Release Notes for Cisco Multiservice Packet Network Solution, Release 2.1

Contents

These release notes describe the following topics:

- Document Version and Solution Release
- Introduction
- Solution Components
- System Requirements
- Caveats Resolved in Release 2.1
- Caveats in Release 2.1
- Related Documentation
- Obtaining Documentation
- Obtaining Technical Assistance

Tip Use this document online. This document provides hyperlinks to related documents and websites, including release notes for solution components.

Document Version and Solution Release

This is the first version of this document, which describes the Multiservice Packet Network Solution, Release 2.1.

CISCO SYSTEMS

Introduction

The Cisco Multiservice Packet Network Solution provides a multi-service architecture for the delivery of voice, MPLS-VPN, and Internet services for Public Telephone and Telegraph (PTTs) operators and new service providers (NSPs).

The solution is a collaboration between Cisco Systems and Italtel Spa, with Cisco providing the media gateways and Italtel providing the call agents. The solution allows PTTs and NSPs to offer voice and data services over a single, packet-based, MPLS-VPN enabled IP network, and provides the scalability and features required by a broad range of fixed and wireless service providers.

See the *Multiservice Packet Network Solution Overview* for illustrations of solution configurations.

Solution Components

The Multiservice Packet Network Solution includes components from both Cisco Systems, Inc. and Italtel, Spa. The tables in this section identify the solution components:

- Cisco Components
- Italtel Components
- Cisco Element Management Systems
- Italtel Element Management System

Cisco Components

Table 1 lists the Cisco components that can be used to implement the solution.

Table 1   Cisco Components

Component	Purpose
MGX 8230 Edge Concentrator	For this solution, a smaller multiservice gateway that provides voice, and IP services.
MGX 8250 Edge Concentrator	For this solution, a multiservice gateway that provides voice, and IP services.
MGX 8850 Multiservice Switch	For this solution, a voice gateway that provides a complete portfolio of high-margin voice and data services.
Voice Interworking Service Module (VISM)	Provides the voice gateway between the voice TDM networks and networks based on packet switching technology.
VISM-PR	The VISM-PR is a new high-density voice interworking module.
Processor Switch Module (PXM-1)	Integrates switching, processing, and broadband interfaces, which provide high-performance switching and trunking on a single card.

Table 1 Cisco Components (continued)

Component	Purpose
AS5400	With Universal Port functionality, this media gateway can operate simultaneously as a Network Access Server (NAS) and as a voice gateway to provide universal dial services: analog modem, digital modem, FAX, and voice over IP on any port at any time.
AS5400 HPX	This media gateway offers performance enhanced beyond the capability of the AS5400.

Italtel Components

Table 2 lists the solution components supplied by Italtel.

Table 2 Italtel Components

Component	Purpose
Italtel Multi-Service Switching System (iMSS) 4050	Supports the pure call agent configuration. This call agent is a Media Gateway Controller and Signalling Gateway, which is usually deployed in a pure configuration to manage virtual transit applications.
Italtel Multi-Service Switching System (iMSS) 4040	Supports the large enhanced call agent configuration. This call agent is a Media Gateway Controller and Signalling Gateway, which interprets signalling messages and routes calls through the packet backbone. In an enhanced configuration, the iMSS 4040 can operate as a call agent and TDM switch simultaneously.
Operation Management Server (OMS)	Manages the physical and logical configuration of the whole system. This component collects billing data, traffic measurements and alarms, and provides interface to the MSEM for local operators.
Optical Peripheral Module (OPM)	Provides switch control and call handling, and synchronizes timing for TDM line interfaces.
Centralized Processing Server (CPS)	Optional device that provides extra processing capacity for the Basic Services Handler (BSH) and Virtual Termination Call Handler (VTCH).
Interconnection Service Module (ISM)	Optional device that enables extending TDM switching over multiple OPMs.
Virtual Termination Call Handler (VTCH)	Supports communication with the Cisco media gateways using MGCP and SRCP; also manages SS7 signalling with the SS7 network.
Basic Service Handler (BSH)	Provides advanced services such as call screening, number portability, and basic number translation.

Cisco Element Management Systems

Table 3 lists the Cisco element management systems (EMSs) for the Multiservice Packet Network Solution.

Table 3   Cisco Element Management Systems

Element Manager	Minimum Release Required	Element Manager System Requirements
Cisco Element Management Framework (CEMF)	3.2	For a full description of the system requirements for the Cisco Element Management Framework, see the *Release Notes for Cisco Element Management Framework v3.2*.
Cisco WAN Manager	10.5.10—for VISM 2.1 11.0—for VISM 3.0	For a full description of the system requirements for the Cisco WAN Manager, see the *Release Notes for Cisco WAN Manager 10.5.10 Patch 2 for Solaris*.
Cisco Universal Gateway Manager	2.0	For a full description of the system options for the Cisco Universal Gateway Manager, see the *Release Note for Cisco Universal Gateway Manager Version 2.0*.
CiscoWorks2000— Routed WAN Management Solution	1.1	For a full description of the system requirements for the CiscoWorks2000-Routed WAN management Solution, see the guide *Read Me First—RWAN Management Solution, Release 1.1*.
Cisco 12000 Manager	2.1	For a full description of the system requirements for the Cisco 12000 Manager, see the *Cisco 12000 Manager Release Notes (Release 2.1)*.
Cisco Networking Services Notification Engine	2.0	For a full description of the system requirements for the CNS Notification Engine, see the *Release Notes for CNS Notification Engine* (in the release 2.0 documentation set).
Cisco Access Registrar	3.0	For a full description of the system requirements for the Cisco Access Registrar, see the *Release Notes for Cisco Access Registrar 3.0*.

Italtel Element Management System

Table 4 identifies the element management component for the Italtel Multi-Service Network Switching System, which provides configuration, performance, and fault management for the Italtel iMSS 4040 and iMSS 4050 call agents.

Table 4   Italtel Element Management Component

Element Manager	Minimum Release Required	Element Manager System Requirements
Multiservice Element Manager (MSEM)	2.0	For a description of the system requirements for the Italtel Multiservice Element Manager (MSEM), see the Italtel document for MSEM.

System Requirements

Table 5 provides the memory requirements for the Cisco AS5400 and AS5400HPX and for the Cisco MGX 8230, MGX 8250, and MGX 8850 media gateways with PXM-1 and VISM cards.

Table 5   Cisco Hardware-Software Matrix and Media Gateway Memory Requirements

Component	Minimum Operating System Release	Flash Memory Required, MB	DRAM Memory Required, MB
AS5400	IOS version 12.2(11)T	32 MB	256 MB
AS5400HPX	IOS version 12.2(11)T	32 MB	256 MB
MGX 8230, MGX 8250, or MGX 8850 (with PXM-1)	1.1.40	128 MB	2 MB
VISM	2.2 MR	32 MB	
VISM-PR	3.0	64 MB	

Cisco Hardware and Software Component Mapping

Table 6 maps the PXM, VISM, and element management system release levels required for proper interworking of these components.

Table 6   Cisco MGX Media Gateway Component to EMS Version Mapping

PXM Version	VISM Version	Element Management System
PXM-1 release 1.1.40	VISM 2.2 MR	Cisco WAN Manager 10.5.10
PXM-1 release 1.2.11	VISM 3.0	Cisco WAN Manager 11.0.00

Table 7 maps the AS5400 and AS5400HPX with the element management release levels for proper interworking of these components.

Table 7   Cisco AS5400 Media Gateway Component to EMS Version Mapping

AS5400 Version	IOS Version	Element Management System
AS5400	12.2(11)T	Cisco Universal Gateway Manager 1.0
AS5400HPX	12.2(11)T	Cisco Universal Gateway Manager 1.0

Determining the Software Version

The following will assist you in determining the IOS software version currently running on platforms running IOS.

Cisco IOS Software

To determine the release of Cisco IOS software that is currently running, log in to the router and enter the **show version** EXEC command. The following sample output from the **show version** command indicates the version number on the second output line:

```
Router> show version
Cisco Internetwork Operating System Software
IOS (tm) 12.2 Software c5350-i-mz, Version 12.2(2), RELEASE SOFTWARE
```

Caveats Resolved in Release 2.1

Table 8 lists caveats identified in the operation of the Cisco Multiservice Packet Network Solution, Release 2.0 that are resolved in Release 2.1.

Table 8   Resolved Caveats

DDTS Number	Caveat Description	Workaround
C676496	System error messages have been found in the MGX PXM when a **no shut** command is issued on the secondary PVC ATM link to the 7500 edge routers.	This is a known PXM problem. There is currently no workaround. This issue does not impact PXM functionality.
CSCdx24028 / C293025	A VISM hang may occur when the primary LCN is set to 132.	There is currently no workaround for this problem. The issue is fixed in VISM 2.2.

Caveats in Release 2.1

Table 9 lists caveats identified in the operation of the Multiservice Packet Network Solution. Workarounds are provided where applicable.

Table 9   Multiservice Packet Network Solution Caveats

DDTS Number	Caveat Description	Workaround
CSCdx56579	The ATM PVC interface starts flapping for 5-6 seconds under the following conditions; 1) the fiber cable is connected to the interface, or 2) the interface is brought on line via the no shut command. The resulting behavior is a service interruption for 5-6 seconds. The issue is caused when the 7500 first declares the ATM interface/sub-interface in service before verifying the ATM-PVC availability via OA&M cells.	There is currently no workaround for this problem.
MALF 34311	Adding and/or removing end points on an already configured VISM under traffic can result in traffic loss.	There is currently no workaround for this problem. The addition or removal of endpoints has no effect on established calls. The traffic loss affects only a call in the set-up phase on the OPM on which the addition or removal is performed. Only end-points belonging to previously configured VISMs are affected. It is estimated that 2-5% of calls will be lost for 2-3 seconds before the solution recovers.

Table 9   Multiservice Packet Network Solution Caveats (continued)

DDTS Number	Caveat Description	Workaround
CSCdx38028	The AS5400 running 12.2(11)T sends RSIP messages with Destination UDP port set to 2727 instead of 2427.	If the environment contains both VISM and AS5400 media gateways, the default call agent UTP port must be changed on the AS5400 to 2427 via the CLI command: **mgcp call-agent 172.16.15.35 2427 service-type mgcp version 1.0**. If the network contains only AS5400 media gateways, the UTP port in either the AS5400 or the iMSS must be changed so that they are identical.
CSCdy15023	When setting the playout mode to FIXED, on an AS5400 running 12.2(11)T, the initial, minimum, and maximum playout values are not set to the same values in the NextPort driver.	Configure the AS5400 jitter buffer in adaptive mode.
CSCuk34511	An AS5400 running 12.2(11)T sets up a G.711 call after receiving an MGCP command from the iMSS to set up a G.729ab call. This occurs because the CRCX message from the iMSS contains the string identifier *G.729ab*, while the AS5400 requires the string identifier to be *G.729b*.	The iMSS G.729ab string identifier is configurable and should be set to G.729b using the *crecodec*. The VISM G.729ab string identifier must also be set to G.729b using *cnfcodecparams* if VISM is also in the network.
CSCuk35086	An AS5400 running 12.2(11)T does not send an RSIP message to the iMSS to inform the call agent of Loss Of Signal (LOS) on an E1 line. It takes approximately 6 minutes before iMSS becomes aware of the LOS. During this interval, the iMSS and AS5400 element management systems may experience an E1 resource status misalignment. No service degradation results from this status misalignment.	There is no work around for this issue. A fix for this defect has been integrated into the 12.2(11)T1 release.
CSCuk35508	For an AS5400 running 12.2(11)T, the minimum jitter buffer cannot be configured to be less than 40 ms. This defect occurs when the AS5400 is configured in adaptive jitter buffer mode.	There is no work around. End-to-End delay and voice quality are acceptable. A fix for this defect has been integrated into the 12.2(11)T1 release which, when appropriately configured, improves the worst case end-to-end delay by ~30 ms.
CSCuk36013	The AS5400 running 12.2(11)T does not support G.723 CODEC calls.	There is no work around. The defect has been resolved and integrated into 12.2(11)T1.
CSCuk36113	PRI calls (dial-up traffic only), will not function under a specific misconfiguration. The scenario occurs is when an AS5400 running 12.2(11)T is configured with at least one controller configured as PRI (dial-up traffic only), and all the other controllers configured as IMT Trunks driven by the Call Agent via MGCP. In this scenario, if voice ports are associated with at least one dial-peer, the PRI does not function.	A workaround is not required. There is no need to configure dial-peers in this configuration. It is mandatory in this scenario that the AS5400 configuration does not have any voice port associated with dial-peers.

Table 9   Multiservice Packet Network Solution Caveats (continued)

DDTS Number	Caveat Description	Workaround
CSCdx38045	The format of the end-point in MGCP messages sent by the AS5400 running 12.2(11)T indicates a DS1 is attached when, in fact, an E1 is attached. The interworking of the iMSS and AS5400 is not possible in the default mode.	The E1 configuration in the iMSS must be configured as a DS1 using the iMSS MML command: **creflep**.
CSCuk36624	The third portion of a three-part call will fail in an environment that includes AS5400 running 12.2(11)T and VISM. A G.729 voice call that traverses both an AS5400 and VISM is initiated. During this call, one party initiates a fax transmission during which the CODEC up speeds to G.711. After the fax completes, the call should revert back to voice, but instead fails. The call fails to revert because of a difference in behavior of the VISM and AS5400. For VISM the CODEC reverts back to G.729 following the fax transmission. The AS5400 CODEC remains at G.711 after the fax transmission, resulting in a CODEC mismatch.	There is no work around for this defect.
TBD1907-02	Modem pass-through between VISM running 2.2.1.1 and AS5400 running 12.2(11)T does not interwork in default configuration mode. The issue is that VISM uses payload types 126 and 127 for the modem pass-through RTP packets. The AS5400 default payload types for modem pass-through RTP packets are 0 and 8 for G.711ulaw and G.711alaw respectively.	Configure the AS5400 using **mgcp rtp payload cisco-pcm-switch-over-alaw 127** which forces the payload type to 127.

Related Documentation

The complete list of component and solution documentation that pertains to the Cisco Multiservice Packet Network Solution is provided in the *Multiservice Packet Network Solution Documentation Guide*.

Solution Documents

Documents supporting the Multiservice Packet Network Solution, including these Release Notes, are available online:

The solution documents are:

- *Multiservice Packet Network Solution Overview Guide*

    This document provides an overview of the solution architecture, components, and services for the Multiservice Packet Network Solution. The following major topics are covered:

    – Solution Architecture

    – Solution Components

    – Solution Management

- *Multiservice Packet Network Solution Documentation Guide*

    This guide identifies the solution-level and component documentation for the solution.

- *Multiservice Packet Network Solution Release Notes, Release 2.1*

Component Documents

For a complete list of all solution-level and component documentation, refer to the *Cisco Multiservice Packet Network Solution Documentation Guide*.

Obtaining Documentation

The following sections explain how to obtain documentation from Cisco Systems.

World Wide Web

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

http://www.cisco.com

Translated documentation is available at the following URL:

http://www.cisco.com/public/countries_languages.shtml

Documentation CD-ROM

Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which is shipped 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 through an annual subscription.

Ordering Documentation

Cisco documentation is available in the following ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Networking Products MarketPlace:

  http://www.cisco.com/cgi-bin/order/order_root.pl

- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:

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

- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco corporate headquarters (California, USA) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

Documentation Feedback

If you are reading Cisco product documentation on Cisco.com, you can submit technical comments electronically. Click the **Fax** or **Email** option under the "Leave Feedback" at the bottom of the Cisco Documentation home page.

You can e-mail your comments to bug-doc@cisco.com.

To submit your comments by mail, use the response card behind the front cover of your document, or write to the following address:

Cisco Systems
Attn: Document Resource Connection
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Obtaining Technical Assistance

For technical assistance with the Cisco Multiservice Packet Network Solution, call the following number:

+39 02 4388 5500

For information on how to obtain technical assistance for a Cisco product, refer to the Release Notes for the relevant product.

This document is to be used in conjunction with the documents listed in the "Related Documentation" section.