C H A P T E R **1**

Product Overview

This chapter provides the following major sections to introduce the new features supported in Cisco IOS Release 15.4(3)T:

Cisco Unified Survivable Remote Site Telephony (SRST)

Cisco Unified Survivable Remote Site Telephony offers:

- Business resiliency through redundant, localized call processing.
- Intelligent and automatic failover configuration without manual IT or telecom intervention.
- Cost-effective operations through a converged voice and data network.
- Centralized IP telephony configuration and management.
- Investment protection and simplified migration.

Detailed information about using SRST can be found at the following link:

http://www.cisco.com/c/en/us/products/unified-communications/unified-survivable-remote-site-telephony/index.html

Locator/ID Separation Protocol (LISP)

Locator/ID Separation Protocol (LISP) is routing architecture that provides new semantics for IP addressing. The current IP routing and addressing architecture uses a single numbering space, the IP address, to express two pieces of information:

- Device identity.
- The way the device attaches to the network.

The LISP routing architecture design separates the device identity, or endpoint identifier (EID), from its location, or routing locator (RLOC), into two different numbering spaces. Splitting EID and RLOC functions yields several advantages.

Simplify Routing Operations

LISP enables enterprises and service providers to:

*   Simplify multi-homed routing
*   Facilitate scalable any-to-any WAN connectivity
*   Support data center virtual machine mobility

Improve Scalability and Support

LISP routing architecture also:

*   Improves scalability of the routing system through greater aggregation of RLOCs
*   Optimizes IP routing for both IPv4 and IPv6 hosts
*   Reduces operational complexities

LISP can be gradually introduced into an existing IP network without affecting the network endpoints or hosts.

There are several sources that provide detailed information about LISP. See the following links:

http://www.cisco.com/go/lisp.

http://www.cisco.com/c/en/us/products/collateral/ios-nx-os-software/locator-id-separation-protocol-lisp/datasheet_c78-576698.html

http://www.cisco.com/c/en/us/products/collateral/ios-nx-os-software/locator-id-separation-protocol-lisp/qa_c67-582925.html

The following major sections are features carried over that were introduced in Cisco IOS Release15.2(4)GC:

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Cisco Wide Area Application Services (WAAS) Express

This release includes the Cisco® Wide Area Application Services (WAAS) Express which offers bandwidth optimization and application acceleration capabilities. The hardware and software requirements are:

*   WAAS appliance running WAAS software 5.0.1 or later
*   WAAS Central Manager running WAAS software 5.0.1 or later

Table 1   *Recommended Sizing*

Platform	TCP Connections	WAN Capacity	DRAM Required
5915	30	1.54 Mbps	512 MB
5921	75	4 Mbps	1 GB
5930	75	4 Mbps	1GB
5940	75	4 Mbps	1GB

Use the following configuration guidelines to enable Waas Express:

- Enter the following command to turn Waas Express on the Wan interface:

```
waas enable
```

- Enter the following commands to enable full optimizations:

```
parameter-map type waas waas_global
tfo optimize full
```

- Enter the following commands to enable application accelerators:

```
parameter-map type waas waas_global
accelerator http-express
enable
accelerator cifs-express
enable
accelerator ssl-express
enable
```

Detailed information about using the WAAS Express can be found at the following link:

http://www.cisco.com/en/US/docs/ios-xml/ios/wan_waas/configuration/15-2mt/wan-cfg-waas-exp.html

Temperature Monitoring

The temperature monitoring allow you set configure low and high temperature alarms and view the router temperature information and history. This feature is supported on only the Cisco 5930 Embedded Services Router (ESR).

The following commands are supported on the Cisco 5930 ESR:

- **monitor environment temperature**
- **monitor environmental temperature**
- **show environment**
- **show environment temperature**

For more information on configuring environmental monitoring, refer to the following URL:
http://www.cisco.com/en/US/docs/routers/connectedgrid/cgr2010/software/15_2_1_t/swcg/cgr2010_15_2_1_t_swcg.html#wp2015437

Real Time Clock

The real time clock commands provide calender information from the X-ES X-Pedite5205 board. This feature is supported on only the Cisco 5930 Embedded Services Router.

The following real time clock commands are supported on the Cisco 5930 ESR:

- **clock calender-valid**
- **clock read-calender**
- **calender set**
- **clock update-calender**
- **ntp update-calender**
- **show clock detail**
- **show calender**

For more information on the real time clock commands, refer to the following URL:
http://www.cisco.com/en/US/partner/docs/ios/mcl/allreleasemcl/all_book.html

Zeroization

Zeroization shuts down all network interfaces and causes zeroization of the Cisco IOS configuration and object code files, including all IP addresses on the router contained in volatile memory. This feature is supported on only the Cisco 5930 Embedded Services Router.

The following zeroization commands are supported on the Cisco 5930 ESR:

- **service declassify** {**erase-flash** | **erase-nvram** | **erase-all** | **erase-default**} [**trigger GPIO** *pin-number*]
- **show declassify**

For more information on zeroization, see Chapter 13, "Zeroization."

License Management

The Cisco 5921 ESR uses a virtual Unique Device Identifier (UDI) from the software that you input into the license registration tool on cisco.com to acquire a software license. The Cisco 5921 ESR uses a virtual UDI because it is not a hardware-based platform with a fixed UDI. You use the license management commands to determine the license needed, generate a UDI, acquire and activate a software license and verify that the license installed correctly.

The following license commands are available on the Cisco 5921 ESR:

- **license clear**
- **license install**
- **license udi generate**
- **show license**
- **show license file**
- **show license udi** [**history**]

- **show platform software license**

For more information on the Cisco 5921 ESR and it's software licensing capabilities, refer to the *Cisco 5921 Embedded Services Router Integration Guide*.