Tekelec EAGLE® 5 Integrated Signaling System

Related Publications

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Patents

This product is covered by one or more of the following U.S. and foreign patents:

U.S. Patent Numbers:

5,732,213; 5,953,404; 6,115,746; 6,167,129; 6,324,183; 6,327,350; 6,456,845; 6,606,379; 6,639,981; 6,647,113; 6,662,017; 6,735,441; 6,745,041; 6,765,990; 6,795,546; 6,819,932; 6,836,477; 6,839,423; 6,885,872; 6,901,262; 6,914,973; 6,940,866; 6,944,184; 6,954,526;6,954,794; 6,959,076; 6,965,592; 6,967,956; 6,968,048; 6,970,542; 6,987,781; 6,987,849; 6,990,089; 6,990,347; 6,993,038; 7,002,988; 7,020,707; 7,031,340; 7,035,239; 7,035,387; 7,043,000; 7,043,001; 7,043,002; 7,046,667; 7,050,456; 7,050,562; 7,054,422; 7,068,773; 7,072,678; 7,075,331; 7,079,524; 7,088,728; 7,092,505; 7,108,468; 7,110,780; 7,113,581; 7,113,781; 7,117,411; 7,123,710; 7,127,057; 7,133,420; 7,136,477; 7,139,388; 7,145,875; 7,146,181; 7,155,206; 7,155,243; 7,155,505; 7,155,512; 7,181,194; 7,190,702; 7,190,772; 7,190,959; 7,197,036; 7,206,394; 7,215,748; 7,219,264; 7,222,192; 7,227,927; 7,231,024; 7,242,695; 7,254,391

Foreign Patent Numbers:

EP1062792; EP1308054; EP1247378; EP1303994; EP1252788; EP1161819; EP1177660; EP1169829; EP1135905; EP1364520; EP1192758; EP1240772; EP1173969; CA2352246

Ordering Information

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Related Publications

EAGLE 5 ISS Documentation Set

This release contains a complete EAGLE 5 Integrated Signaling System (ISS) documentation set. This documentation set provides information about:

- EAGLE 5 ISS
- Applications that run on the Tekelec 1000 or Tekelec 1100 Application Server (T1000 AS or T1100 AS):
  - EAGLE Collection Application Processor (ECAP)
  - EAGLE LNP Application Processor (ELAP)
  - EAGLE Provisioning Application Processor (EPAP)
- FTP-Based Table Retrieve Application (FTRA)

The manuals listed in the following sections are included in the EAGLE 5 ISS documentation set and may refer to each other. The manuals are listed per application; hardware manuals are listed separately.

EAGLE 5 ISS core documentation:

- The *Commands Manual* contains procedures for logging into or out of the EAGLE 5 ISS, a general description of the terminals, printers, the disk drive used, and a description of all the commands used in the system.

- The *Commands Pocket Guide* is an abridged version of the *Commands Manual*. It contains all commands and parameters, and it shows the command-parameter syntax

- The *Commands Quick Reference Guide* contains an alphabetical listing of the commands and parameters. The guide is sized to fit a shirt-pocket.

- The *Commands Error Recovery Manual* contains the procedures to resolve error message conditions generated by the commands in the *Commands Manual*. These error messages are presented in numerical order.

- The *Database Administration Manual – Features* contains procedural information required to configure the EAGLE 5 ISS to implement the X.25 Gateway, STP LAN, Database Transport Access, GSMMAP Screening, and EAGLE 5 ISS Support for Integrated Sentinel features.

- The *Database Administration Manual - Gateway Screening* contains a description of the Gateway Screening (GWS) feature and the procedures necessary to configure the EAGLE 5 ISS to implement this feature.

- The *Database Administration Manual – Global Title Translation* contains procedural information required to configure an EAGLE 5 ISS to implement Global TitleTranslation features, including Enhanced Global Title Translation, Variable Length Global Title Translation, Interim Global Title Modification, Intermediate GTT Loadsharing, Flexible Intermediate GTT Loadsharing, Flexible Final GTT Loadsharing, ANSI-ITU-China SCCP Conversion, and Origin-Based SCCP Routing.

- The *Database Administration Manual - IP^7 Secure Gateway* contains procedural information required to configure the EAGLE 5 ISS to implement the SS7-IP Gateway.

- The *Database Administration Manual – SEAS* contains the EAGLE 5 ISS configuration procedures that can be performed from the Signaling Engineering and Administration Center (SEAC) or a Signaling Network Control Center (SNCC). Each procedure includes a brief description of the procedure, a flowchart showing the steps required, a list of any EAGLE 5 ISS commands that may be required for the procedure but that are not supported by SEAS, and a reference to optional procedure-related information, which can be found in the Database Administration Manuals for either Gateway Screening, Global Title Translation, or SS7.

- The *Database Administration Manual – SS7* contains procedural information required to configure an EAGLE 5 ISS to implement the SS7 protocol.

- The *Database Administration Manual – System Management* contains procedural information required to manage the EAGLE 5 ISS database and GPLs, and to configure basic system requirements such as user names and passwords, system-wide security requirements, and terminal configurations.

- The *Maintenance Manual* contains procedural information required for maintaining the EAGLE 5 ISS and the card removal and replacement procedures. The *Maintenance Manual* provides preventive and corrective maintenance procedures used in maintaining the different systems.

- The *Maintenance Pocket Guide* is an abridged version of the Maintenance Manual and contains all the corrective maintenance procedures used in maintaining the EAGLE 5 ISS.

- The *Maintenance Emergency Recovery Pocket Guide* is an abridged version of the Maintenance Manual and contains the corrective maintenance procedures for critical and major alarms generated on the EAGLE 5 ISS.

- The *Previously Released Features Manual* summarizes the features of previous EAGLE, EAGLE 5 ISS, and IP^7 Secure Gateway releases, and it identifies the release number of their introduction.

- The *Release Documentation* contains the following documents:

  — *EAGLE 5 ISS Feature Notice* - Describes the features contained in the specified release. The Feature Notice also provides the hardware baseline for the specified release, describes the customer documentation set, provides information about customer training, and explains how to access the Customer Support website.

  Additional Feature Notices may be provided per subsystem.

  — *Related Publications*(this document) - Lists all documents published for the specified release.

  — *Release Notice* - Contains Generic Program Loads (GPLs), a list of PRs resolved in a build, and the latest known PRs per system and subsystem.

NOTE: The *Release Notice* is maintained solely on the Tekelec Customer Support site to provide you with instant access to the most up-to-date release information.

  — *System Overview* - Provides high-level information on SS7, the IP^7 Secure Gateway, system architecture, LNP, and EOAP.

  — *Master Glossary* - Contains an alphabetical listing of terms, acronyms, and abbreviations relevant to the system.

- The *SEAS Commands Error Messages Manual* lists the error messages generated by the EAGLE 5 ISS that are specific to the Signaling Engineering and Administration System (SEAS). It includes the SEAS commands that trigger the error messages, the equivalent system error messages and commands, and the explanatory text.
- The *SS7-over-IP Networks Using SIGTRAN* manual examines the reasons for transitioning to an SS7-over-IP network, the considerations that go into planning and dimensioning, and helpful information for implementing the network using EAGLE 5 ISS.

ECAP documentation:

- The *Feature Manual - ECAP* provides instructions and information on how to install, use, and maintain the Integrated Accounting Feature Application feature on the Eagle Collector Application Processor (ECAP). This feature collects raw MSU data from the EAGLE 5 ISS, categorizes the data into groups, and feeds those groups to another system for accounting activities. Additional features will be added to this manual at a later date.

ELAP documentation:

- The *ELAP Administration Manual* defines the user interface to the EAGLE LNP Application Processor (ELAP) on the Multi-Purpose Server (MPS)/ELAP platform. The manual defines the methods for accessing the user interface, menus, screens available to the user and describes their impact. It provides the syntax and semantics of user input and defines the output the user receives, including information and error messages, alarms, and status.

- The *LNP Database Synchronization Manual - LSMS with EAGLE 5 ISS* describes how to keep the LNP databases at the LSMS and at the network element (the EAGLE 5 ISS is a network element) synchronized through the use of resynchronization, audits and reconciles, and bulk loads. This manual is contained in both the LSMS documentation set and in the EAGLE 5 ISS documentation set.

- The *LNP Feature Activation Guide* contains procedural information required to configure the EAGLE 5 ISS for the LNP feature, including LNP services, LNP options, LNP subsystem application, automatic call gapping, the Triggerless LNP feature, Increasing the LRN and NPANXX Quantities on the EAGLE 5 ISS, and the Activating and Deactivating the LNP Short Message Service (SMS) feature.

- The *MPS Platform Software and Maintenance Manual - EAGLE 5 ISS with Tekelec 1100 Application Server* describes the platform software for the Multi-Purpose Server (MPS) based on the Tekelec 1100 Application Server (T1100 AS) and describes how to perform preventive and corrective maintenance for the T1100 AS-based MPS. This manual should be used with the ELAP-based application (LNP).

EPAP documentation:

- The *Dimensioning Guide for EPAP Advanced DB Features* is used to provide EAGLE Provisioning Application Processor (EPAP) planning and dimensioning information. This manual is used by Tekelec personnel and EAGLE 5 ISS customers to aid in the sale, planning, implementation, deployment, and upgrade of EAGLE 5 ISS systems equipped with one of the EAGLE 5 ISSEPAP Advanced Database (EADB) Features.

- The *EPAP Administration Manual* describes how to administer the EAGLE Provisioning Application Processor (EPAP) on the MPS/EPAP platform. The manual defines the methods for accessing the user interface, menus, and screens available to the user and describes their impact. It provides the syntax and semantics of user input and defines the output the user receives, including messages, alarms, and status.

- The *MPS Platform Software and Maintenance Manual - EAGLE 5 ISS with Tekelec 1000 Application Server* describes the platform software for the Multi-Purpose Server (MPS) based on the Tekelec 1000 Application Server (T1000 AS) and describes how to perform preventive and corrective maintenance for the T1000 AS-based MPS. This manual should be used with the EPAP-based applications (EIR, G-Port, G-Flex, and INP).

- The *Provisioning Database Interface Manual* defines the programming interface that populates the Provisioning Database (PDB) for the EAGLE 5 ISS features supported on the MPS/EPAP platform. The manual defines the provisioning messages, usage rules, and informational and error messages of the interface. The customer uses the PDBI interface information to write his own client application to communicate with the MPS/EPAP platform.

EAGLE 5 ISS features that use data downloaded from EPAP:

- The *Feature Manual - A-Port* provides an overview of a feature providing the capability for IS41 mobile subscribers to change service provider while retaining their original Mobile Directory Number (MDN). This manual gives the instructions and information on how to install, use, and maintain the A-Port feature on the Multi-Purpose Server (MPS) platform of the EAGLE 5 ISS.
- The *Feature Manual - EIR* provides instructions and information on how to install, use, and maintain the Equipment Identity Register (EIR) feature on the MPS/EPAP platform of the EAGLE 5 ISS. The feature

provides network operators with the capability to prevent stolen or disallowed GSM mobile handsets from accessing the network.

- The *Feature Manual - G-Flex C7 Relay* provides an overview of a feature supporting the efficient management of Home Location Registers in various networks. This manual gives the instructions and information on how to install, use, and maintain G-Flex features on the MPS/EPAP platform of the EAGLE 5 ISS.

- The *Feature Manual - G-Port* provides an overview of a feature providing the capability for mobile subscribers to change the GSM subscription network within a portability cluster while retaining their original MSISDNs. This manual gives the instructions and information on how to install, use, and maintain the G-Port feature on the MPS/EPAP platform of the EAGLE 5 ISS.

- The *Feature Manual - INP/AINPQ* provides information and instructions on how to implement, utilize, and maintain either the INAP-based Number Portability (INP) feature or the ANSI-41 INP Query (AINPQ) feature or both features on the Multi-Purpose Server (MPS) platform of the EAGLE 5 ISS.

- The *Feature Manual - Migration* provides an overview of a feature providing the capability for IS41 subscribers to migrate to a GSM network and GSM mobile subscribers to migrate to an IS41 network. This manual gives the instructions and information on how to install, use, and maintain the IS41 GSM Migration (IGM) feature on the Multi-Purpose Server (MPS) platform of the EAGLE 5 ISS.

- The *Feature Manual - V-Flex* provides instructions and information on how to install, use, and maintain the V-Flex Voice Mail Router (V-Flex) feature on the MPS / EPAP platform of the EAGLE 5 ISS. The feature allows calls to be routed to a specific voice mail server (VMS) based on subscriber and call context data. These data are provisioned using the EAGLE 5 ISS MMI port and EPAP PDBI interface.

FTRA documentation:

- The *FTP-Based Table Retrieve Application (FTRA) User Guide* describes how to set up and use a PC to serve as the offline application for the EAGLE 5 ISS FTP Retrieve and Replace feature.

- The *FTP-Based Table Retrieve Application (FTRA) Software Installation Instructions* describes the FTRA software installation and upgrade on the Windows and Unix platforms.

Hardware and Installation documentation:

- The *Hardware Manual - EAGLE 5 ISS* contains hardware descriptions and specifications of Tekelec signaling products. These include the EAGLE 5 ISS, OEM-based products such as the ASi 4000 Service Control Point (SCP), the Netra-based Multi-Purpose Server (MPS), and the Integrated Sentinel with Extended Services Platform (ESP) subassembly.

  The *Hardware Manual* provides an overview of each system and its subsystems, details of standard and optional hardware components in each system, and basic site engineering. Refer to this manual to obtain a basic understanding of each type of system and its related hardware, to locate detailed information about hardware components used in a particular release, and to help configure a site for use with the system hardware.

- The *Installation Manual - EAGLE 5 ISS* contains cabling requirements, schematics, and procedures for installing the EAGLE 5 ISS along with LEDs, connectors, cables, and power cords to peripherals. Refer to this manual to install components or the complete systems.

- The *Hardware Manual - Tekelec 1100 Application Server* provides general specifications and a description of the Tekelec 1100 Applications Server (T1100 AS). This manual also includes site preparation, environmental and other requirements, procedures to physically install the T1100 AS, and troubleshooting and repair of Field Replaceable Units (FRUs).

- The *Hardware Manual - Tekelec 1000 Application Server* provides general specifications and a description of the Tekelec 1000 Applications Server (T1000 AS). This manual also includes site preparation, environmental and other requirements, procedures to physically install the T1000 AS, and troubleshooting and repair of Field Replaceable Units (FRUs).

- The *Installation Manual - Integrated Applications* provides the installation information for integrated applications such as EPAP 4.0 or earlier (Netra-based Multi-Purpose Server (MPS) platform) and Sentinel. The manual includes information about frame floors and shelves, LEDs, connectors, cables, and power cords to peripherals. Refer to this manual to install components or the complete systems.

- The *System Manual – EOAP* describes the Embedded Operations Support System Application Processor (EOAP) and provides the user with procedures on how to implement the EOAP, replace EOAP-related hardware, test devices, and perform basic troubleshooting.

Glossary

A

ANSI	American National Standards Institute
AS	Application Server

D

Database	All data that can be administered by the user, including cards, destination point codes, gateway screening tables, global title translation tables, links, LNP services, LNP service providers, location routing numbers, routes, shelves, subsystem applications, and 10 digit telephone numbers.
DB	Database
DB	Daughter Board
DB	Documentation Bulletin

E

EIR	Equipment Identity Register
ELAP	EAGLE LNP Application Processor
EOAP	Embedded Operation Support System Applications Processor Also, Enhanced OSS Application Process.
EPAP	EAGLE Provisioning Application Processor
ESP	Expanded Services Platform

F

FTRA	FTP-based Table Retrieve Application An application that runs in a PC outside of the EAGLE 5 ISS and that communicates with the EAGLE 5 ISS through the IPUI feature and the FTP Retrieve and Replace feature.

G

G-Flex	GSM Flexible numbering A feature that allows the operator to flexibly assign individual subscribers to HLRs and route signaling messages, based on subscriber numbering, accordingly.
G-Port	GSM Mobile Number Portability A feature that provides mobile subscribers the ability to change the GSM subscription network within a portability cluster, while retaining their original MSISDN(s).
GSM	Global System for Mobile Communications
GWS	Gateway Screening.

I

INP	INAP-based Number Portability
INP	Intelligent Network (IN) Portability
INP	INAP-based Number Portability
Integrated Sentinel	The Integrated Sentinel product provides monitoring capabilities for Signaling System 7 (SS7) links. Integrated Sentinel includes network surveillance capabilities and fault-management functions.
IP	Intelligent Peripheral
IP	Internet Protocol
IP^7	Tekelec's Internet Protocol to SS7 Interface
ITU	International Telecommunications Union

L

LNP	Local Number Portability
LSMS	Local Service Management System

M

MAP	Mated Application Part
MAP	Mobile Application Part
MPS	Multi-Purpose Server

O

OEM	Original Equipment Manufacturer

P

PC	Point Code.
PDB	Provisioning Database
PDBI	Provisioning Database Interface

S

SCCP	Signaling Connection Control Part
SCP	Service Control Point.
SEAC	Signaling Engineering and Administration Center
SEAS	Signaling Engineering and Administration System An interface defined by Bellcore and used by the Regional Bell Operating Companies (RBOCs), as well as other Bellcore Client Companies (BCCs), to remotely administer and monitor the signaling points in their network from a central location.
SS7	Signaling System #7
STP LAN	A feature in the EAGLE 5 ISS that copies MSUs selected through the gateway screening process and sends these MSUs over the Ethernet to an external host computer for further processing.