-map	add	8
lata-map	audit	8
lata-map	delete	8
lata-map	help	1
lata-map	show	2
lidb	help	1
lidb	query	2
line	help	1
line	translate	2
lnp	help	1
lnp	query	2
lnp-profile	add	8
lnp-profile	audit	8
lnp-profile	change	8
lnp-profile	delete	8
lnp-profile	help	1
lnp-profile	show	2
lsa	add	6
lsa	audit	6
lsa	delete	6
lsa	help	6
lsa	show	6
lsa-profile	add	6
lsa-profile	change	6
lsa-profile	delete	6
lsa-profile	help	1
lsa-profile	show	2
mac2sub	add	8
mac2sub	audit	8
mac2sub	change	5
mac2sub	delete	8
mac2sub	help	1

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
mac2sub	show	2
macro	add	6
macro	change	6
macro	delete	6
macro	help	1
macro	macro	6
macro	show	6
measurement-ainsvc-summary	clear	9
measurement-ainsvc-summary	help	1
measurement-ainsvc-summary	report	2
measurement-ainsvc-summary	show	2
measurement-ain-tools-summary	clear	9
measurement-ain-tools-summary	help	1
measurement-ain-tools-summary	report	2
measurement-ain-tools-summary	show	2
measurement-anm-summary	clear	9
measurement-anm-summary	help	1
measurement-anm-summary	report	6
measurement-anm-summary	show	2
measurement-audit-summary	clear	9
measurement-audit-summary	help	1
measurement-audit-summary	report	2
measurement-audit-summary	show	2
measurement-billing-summary	clear	9
measurement-billing-summary	help	1
measurement-billing-summary	report	6
measurement-billing-summary	show	6
measurement-callp-summary	clear	9
measurement-callp-summary	help	1
measurement-callp-summary	report	2
measurement-callp-summary	show	2
measurement-call-tools-summary1	help	
measurement-call-tools-summary2	report	
measurement-call-tools-summary2	show	
measurement-call-tools-summary9	clear	
measurement-dqos-summary	help	1

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
measurement-dqos-summary	report	2
measurement-dqos-summary	show	2
measurement-em-summary	clear	9
measurement-em-summary	help	1
measurement-em-summary	report	2
measurement-em-summary	show	2
measurement-h323-summary	clear	9
measurement-h323-summary	help	1
measurement-h323-summary	report	6
measurement-h323-summary	show	6
measurement-isdn-summary	clear	9
measurement-isdn-summary	help	1
measurement-isdn-summary	report	2
measurement-isdn-summary	show	2
measurement-isup-summary	help	1
measurement-isup-summary	report	2
measurement-isup-summary	show	2
measurement-m3ua-summary	help	1
measurement-m3ua-summary	report	2
measurement-m3ua-summary	show	2
measurement-mgcp-summary	clear	9
measurement-mgcp-summary	help	1
measurement-mgcp-summary	report	6
measurement-mgcp-summary	show	2
measurement-pct-tools-summary	clear	9
measurement-pct-tools-summary	help	1
measurement-pct-tools-summary	report	2
measurement-pct-tools-summary	show	2
measurement-pots-acar-summary	clear	9
measurement-pots-acar-summary	help	1
measurement-pots-acar-summary	report	2
measurement-pots-acar-summary	show	2
measurement-pots-cos-summary	clear	9
measurement-pots-cos-summary	help	1
measurement-pots-cos-summary	report	2
measurement-pots-cos-summary	show	2

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
measurement-pots-cot-summary	clear	9
measurement-pots-cot-summary	help	1
measurement-pots-cot-summary	report	2
measurement-pots-cot-summary	show	2
measurement-pots-local-summary1	help	1
measurement-pots-local-summary2	report	2
measurement-pots-local-summary2	show	2
measurement-pots-local-summary9	clear	9
measurement-pots-misc-summary	clear	9
measurement-pots-misc-summary	help	1
measurement-pots-misc-summary	report	2
measurement-pots-misc-summary	show	2
measurement-pots-sle-summary	clear	9
measurement-pots-sle-summary	help	1
measurement-pots-sle-summary	report	2
measurement-pots-sle-summary	show	2
measurement-prov	change	5
measurement-prov	help	1
measurement-prov	show	2
measurement-sctp-summary	help	1
measurement-sctp-summary	report	2
measurement-sctp-summary	show	2
measurement-sia-summary	clear	9
measurement-sia-summary	help	1
measurement-sia-summary	report	6
measurement-sia-summary	show	2
measurement-sim-summary	clear	9
measurement-sim-summary	help	1
measurement-sim-summary	report	1
measurement-sim-summary	show	2
measurement-snmp-summary	clear	9
measurement-snmp-summary	help	1
measurement-snmp-summary	report	6
measurement-snmp-summary	show	2
measurement-sua-summary	help	1
measurement-sua-summary	report	2

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
measurement-sua-summary	show	2
measurement-tcap-summary	clear	9
measurement-tcap-summary	help	1
measurement-tcap-summary	report	2
measurement-tcap-summary	show	2
measurement-tg-usage-summary	help	1
measurement-tg-usage-summary	report	6
measurement-tg-usage-summary	show	2
mgcp-retcode-action	add	8
mgcp-retcode-action	audit	8
mgcp-retcode-action	change	8
mgcp-retcode-action	delete	8
mgcp-retcode-action	help	1
mgcp-retcode-action	show	2
mgw	add	8
mgw	audit	8
mgw	change	5
mgw	control	6
mgw	delete	8
mgw	diag	2
mgw	help	1
mgw	show	2
mgw	status	2
mgw-profile	add	8
mgw-profile	audit	8
mgw-profile	change	5
mgw-profile	delete	8
mgw-profile	help	1
mgw-profile	show	2
mlhg	add	6
mlhg	audit	6
mlhg	change	6
mlhg	delete	6
mlhg	help	1
mlhg	show	3
mlhg-pref-list	add	6

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
mlhg-pref-list	audit	6
mlhg-pref-list	change	6
mlhg-pref-list	delete	6
mlhg-pref-list	help	1
mlhg-pref-list	show	3
mlhg-terminal	add	8
mlhg-terminal	audit	8
mlhg-terminal	change	8
mlhg-terminal	delete	8
mlhg-terminal	help	1
mlhg-terminal	show	2
national-wb-list	add	8
national-wb-list	audit	8
national-wb-list	delete	8
national-wb-list	help	1
national-wb-list	show	2
ndc	add	8
ndc	audit	8
ndc	change	5
ndc	delete	8
ndc	help	1
ndc	show	2
network-element	help	1
network-element	show	2
noa-route	add	8
noa-route	audit	8
noa-route	change	8
noa-route	delete	8
noa-route	help	1
noa-route	show	2
noa-route-profile	add	8
noa-route-profile	audit	8
noa-route-profile	change	8
noa-route-profile	delete	8
noa-route-profile	help	1
noa-route-profile	show	2

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
nod	help	1
nod	show	2
node	change	9
node	control	9
node	help	1
node	report	9
node	status	9
nod-restrict-list	add	8
nod-restrict-list	audit	8
nod-restrict-list	delete	8
nod-restrict-list	help	1
nod-restrict-list	show	2
nod-wb-list	add	8
nod-wb-list	audit	8
nod-wb-list	delete	8
nod-wb-list	help	1
nod-wb-list	show	2
ocb-k-value	add	6
ocb-k-value	audit	6
ocb-k-value	delete	6
ocb-k-value	help	1
ocb-k-value	show	3
ocb-profile	add	6
ocb-profile	audit	6
ocb-profile	change	6
ocb-profile	delete	6
ocb-profile	help	1
ocb-profile	show	3
office-code	add	6
office-code	audit	6
office-code	change	6
office-code	delete	6
office-code	help	6
office-code	show	6
opc	add	6
opc	audit	6

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
opc	change	6
opc	delete	6
opc	help	1
opc	show	3
password	help	1
password	reset	1
policy-nxx	add	8
policy-nxx	audit	8
policy-nxx	change	5
policy-nxx	delete	8
policy-nxx	help	1
policy-nxx	show	2
policy-odr	add	6
policy-odr	audit	6
policy-odr	change	6
policy-odr	delete	6
policy-odr	help	1
policy-odr	show	6
policy-oli	add	6
policy-oli	audit	6
policy-oli	change	6
policy-oli	delete	6
policy-oli	help	1
policy-oli	show	3
policy-percent	add	8
policy-percent	audit	8
policy-percent	change	5
policy-percent	delete	8
policy-percent	help	1
policy-percent	show	2
policy-pop	add	8
policy-pop	audit	8
policy-pop	change	5
policy-pop	delete	8
policy-pop	help	1
policy-pop	show	2

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
policy-prefix	add	8
policy-prefix	audit	8
policy-prefix	change	5
policy-prefix	delete	8
policy-prefix	help	1
policy-prefix	show	2
policy-region	add	8
policy-region	audit	8
policy-region	change	8
policy-region	delete	8
policy-region	help	1
policy-region	show	2
policy-tod	add	8
policy-tod	audit	8
policy-tod	change	5
policy-tod	delete	8
policy-tod	help	1
policy-tod	show	2
pop	add	8
pop	audit	8
pop	change	5
pop	delete	8
pop	help	1
pop	show	2
ported-office-code	add	8
ported-office-code	audit	8
ported-office-code	change	5
ported-office-code	delete	8
ported-office-code	help	1
ported-office-code	show	2
qos	add	8
qos	audit	8
qos	change	8
qos	delete	8
qos	help	1
qos	show	2

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
queue-throttle	change	6
queue-throttle	help	1
queue-throttle	show	6
radius-profile	add	8
radius-profile	audit	8
radius-profile	change	5
radius-profile	delete	8
radius-profile	help	1
radius-profile	show	2
region-code	add	8
region-code	audit	8
region-code	change	5
region-code	delete	8
region-code	help	1
region-code	show	2
region-profile	add	6
region-profile	audit	6
region-profile	change	6
region-profile	delete	6
region-profile	help	6
region-profile	show	6
release-cause	add	6
release-cause	audit	6
release-cause	change	6
release-cause	delete	6
release-cause	help	1
release-cause	show	3
report-properties	change	5
report-properties	help	1
report-properties	show	7
rgw	add	8
rgw	change	5
rgw	control	6
rgw	delete	8
rgw	diag	2
rgw	help	1

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
rgw	show	2
rgw	status	2
route	add	8
route	audit	8
route	change	5
route	delete	8
route	help	1
route	show	2
route-guide	add	8
route-guide	audit	8
route-guide	change	8
route-guide	delete	8
route-guide	help	1
route-guide	show	2
routing-key	add	6
routing-key	audit	6
routing-key	change	6
routing-key	delete	6
routing-key	help	1
routing-key	show	3
rdp-backhaul-session	add	8
rdp-backhaul-session	audit	8
rdp-backhaul-session	change	5
rdp-backhaul-session	delete	8
rdp-backhaul-session	help	1
rdp-backhaul-session	show	2
sc1d	add	8
sc1d	audit	8
sc1d	change	8
sc1d	delete	8
sc1d	help	1
sc1d	show	2
sc2d	add	8
sc2d	audit	8
sc2d	change	8
sc2d	delete	8

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
sc2d	help	1
sc2d	show	2
sccp-nw	add	6
sccp-nw	audit	6
sccp-nw	change	6
sccp-nw	delete	6
sccp-nw	help	1
sccp-nw	show	3
sccp-route	add	6
sccp-route	audit	6
sccp-route	change	6
sccp-route	delete	6
sccp-route	help	1
sccp-route	show	3
scheduled-command	add	6
scheduled-command	change	6
scheduled-command	delete	6
scheduled-command	help	1
scheduled-command	show	6
sctp-assoc	add	6
sctp-assoc	audit	6
sctp-assoc	change	6
sctp-assoc	control	6
sctp-assoc	delete	6
sctp-assoc	help	1
sctp-assoc	show	3
sctp-assoc	status	2
sctp-assoc-profile	add	8
sctp-assoc-profile	audit	8
sctp-assoc-profile	change	5
sctp-assoc-profile	delete	8
sctp-assoc-profile	help	1
sctp-assoc-profile	show	2
security-summary	help	1
security-summary	report	8
service	add	8

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
service	audit	8
service	change	8
service	delete	8
service	help	1
service	show	2
service-provider	add	8
service-provider	audit	8
service-provider	change	5
service-provider	delete	8
service-provider	help	1
service-provider	show	2
service-trigger	audit	8
service-trigger	help	1
service-trigger	show	2
serving-domain-name	add	8
serving-domain-name	audit	8
serving-domain-name	change	5
serving-domain-name	delete	8
serving-domain-name	help	1
serving-domain-name	show	2
session	block	9
session	block	10 (Release 4.5)
session	change	2
session	help	9
session	show	2
session	stop	9
session	unblock	9
sg	add	6
sg	audit	6
sg	change	6
sg	delete	6
sg	get-trace	3
sg	help	1
sg	set-trace	6
sg	show	3
sg-grp	add	6

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
sg-grp	audit	6
sg-grp	change	6
sg-grp	delete	6
sg-grp	help	1
sg-grp	show	3
sgp	add	6
sgp	audit	6
sgp	change	6
sgp	delete	6
sgp	get-trace	2
sgp	help	1
sgp	set-trace	6
sgp	show	3
sgp	status	2
sip-reg-contact	help	1
sip-reg-contact	status	2
sip-timer-profile	add	8
sip-timer-profile	audit	8
sip-timer-profile	change	5
sip-timer-profile	delete	8
sip-timer-profile	help	1
sip-timer-profile	show	2
sipt-isup-ver-alias	add	6
sipt-isup-ver-alias	audit	6
sipt-isup-ver-alias	change	6
sipt-isup-ver-alias	delete	6
sipt-isup-ver-alias	help	1
sipt-isup-ver-alias	show	3
sipt-isup-ver-base	help	1
sipt-isup-ver-base	show	3
sle	add	8
sle	audit	8
sle	change	8
sle	delete	8
sle	help	1
sle	show	2

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
slhr	add	6
slhr	audit	6
slhr	change	6
slhr	delete	6
slhr	help	1
slhr	show	3
slhr-profile	add	6
slhr-profile	audit	6
slhr-profile	change	6
slhr-profile	delete	6
slhr-profile	help	1
slhr-profile	show	3
snmpconfig	add	9
snmpconfig	change	9
snmpconfig	delete	9
snmpconfig	help	1
snmpconfig	show	9
snmptrapdest	add	2
snmptrapdest	change	2
snmptrapdest	delete	2
snmptrapdest	help	1
snmptrapdest	show	2
softsw-tg-profile	add	6
softsw-tg-profile	audit	6
softsw-tg-profile	change	6
softsw-tg-profile	delete	6
softsw-tg-profile	help	1
softsw-tg-profile	show	3
special-call-type	add	8
special-call-type	audit	8
special-call-type	change	8
special-call-type	delete	1
special-call-type	help	1
special-call-type	show	2
split-npa	add	6
split-npa	audit	6

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
split-npa	change	6
split-npa	delete	6
split-npa	help	1
split-npa	show	3
ss7-ansi-tg-profile	add	8
ss7-ansi-tg-profile	audit	8
ss7-ansi-tg-profile	change	5
ss7-ansi-tg-profile	delete	8
ss7-ansi-tg-profile	help	1
ss7-ansi-tg-profile	show	2
ss7-cic	audit	8
ss7-cic	help	1
ss7-cic	show	2
ss7-q761-tg-profile	add	8
ss7-q761-tg-profile	audit	8
ss7-q761-tg-profile	change	5
ss7-q761-tg-profile	delete	8
ss7-q761-tg-profile	help	1
ss7-q761-tg-profile	show	2
ss7-q767-tg-profile	add	8
ss7-q767-tg-profile	audit	8
ss7-q767-tg-profile	change	5
ss7-q767-tg-profile	delete	8
ss7-q767-tg-profile	help	1
ss7-q767-tg-profile	show	2
ss7-trace	help	1
ss7-trace	start	2
ss7-trace	stop	2
ss7-trunk-termination	diag	2
ss7-trunk-termination	help	1
static-contact	add	8
static-contact	audit	8
static-contact	change	5
static-contact	delete	8
static-contact	help	1
static-contact	show	2

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
sub-cid	show	2
sub-da-block	help	1
sub-da-block	show	2
sub-dn-find	help	1
sub-dn-list	help	1
sub-dn-list	show	2
sub-intl-block	help	1
sub-intl-block	show	2
sub-ld-block	help	1
sub-ld-block	show	2
sub-oper-block	help	1
sub-oper-block	show	2
subscriber	add	8
subscriber	audit	8
subscriber	change	5
subscriber	delete	8
subscriber	help	1
subscriber	show	2
subscriber-feature-data	add	8
subscriber-feature-data	audit	8
subscriber-feature-data	change	5
subscriber-feature-data	delete	8
subscriber-feature-data	help	1
subscriber-feature-data	show	2
subscriber-profile	add	6
subscriber-profile	audit	6
subscriber-profile	change	6
subscriber-profile	delete	6
subscriber-profile	help	6
subscriber-profile	show	6
subscriber-service-profile	add	8
subscriber-service-profile	audit	8
subscriber-service-profile	change	5
subscriber-service-profile	delete	8
subscriber-service-profile	help	1
subscriber-service-profile	show	2

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
subscriber-termination	control	6
subscriber-termination	diag	2
subscriber-termination	equip	6
subscriber-termination	help	1
subscriber-termination	reset	2
subscriber-termination	status	2
subscriber-termination	unequip	6
subscriber-tod-schedule	add	8
subscriber-tod-schedule	audit	8
subscriber-tod-schedule	change	5
subscriber-tod-schedule	delete	8
subscriber-tod-schedule	help	1
subscriber-tod-schedule	show	2
subsystem	add	6
subsystem	audit	6
subsystem	change	6
subsystem	control	6
subsystem	delete	6
subsystem	help	1
subsystem	show	3
subsystem	status	2
subsystem-grp	add	6
subsystem-grp	audit	6
subsystem-grp	change	6
subsystem-grp	control	6
subsystem-grp	delete	6
subsystem-grp	help	1
subsystem-grp	show	3
subsystem-grp	status	2
sup-config	change	9
sup-config	help	1
sup-config	show	9
system	control	6
system	help	1
system	status	2
system-health	help	1

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
system-health	report	9
tech-prefix-grp	add	8
tech-prefix-grp	audit	8
tech-prefix-grp	change	5
tech-prefix-grp	delete	8
tech-prefix-grp	help	1
tech-prefix-grp	show	2
tech-prefix-grp-profile	add	8
tech-prefix-grp-profile	audit	8
tech-prefix-grp-profile	change	5
tech-prefix-grp-profile	delete	8
tech-prefix-grp-profile	help	1
tech-prefix-grp-profile	show	2
termination	add	8
termination	audit	8
termination	change	5
termination	delete	8
termination	help	1
termination	show	2
tgw	add	8
tgw	change	5
tgw	control	6
tgw	delete	8
tgw	diag	2
tgw	help	1
tgw	show	2
tgw	status	2
timezone	help	1
timezone	show	2
toll-free	help	1
toll-free	query	2
toll-free-msg-type	help	1
toll-free-msg-type	query	2
transaction-queue	delete	6
transaction-queue	help	1
transaction-queue	show	2

**Table 2** Noun/Verb Command Default Security Privilege Levels (continued)

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
trigger-detection-point	help	1
trigger-detection-point	show	2
trigger-id	help	1
trigger-id	show	2
trigger-nod-escape-list	add	6
trigger-nod-escape-list	audit	8
trigger-nod-escape-list	change	6
trigger-nod-escape-list	delete	6
trigger-nod-escape-list	help	1
trigger-nod-escape-list	show	3
trunk	add	8
trunk	audit	8
trunk	change	5
trunk	delete	8
trunk	help	1
trunk	show	2
trunk	translate	2
trunk-grp	add	6
trunk-grp	audit	6
trunk-grp	change	6
trunk-grp	control	6
trunk-grp	delete	6
trunk-grp	help	1
trunk-grp	show	3
trunk-grp	status	2
trunk-grp-feature-data	add	6
trunk-grp-feature-data	audit	6
trunk-grp-feature-data	change	6
trunk-grp-feature-data	delete	6
trunk-grp-feature-data	help	6
trunk-grp-feature-data	show	6
trunk-grp-service-profile	add	8
trunk-grp-service-profile	audit	8
trunk-grp-service-profile	change	5
trunk-grp-service-profile	delete	8
trunk-grp-service-profile	help	1

**Table 2** *Noun/Verb Command Default Security Privilege Levels (continued)*

<b>Noun</b>	<b>Verb</b>	<b>Default Security Level</b>
trunk-grp-service-profile	show	2
trunk-termination	control	6
trunk-termination	equip	2
trunk-termination	help	1
trunk-termination	reset	2
trunk-termination	status	2
trunk-termination	unequip	2
tt	control	6
tt	help	1
tt	reset	2
tt	status	2
user	add	9
user	change	9
user	delete	9
user	help	1
user	show	9
user-auth	add	8
user-auth	audit	8
user-auth	change	5
user-auth	delete	8
user-auth	help	1
user-auth	show	2
user-part-variant	add	3
user-part-variant	audit	6
user-part-variant	delete	3
user-part-variant	help	1
user-part-variant	show	3
user-part-variant-base	help	1
user-part-variant-base	show	3
var-alias	add	10
var-alias	change	10
var-alias	delete	10
var-alias	show	10
var-default	add	10
var-default	change	10
var-default	delete	10

**Table 2** Noun/Verb Command Default Security Privilege Levels (continued)

Noun	Verb	Default Security Level
var-default	help	10
var-default	show	10
v-commandparameter	show	10
v-commandtable	show	10
vsc	add	8
vsc	audit	8
vsc	change	8
vsc	delete	8
vsc	help	1
vsc	show	2

## Login—Logoff/Exit

Logging in to a CLI session is a Telnet or Secure Shell (SSH) function, not a UNIX function. **Login** is not a supported CLI command. Users must use Telnet or SSH to connect to the EMS using their user name and password, which invokes a CLI shell. SSH is the default method of access to the Cisco BTS 10200 Softswitch CLI. The maximum number of CLI sessions allowed is 50.



### Note

A user must be added as a new user before logging in.

Quitting a session is an OAMP function. Type **quit** or **exit** at the CLI prompt to end both the CLI and Telnet sessions.



### Caution

For security purposes, Telnet is obsoleted as of Release 4.4.

## Shell

You can enter commands using the command line interface (CLI). The CLI allows you to enter an entire command and its parameters from the command line.

The shell parameter is specified when a user is added to the system. If a shell is not specified when a user is added, the default is the CLI. All command defaults, parameters, and rules are the same regardless of which method you use to enter them.

## Command Line Interface

After you use SSH to access the server and log in, if the shell is CLI, only the command prompt appears on the screen. To enter commands using the CLI, enter the entire command with all its required parameters (tokens).

# Commands

All commands consist of a valid noun-verb pair. Each table has its own valid commands and each type can have specific applicable rules. The show command allows a wildcard. Commands can also be either graceful or forced. Multiple tokens must be separated by a semicolon (;).

Available verbs are defined in the CommandTable for each user table (noun-verb pair). Verb-driven required fields are defined in the CommandParameter table.

The following are valid command verbs:

- Add—Insert records.
- Ack—Acknowledge alarms.
- Audit—Examine entries.
- Change—Modify records.
- Clear—Clear records.
- Control—Change the operational state of devices.
- Delete—Delete records.
- Download—Download the database.
- Equip—Equip terminations.
- Help—Find help on a particular table, table-name, or command.
- Report—Show history of a subsystem event, alarm, traffic.
- Reset—Reset a default.
- Show—Display records with qualifier.
- Status—Show operational status of devices.
- Unequip—Unequip terminations.

## Automatic Completion (Release 4.5)

This section describes the automatic completion of CLI commands. Automatic completion means the system automatically completes a command based on user input.

### Automatic Completion of Verbs

A CLI command verb is automatically completed after a user enters a substring of the verb and presses the Tab key.

#### Examples

If a user types “ad” and presses the Tab key, the command is completed to “add.” In order for a verb to complete successfully, a user must enter the minimum number of characters that uniquely identify the verb from all other verbs.

If a user enters the characters “su” and presses the Tab key, the command is resolved to a single command “subscribe.” Since the entered command can be resolved, the word “su” is erased and then replaced with “subscribe” on the same line as follows:

```
su <Tab>
```

```
Reply :
CLI>subscribe
```

## Automatic Completion of Nouns

A CLI command noun is automatically completed after a user enters a valid verb, followed by a substring of the noun, and presses the Tab key.

### Examples

If a user types “add ac” and presses the Tab key, the command is completed to “add activity.” In order for a noun to be completed successfully, a user must enter the minimum number of characters that uniquely identify the noun from all other nouns.

If a user types “subscribe a” and presses the Tab key, the system attempts to complete the noun. As the noun “a” is resolved to “alarm-report” the command is erased and the command is completed on the same line as follows:

```
subscribe a <Tab>
Reply :
CLI>subscribe alarm_report
```

## Automatic Completion of Parameters

A CLI command parameter is automatically completed after a user enters a valid verb::noun pair, followed by a substring of the parameter, and presses the Tab key.

### Examples

If a user types “add activity ena” and presses the Tab key, the command is completed to “add activity enabled=.” In order for a parameter to be completed successfully, a user must enter the minimum number of characters to uniquely identify the parameter from the possible list of parameters.

If a user types “subscribe alarm-report o” and presses the Tab key, the “o” parameter is resolved. Since it matches a single parameter “origin,” the entered command is erased and the command is completed as “subscribe alarm\_report origin=” on the same line follows:

```
subscribe alarm-report o <Tab>
Reply :
CLI>subscribe alarm_report origin=
```

## Automatic Completion of Commands with a Single Verb, Noun and Parameter

There are a few CLI commands that have a single verb, noun and parameter. For these commands, when a user enters the verb and presses the Tab key, the entire command is completed.

**Examples**

If a user enters “ac” and enters the Tab key, the command is completed as “ack alarm id=” as the verb works with a single noun and single parameter.

```
ac <Tab>
```

```
Reply :
```

```
CLI>ack alarm id=
```

**Automatic Completion of Default Parameter Values**

Some CLI command parameters have default values. Default values are used during automatic completion of a command.

**Examples**

If a user types “add user shell=” and presses the Tab key, the value part of the parameter is automatically completed because the parameter has a default value.

```
add user shell=<Tab>
```

```
Reply :
```

```
CLI>add user shell=CLI;
```

**Automatic Validation of CLI Command Syntax**

If a user types an invalid combination of verb, noun and parameters and presses the Tab key, the entire command is validated as part of automatic completion (that is, the verb, noun and parameters are checked as to whether they form a true command). After validation, the automatic completion feature displays only the part of the command that is valid. The following error conditions are handled during automatic validation:

- Invalid verbs
- Invalid nouns
- Invalid parameters

**Invalid Verbs**

If a user enters an invalid verb followed by valid or invalid noun, parameters and presses the Tab key, the entire list of verbs is displayed. The command is completed to “nothing”—that is, the command prompt has no characters following it.

**Examples**

If a user enters “xxx user name=john;” and presses the Tab key, the verb is determined to be invalid. The command is not completed, a complete list of possible verbs displays as help and the command prompt displays with the entire command removed.

```
xxx user name=john; <Tab>
```

```
Reply :
```

```
ack
add
audit
block
```

```

change
clear
control
delete
diag
download
equip
force_delete
get_trace
help
macro
query
report
reset
set_trace
show
start
status
stop
subscribe
sync
translate
unblock
unequip
unsubscribe
CLI>

```

## Invalid Nouns

If a user enters a valid verb with an invalid noun, valid or invalid parameters and presses the Tab key, the entire list of nouns that work with that verb is displayed. For example, a complete list of nouns that work with that verb is displayed and the entered command is completed only to the verb.

### Examples

If a user enters “show xxx id=10;” and presses the Tab key, the noun is determined to be invalid. The system completes the command by removing everything from the invalid noun to the end of the command: the command completes to “stop” and displays a list of all possible nouns that work with the verb.

```
stop xxx terminal
```

```
Reply :
```

```

session
ss7_trace
CLI>stop

```

## Invalid Parameters

If a user enters a valid verb and noun with invalid parameters and presses the Tab key, the command is completed up to the first invalid parameter encountered. If a user enters a valid verb and noun with multiple valid parameters but does not enter a value for one or more parameters and presses the Tab key, the command is completed. However, during the validation process, any valid parameters that do not have a value are given a question mark (?) value.

**Note**

This replacement does not work for the last parameter. For example, if a user enters “add user name=;password=;” and presses the Tab key, the command is completed to “add user name=?.password=.”

**Examples**

If a user enters “add user xxx=10;” and presses the Tab key, the parameter is determined to be invalid. The system completes the command by stripping the parameter and displays a list of possible parameters.

```
add user xxx=10;
```

Reply :

```
command_level*
days_valid
name*
password*
shell*
warn
work_groups
CLI>add user
```

If a user enters “add user name=;password=;command-level=” and presses the Tab key, the system determines that the entered parameters are valid but no value was entered. The system completes the command by entering the question mark (?) character for the missing values.

```
add user name=;password=;command-level <Tab>
```

Reply:

```
CLI>add user name=?;password=?;command_level=<Tab>
```

**Automatic Expansion of Verbs, Nouns and Parameters**

During automatic completion of an entered command, the verb, noun and parameters names are expanded to their full name. This expansion clearly shows that the expanded command is executed and there is no additional expansion of the command internally.

**Examples**

If a user enters “ad user n=john;c=10;wo=” and presses the Tab key, the system completes the command by expanding the verb, noun and parameter names. The command completes to “add user name=john; command\_level=10; work\_groups=.”

```
ad user n=john;c=10;wo= <Tab>
```

Reply :

```
CLI>add user name=john;command_level=10;work_groups=
```

**Invalid Characters**

This section describes the invalid characters in ASCII and subscriber commands. Usage applies to token values, such as subscriber names, trunk group names, and so forth.

## ASCII Characters

The following characters are invalid in all ASCII character commands:

- Double quotation marks (“ ”).
- Single quotation marks (‘ ’).
- Semicolon (;)—A semicolon can only be used as a delimiter between tokens. It cannot be used within a token value (for example, within a subscriber name).

Using any of these characters returns an error message. This applies whether a command is entered from the CLI or by bulk provisioning.

## Subscriber

The following characters are invalid or not recommended for using in Subscriber commands:

- Single quotation marks (‘ ’)—The single-quote is a reserved character for delimiting strings.
- Double quotation marks (“ ”)—The double-quote is also a reserved character for delimiting strings.
- Semicolon (;)—A semicolon can only be used as a delimiter between tokens. It cannot be used within a token value (for example, within a subscriber name).
- Percent sign (%)—The percent sign is a wild-card, for example: `show subscriber id=x1-6-00%` shows all subscribers whose ID begins with x1-6-00. So the percent sign is a valid character for the show command, but is invalid when used with the add or change commands.
- Hyphen (-)—This is a valid character but impacts the way caller-ids are displayed. Cisco does not recommend using this character.
- Underscore (\_)—This is a valid character but impacts the way caller-ids are displayed. Cisco does not recommend using this character.
- Ampersand (&)—The ampersand is a reserved character in XML.

## Batch Data Retrieval (Paging) Using the Show Command

You can use the show command for batch data retrieval (paging). This command uses tokens that do not match command-to-field in the database. The tokens are generated as needed by the system. These tokens are available for all show commands in the system that have a database table as the backing store. A show of configuration data does not support these tokens because configuration data is not stored in a database table. This command also works in the CORBA interface.

Batch data retrieval (paging) examples:

```
show subscriber limit=1000; start-row=<next page value>;
show subscriber limit=1000; start-row=<next page value>; display=id,sub-service-profile;
order=id;
>
```

The following tokens are available for batch data retrieval (paging) to order and display desired data:

**LIMIT**—Specifies the page size for the maximum amount of data returned in any single show.

**START-ROW**—Specifies the page to start the display. You can start in the middle if so desired. Usually the first page is specified to see the total size of the display to determine how many pages are required.

**DISPLAY**—Only return the columns of data requested. This is a comma-separated list of the desired columns to be returned in the show. All other data is truncated.

ORDER—Specifies a key by which the data is sorted or ordered.

**Note**

---

More than one item can be specified for a sort. This is a comma-separated list of columns for the noun being displayed.

---

## Rules

Rules applying to commands are given with each section described in this document. These rules describe behavior exclusive of Primary Key or Foreign Key constraints. Primary Key and Foreign Key constraints are listed as applicable by token.

### Add Rules

The following add rules are commonly used:

- What is being added cannot already exist.
- If a key in another table is referenced, that key must exist in the other table.

### Delete Rules

The following delete rules are commonly used:

- The ID, or record, must already exist.
- If a key in another table is referenced, that key must be deleted first.

### Change Rules

The following change rules are commonly used:

- The ID, or record, must already exist.
- If a key in another table is referenced, that key must exist in the other table.

**Note**

---

All primary keys must be specified in a change command.

---

### Show Rule

The *ID/Record must exist* is a commonly used show rule.

## Wildcard

This section describes how to use the available wildcard in commands and tokens.

## In Commands

The percent sign (%) is the only valid wildcard for show, report, and display commands. The asterisk (\*) is the only valid wildcard for status and control commands. Using other commands returns the error message: “*invalid parameter.*”

The following example returns a list of all Call Agents:

```
show call-agent id=%;
```

The following example shows only those Call Agents whose IDs begin with *ca*:

```
show call-agent id=ca%;
```

The following example is not a valid command. You must specify a value.

```
show %;
```

The following example controls all subscribers into service for a media gateway:

```
control subscriber-termination id=@c2421.192;mode=forced;target-state=INS;
```

## In Tokens

You can use a wildcard with tokens as long as the token is distinctive enough for the wildcard to distinguish it. Only one wildcard is allowed per token. The wildcard does not work with required tokens.

Examples:

Add a policy-prefix where *prefix1* is the token for which we are using the wildcard. If the token is not distinctive enough, all possible tokens the token can represent are displayed:

```
add policy-prefix id=Test;pre%=toll-free;policy-id1=somepolicy;policy-type1=TOD;
```

Command parameter 'pre%' is too ambiguous. Possible parameters are:

```
prefix10
prefix1
prefix2
prefix3
prefix4
prefix5
prefix6
prefix7
prefix8
prefix9
```

```
add policy-prefix id=Test;p%1=toll-free;policy-id1=somepolicy;policy-type1=TOD;
```

Command parameter 'p%1' is too ambiguous. Possible parameters are:

```
policy_type1
prefix1
policy_id1
```

```
add policy-prefix id=Test;pr%1=toll-free;policy-id1=somepolicy;policy-type1=TOD;
```

```
Reply: Transaction 1481 was processed.
uca12 update successful
```



**Tip**

Once the command is executed, performing a control-p (^p), causes the verbose form of the command to appear. In the above example, *add policy-prefix id=Test;prefix1=toll-free;policy-id1=somepolicy;policy-type1=TOD;* appears when a ^p is performed.

## Graceful and Forced Commands

Most commands are considered graceful unless “mode=forced” is specified. Graceful commands allow applicable processes and components to complete all activity before shutting down. This allows calls to complete and users to go on-hook. When a command is forced, all applicable processes and components terminate immediately, including calls.

## Tables

The Cisco BTS 10200 Softswitch uses a replicated master-master database that is partitioned into a set of tables according to function. These tables are user provisionable and provide the user with a clear view of system status and functions.

Tables are provisioned using token IDs. Tokens equate to database field names in a structured query language (SQL) database, similar to the cell names in a spreadsheet. Tokens allow individual fields to be provisioned in any order (within the rules of a command).

## Cursor Controls

The following control characters are available:

Control Character	Action
^A	Moves the cursor to beginning of the line.
^B	Moves the cursor back one space.
^C	Interrupts a command during typing.
^D	Deletes a character at the cursor position.
^E	Moves the cursor to the end of a line.
^F	Moves the cursor forward one character.
^I	Allows toggling between insert and overwrite (default is overwrite).
^K	Deletes all characters from the cursor position to the end of a line.
^L	Redisplays the current line.
^N	Scrolls forward through commands that have been entered (you must scroll backward through the commands before this will work).
^P	Scrolls backward through commands starting with the most recent.
^T	Transposes a character at cursor position with a previous character.
Backspace	Deletes the character to the left of the cursor.
Return	Executes a command.
Down arrow key	Pages down.
Up arrow key	Pages up.

# Secure Shell

Secure shell (SSH) is the default method of access to the Cisco BTS 10200 Softswitch. SSH provides encrypted communication between a remote machine and the EMS or Call Agent for executing CLI commands. The SSH server runs on the EMSs and CAs of the Cisco BTS 10200. To connect, the client and server sides must run the secure shell daemon (SSHD).

The SSH daemon is available 24 hours a day, 7 days a week. It runs as a Solaris daemon process. It is automatically started when the Solaris is brought up, but if it dies, it must be manually restarted. A single unique instance of the SSHD runs on every component of the Cisco BTS 10200 Softswitch.

SSH is an optional login choice. Using the Cisco BTS 10200 Softswitch default application installation option, SSH is enabled; RSH, REMSH, RLOGIN, Telnet, or REXEC are disabled; but, FTP is not affected. If SSH is not selected, then RSH, REMSH, RLOGIN, Telnet, or REXEC are enabled and FTP is still not affected.



## Caution

---

For security purposes, Telnet is obsoleted as of Release 4.4.

---

If SSH is enabled, new users are prompted to enter a new password and reenter that password during their first login. From that point, they are prompted once for a password only.

To log in from the client-side, enter the following:

```
ssh -l username IPaddress
```

On the first SSH login from the client-side, expect a message similar to this:

```
The authenticity of host [hostname] can't be established.
Key fingerprint is 1024 5f:a0:0b:65:d3:82:df:ab:42:62:6d:98:9c:fe:e9:52.
Are you sure you want to continue connecting (yes/no)?
```

Enter yes.

The password prompt appears. From this point on, all communications are encrypted.

Subsequent SSH logins will prompt only for a password.

# Help

This section details the help available for the Cisco BTS 10200 Softswitch.

## Basic Usage

This section details the help available. The Cisco BTS 10200 generates help information when a question mark (?) character is entered as part of a command. The following list provides a brief summary of the functionality provided.

The following command lists all the commands for the route table that have a verb starting with s:

```
s? route
```

The following command lists all the commands that have a noun starting with rou:

```
show rou?
```

The following command lists all the commands that have a noun starting with rou and a verb starting with s:

```
s? rou?
```

The following command lists all the tokens for the show route command:

```
show route ?
```

The following command lists all the tokens for the add route command:

```
add route ?
```

The following command lists all the parameters that start with i for the show route command:

```
show route i?
```

The following command lists all the parameters that end with id= for the show route command:

```
show route ?id
```

The following command lists all the valid commands on the Cisco BTS 10200:

```
? ?
```

A ? substituted for a token value can be entered for multiple tokens if the full token name is entered. For example, enter the following command to get help on the id and tgn8-id tokens for the show route command:

```
show route id=?;tgn8-id=?
```

Possible matches:

```
id; Enter at least 0 characters, but not more than 16 characters.
tgn8-id; Enter a number from 0 to 2147483647.
```

For help on tokens, a token name followed by an equal sign (=) is required. A list of tokens can be determined using the percent character (%) wildcard. For example, enter the following command to get help on one of the tgn-id tokens:

```
show route tgn%=?
```

Command parameter 'tgn%' too ambiguous. Possible parameters:

```
tgn10-id
tgn3-id
tgn9-id
tgn1-id
tgn8-id
tgn7-id
tgn6-id
tgn2-id
tgn5-id
tgn4-id
```

```
show route tgn3-id=?
```

Matches found:

```
tgn3-id; Enter a number from 0 to 2147483647.
```

```
show route tgn3-id=0;
```

```
Reply : Success: Database is void of entries.
```

System-generated help is available for all command nouns and verbs. For help on a specific command noun/verb pair, help provides:

1. A list of all parameters:

- Sorted into groups of *Required* or *Optional/Conditional*.
  - With their data format described, or, for those parameters that require a value from a pick-list, a list of permitted values.
  - With their default value (if any).
  - With any FK dependency.
2. All related commands for each help request.
  3. The URL to the HTML version of the CLI guide for each help request.

One parameter is supported:

- VERB = a valid verb or %.

Support for this verb is hard-coded in ManagedObject.java to avoid significant changes to the CommandParameter table.

## Examples

```
***** example 1 *****
help help
Reply : Success:
Description of the BTS CLI 'help subscriber' command for release 900-03.02.00.I03
=====
For a given command noun, Help provides a list of all command noun-verb pairs
associated with the given noun.
For Help on a specific command noun-verb pair, a description of all associated tokens,
related commands, and a reference to the CLI Users Guide is provided. The required
tokens are listed first, and the optional/conditional tokens are listed next.
The following information is provided for each token:
- a brief description
- the expected data format or list of values
- the default value (if any),
- prevalidation formatting instructions
- the dependency chain (if the value for the token must be pre-provisioned).
The dependency chain is depicted in the by showing the relationship of the token
to another BTS command token. The format is noun.token->noun.token->noun.token and
so on until a token is reached that has no dependencies. The rightmost noun.token
pair references the value that must be provisioned first. Moving to the left, you
can follow the provisioning dependency chain back up to the token described in the
help command.
For example, execution of 'show noun token=%', where noun and token are derived from
one of the dependency chain pairs, yields a list of possible values for the token
described in the help text.
Example for getting this description on the BTS help command:
help help
Example for getting help for a command noun:
help the_target_noun
Example for getting help for a specific command noun-verb pair:
help the_target_noun verb=the_target_verb
Where 'verb' represents the command verb for which help information is requested.

***** example 2 *****
help subscriber
Reply : Success:
Description of the BTS CLI 'help subscriber' command for release 900-03.02.00.I03
=====
Related Commands:
  add subscriber
  audit subscriber
  change subscriber
  delete subscriber
```

```

sync subscriber
show subscriber
The BTS 10200 Users Guide is available at http://kyle-btc.cisco.com:10200
***** example 3 *****
help subscriber verb=change;
Reply : Success:
Description of the BTS CLI 'change subscriber' command for release 900-03.02.00.I03
=====

-----

Required Parameters:
-----
id (ID)
    Enter at least 1 character, but not more than 30 characters.
    There is no default value.
-----

Optional/Conditional Parameters:
-----
address1 (Address1)
    Enter at least 1 character, but not more than 32 characters.
    There is no default value.
address2 (Address2)
    Enter at least 1 character, but not more than 32 characters.
    There is no default value.
billing_dn (Billing Dn)
    Enter at least 1, but not more than 14 characters from the following set:
    {0123456789-}.
    There is no default value.
category (Category)
    Enter one of the following values: [INDIVIDUAL, MLHG, MLHG_INDIVIDUAL,
    MLHG_PREF_INDIV, CTXG, CTXG_INDIVIDUAL,
    PBX, CTXG_TG, CTXG_MLHG, RACF, IVR]
    The default value is INDIVIDUAL.
city (City)
    Enter at least 1 character, but not more than 16 characters.
    There is no default value.
cos_restrict_id (COS Restrict ID)
    Enter at least 1 character, but not more than 16 characters.
    There is no default value.
    Dependency chain: cos_restrict.id
country (Country)
    Enter at least 1 character, but not more than 16 characters.
    The default value is USA.
ctxg_id (Ctxg Id)
    Enter at least 1 character, but not more than 16 characters.
    There is no default value.
    Dependency chain: centrex_grp.id
dn1 (Dn1)
    Enter at least 1, but not more than 14 characters from the following set:
    {0123456789-}.
    There is no default value.
email (Email)
    Enter an email address in the form text@text where text is a set of characters
    with no spaces.
    There is no default value.
grp (Grp)
    Enter a boolean value of Y for yes or N for no.
    The default value is N.
immediate_release (Immediate Release)
    Enter a boolean value of Y for yes or N for no.
    The default value is N.
language (Language)
    Enter at least 1 character, but not more than 16 characters.

```

There is no default value.

mgw\_id (Media Gateway ID)  
 Enter at least 0 character, but not more than 32 characters.  
 There is no default value.  
 Dependency chain: termination.mgw\_id -> mgw.id

mlhg\_id (MLHG ID)  
 Enter at least 1 character, but not more than 16 characters.  
 There is no default value.  
 Dependency chain: mlhg\_pref\_list.mlhg\_id -> mlhg.id

mlhg\_pref\_list\_id (Mlhg Pref List Id)  
 Enter at least 1 character, but not more than 16 characters.  
 There is no default value.  
 Dependency chain: mlhg\_pref\_list.id

name (Name)  
 Enter at least 1 character, but not more than 32 characters.  
 There is no default value.

pic1 (Pic1)  
 Enter a PIC value as four numeric characters: NPIC, or NONE.  
 There is no default value.

pic2 (Pic2)  
 Enter a PIC value as four numeric characters: NPIC, or NONE.  
 There is no default value.

pic3 (Pic3)  
 Enter a PIC value as four numeric characters: NPIC, or NONE.  
 There is no default value.

policy\_id (POLICY\_ID)  
 Enter at least 1 character, but not more than 16 characters.  
 There is no default value.

privacy (Privacy)  
 Enter one of the following values: [FULL, NAME, NONE]  
 The default value is NONE.

qos\_id (QOS ID)  
 Enter at least 1 character, but not more than 16 characters.  
 There is no default value.  
 Dependency chain: qos.id

ring\_type\_dnl (Ring Type Dnl)  
 Enter a number from 1 to 3.  
 The default value is 1.

sip\_url (Sip Url)  
 Enter at least 1 character, but not more than 32 characters.  
 There is no default value.

ss\_number (Ss Number)  
 Enter a Social Security Number in the form ###-##-#### where # are digits from 0-9.  
 There is no default value.

state (State)  
 Enter at least 1 character, but not more than 16 characters.  
 There is no default value.

status (Status)  
 Enter one of the following values: [ACTIVE, TEMP\_OOS, TEMP\_DISCONNECTED, TEMP\_UNAVAILABLE]  
 The default value is ACTIVE.

sub\_profile\_id (Sub Profile Id)  
 Enter at least 1 character, but not more than 16 characters.  
 There is no default value.  
 Dependency chain: subscriber\_profile.id

term\_id (Termination ID)  
 Enter at least 1 character, but not more than 32 characters.  
 There is no default value.  
 Dependency chain: termination.id

term\_type (TERM TYPE)  
 Enter one of the following values: [TERM, TG, ROUTE, RG]  
 The default value is TERM.

terminating\_immediate\_rel (Terminating Immediate Release)

```

        Enter a boolean value of Y for yes or N for no.
        The default value is N.
tgn_id (Trunk Group Number ID)
        Enter a number from 0 to 99999999.
        There is no default value.
        Dependency chain: trunk_grp.id
usage_sens (Usage Sens)
        Enter a boolean value of Y for yes or N for no.
        The default value is Y.
zipcode (Zipcode)
        Enter at least 1 character, but not more than 10 characters.
        There is no default value.
-----
See Also:
-----
Related Commands:
    add subscriber
    audit subscriber
    delete subscriber
    help subscriber
    sync subscriber
    show subscriber

```

## Context Sensitive (Release 4.5)

Context sensitive help is available based on the following categories:

- Context sensitive help for verbs
- Context sensitive help for nouns
- Context sensitive help for parameters
- Context sensitive help for parameter values

### Context Sensitive Help for Verbs

Context sensitive help for verbs is provided under the following conditions:

- A user does not enter any characters at the CLI prompt and enters the Tab key
- A user enters a substring of the verb at the CLI prompt and enters the Tab key

If a user does not enter any characters at the CLI prompt and just presses the Tab key, a list of possible verbs is displayed.

If a user enters a substring of a verb at the CLI prompt and presses the Tab key, a list of all possible verbs, starting with the substring, is displayed.

#### Examples

If a user presses the Tab key at the CLI command prompt, a list of all possible verbs is displayed as follows:

```
<Tab>
```

```
Reply :
ack
add
audit
block
```

```

change
clear
control
delete
diag
download
equip
force_delete
get_trace
help
macro
query
report
reset
set_trace
show
start
status
stop
subscribe
sync
translate
unblock
unequip
unsubscribe

```

If a user types the character “s” and presses the Tab key, the command is ambiguous and cannot be resolved. All possible commands that begin with the character “s” are listed as follows:

```

s <Tab>
Reply :

set_trace
show
start
status
stop
subscribe
sync

```

## Context Sensitive Help for nouns

Context sensitive help for nouns is provided for the following conditions:

- If a user enters a valid verb and presses the Tab key.
- If a user enters a valid verb, followed by a substring of the noun, and presses the Tab key

If a user enters a valid verb and presses the Tab key, a list of all possible nouns is displayed.

If a user enters a valid verb, followed by a substring of the noun, then enters the Tab key, a list of all possible nouns, starting with the substring, displays.

### Examples

If a user enters the word “subscribe” and presses the Tab key, all possible nouns are listed for the verb as follows:

```

subscribe <Tab>

Reply :

```

```
alarm_report
debug_report
event_report
CLI>subscribe
```

## Context Sensitive Help for Parameters

Context sensitive help for parameters is provided under the following conditions:

- A user enters a valid verb::noun pair and presses the Tab key.
- When the user enters a valid verb::noun pair and presses the Tab key a list of all possible parameters is displayed. Any parameters with an asterisks (\*) are required parameters.
- A user enters a valid verb::noun pair with an invalid parameter and presses a invalid parameter.
- When the user enters a valid verb::noun pair with an invalid parameter and presses the Tab key, a list of all possible parameters is displayed. The parameters with asterisks (\*) indicate a required parameter.

### Examples

If user types “subscribe alarm-report” and presses the Tab key, the system attempts to complete the parameter part of the command. Since there is more than one match in this case, the entire list of possible parameters is listed as follows:

```
subscribe alarm-report <Tab>
Reply :

origin*
severity*
type*
```

## Context Sensitive Help for Parameter Values

Context sensitive help for parameter values is provided when the a user types a valid verb, noun, parameter and the equal (=) sign.

### Examples

If a user types “show user name=” and presses the Tab key, help is displayed for the parameter value.

```
show user name= <Tab>
```

```
Reply :
```

```
Enter at least 1 character, but not more than 16 characters. If you want to clear the
value, please enter NULL.
```

## Command Line Interface Extended Read Access Commands

The following Extended Read Access Commands (ERAC) are documented in the *Cisco BTS 10200 Softswitch Extended Read Access Commands* document.

- hg-dn-find
- hg-dn-list

- hg-sequence
- sub-cid
- sub-da-block
- sub-ld-block
- sub-oper-block

## Related Documentation

Related documentation includes the following:

- *Cisco BTS 10200 Softswitch System Description Manual*
- *Cisco BTS 10200 Softswitch Operations, Maintenance and Troubleshooting Manual*
- *Release 4.1, 4.2, 4.4, or 4.5 Release Notes*

## Obtaining Documentation

The following sections provide sources for obtaining documentation from Cisco Systems.

### World Wide Web

You can access the most current Cisco documentation on the World Wide Web at the following sites:

- <http://www.cisco.com>
- <http://www-china.cisco.com>
- <http://www-europe.cisco.com>

### Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or as an annual subscription.

### Ordering Documentation

Cisco documentation is available in the following ways:

- Registered Cisco Direct Customers can order Cisco Product documentation from the Networking Products MarketPlace:  
[http://www.cisco.com/cgi-bin/order/order\\_root.pl](http://www.cisco.com/cgi-bin/order/order_root.pl)
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## Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain documentation, troubleshooting tips, and sample configurations from online tools. For Cisco.com registered users, additional troubleshooting tools are available from the TAC website.

### Cisco.com

Cisco.com is the foundation of a suite of interactive, networked services that provides immediate, open access to Cisco information and resources at anytime, from anywhere in the world. This highly integrated Internet application is a powerful, easy-to-use tool for doing business with Cisco.

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To access Cisco.com, go to the following website:

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## Technical Assistance Center

The Cisco TAC website is available to all customers who need technical assistance with a Cisco product or technology that is under warranty or covered by a maintenance contract.

## Contacting TAC by Using the Cisco TAC Website

If you have a priority level 3 (P3) or priority level 4 (P4) problem, contact TAC by going to the TAC website:

<http://www.cisco.com/tac>

P3 and P4 level problems are defined as follows:

- P3—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- P4—You need information or assistance on Cisco product capabilities, product installation, or basic product configuration.

In each of the above cases, use the Cisco TAC website to quickly find answers to your questions.

To register for Cisco.com, go to the following website:

<http://www.cisco.com/register/>

If you cannot resolve your technical issue by using the TAC online resources, Cisco.com registered users can open a case online by using the TAC Case Open tool at the following website:

<http://www.cisco.com/tac/caseopen>

## Contacting TAC by Telephone

If you have a priority level 1 (P1) or priority level 2 (P2) problem, contact TAC by telephone and immediately open a case. To obtain a directory of toll-free numbers for your country, go to the following website:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

P1 and P2 level problems are defined as follows:

- P1—Your production network is down, causing a critical impact to business operations if service is not restored quickly. No workaround is available.
- P2—Your production network is severely degraded, affecting significant aspects of your business operations. No workaround is available.

