# Cisco Packet Data Serving Node Service Manager 4.1

PRODUCT OVERVIEW

Cisco Systems® announces the availability of Cisco® Packet Data Serving Node (PDSN) Service Manager 4.1 for configuring and troubleshooting Cisco Packet Data Serving Node. As part of the Mobile Wireless Center for Cisco Mobile Exchange suite of applications, Cisco PDSN Service Manager complements the CiscoWorks LAN Management Solution (LMS) to provide end-to-end management of Cisco Mobile Exchange (Figure 1). The Mobile Wireless Center addresses the element-management requirements of mobile operators and provides fault, configuration, and troubleshooting capability as mobile operators transition their networks from second-generation (2G) circuit-based traffic to 2.5G and third-generation (3G) IP-based services.

**Figure 1.**   Mobile Wireless Center for Cisco Mobile Exchange
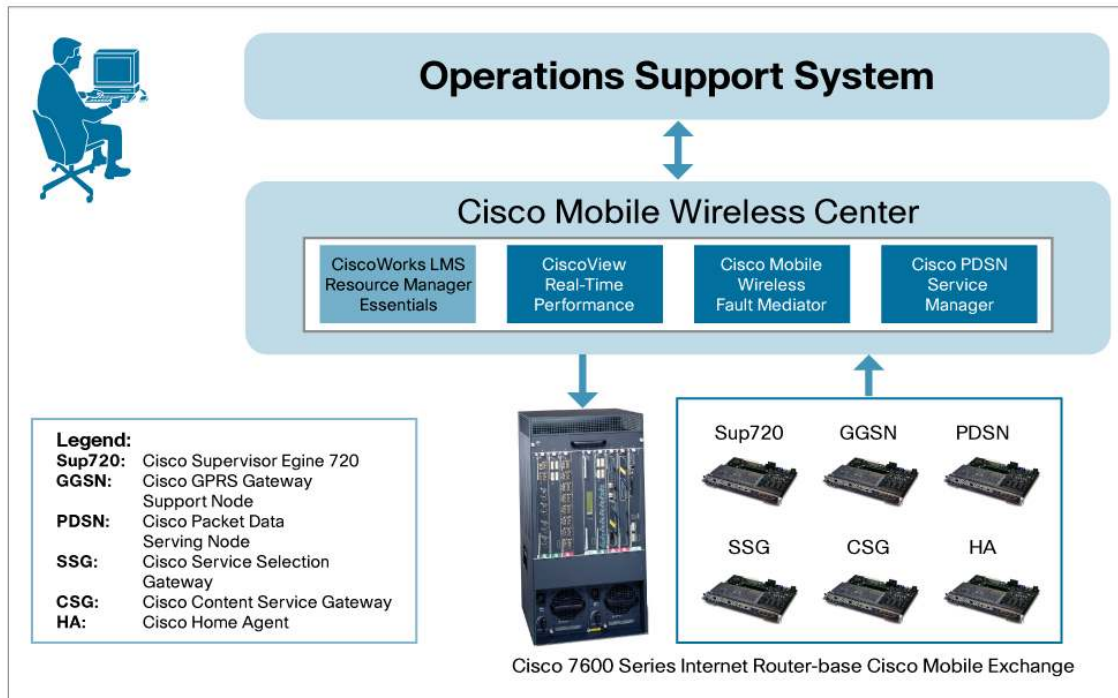
Cisco PDSN forms part of the Cisco Mobile Exchange framework, which offers mobile operators a standards-based framework that links the Radio Access Network (RAN) to IP networks and their value-added, content-based IP services. Cisco Mobile Exchange helps enable the intelligent framework that identifies users, knows where they are, and delivers services to them anywhere, over any access medium, to any client device. Cisco PDSN provides the primary wireless mobile data access to the Internet, intranets, and Wireless Application Protocol (WAP) servers for mobile stations using a Code Division Multiple Access (CDMA2000 RAN. The Cisco PDSN provides gateway, foreign agent, and packet transport for VPN capability in support of simple IP and Mobile IP services.

Figure 2 represents a typical IP-based CDMA2000 mobile wireless network built around Cisco Mobile Exchange.

In this context, Cisco PDSN Service Manager is a feature-rich application that provisions and troubleshoots foreign agent services to efficiently activate services and improve network reliability. Integrated with CiscoWorks LMS, Cisco PDSN Service Manager provides a

GUI similar to other CiscoWorks applications and interacts with the CiscoWorks Resource Manager Essentials Job Browser, making it a powerful tool for bidirectional device interaction and status. Furthermore, the Cisco PDSN Service Manager console allows easy navigation through configuration and troubleshooting tasks in a familiar environment.

Figure 2.   Mobile Wireless Center in a Cisco Mobile Exchange–Based CDMA2000 Network
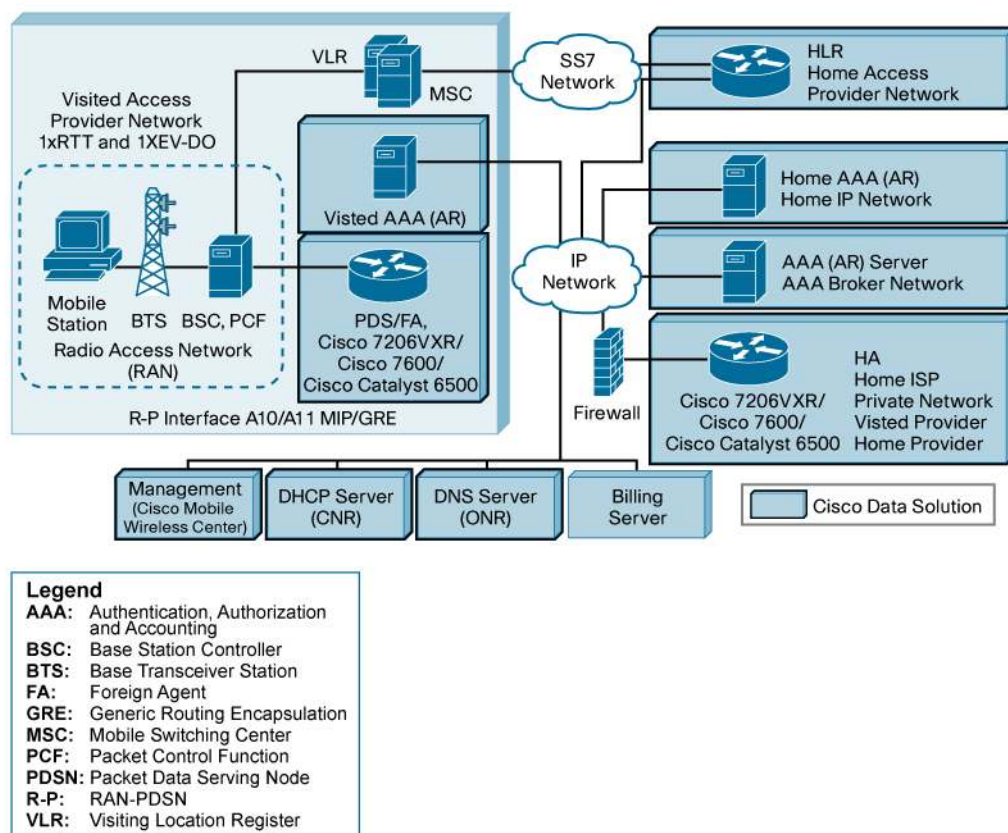
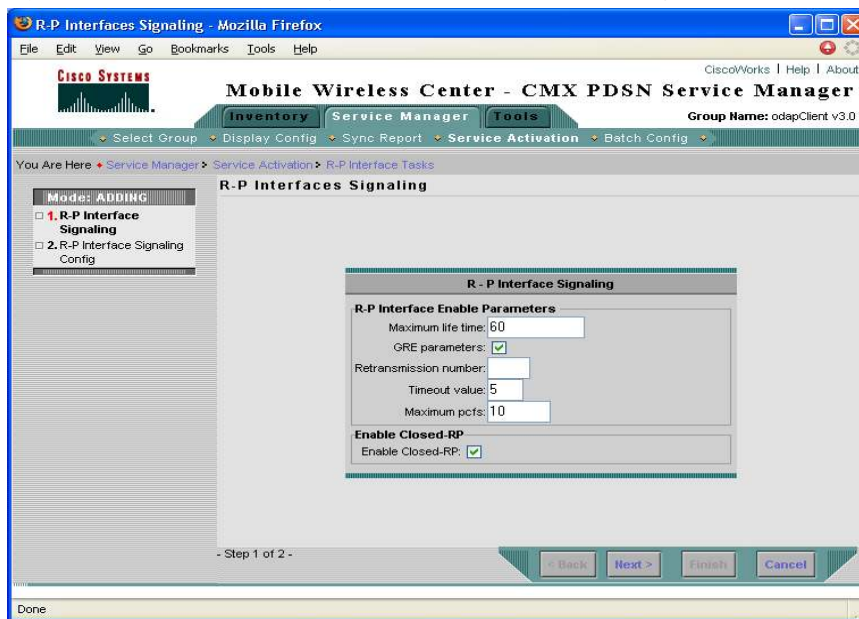## CISCO PDSN SERVICE ACTIVATION

Cisco PDSN Service Manager provides a Web-based GUI to activate, deactivate, and modify the following services within Cisco PDSN:

- Enable R-P interface to define security association between Cisco PDSN and PCF

- Configure closed R-P interfaces

- Configure the Mobile IP Foreign Agent

- Configure IS835-B IPSec

- Configure Mobile IP Security Associations

- Configure Proxy Mobile IP Attributes

- Configure Always-On Service

- Configure On-Demand Address Pools

● Configure Packet of Disconnect

● Configure Mobile IP Resource Revocation

Figure 3 shows one of the Cisco PDSN provisioning consoles.

Figure 3. Cisco PDSN Service Manager Console for R-P Interface Provisioning

CISCO PDSN CONFIGURATION DISCREPANCY ANALYSIS

Cisco PDSN Service Manger also provides the capability of analyzing PDSN configuration discrepancies within a defined grouping to proactively flag questionable configurations and prevent service-impacting misconfigurations. The Sync Report dashboard provides an intuitive report card that shows out-of-sync device status (Figure 4). The dashboard also allows the operator to see the actual commands that are not matching.

Figure 4. Cisco PDSN Service Manager Console for Configuration Discrepancy Analysis
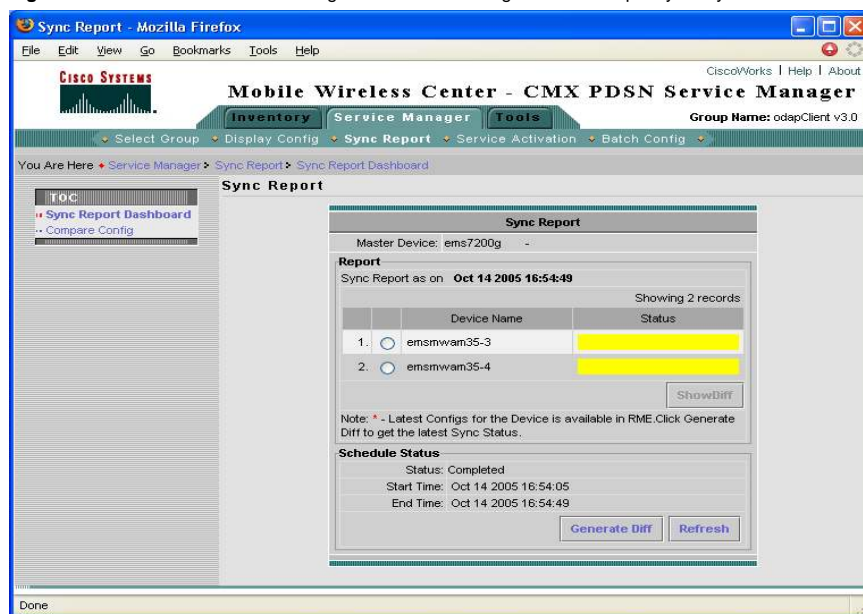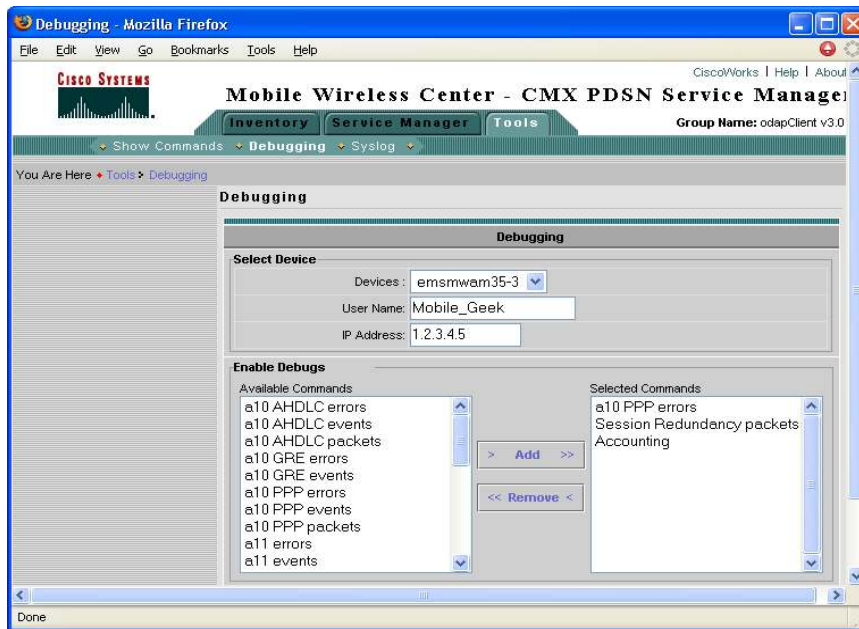

TROUBLESHOOTING DASHBOARD

Cisco PDSN Service Manager features a troubleshooting dashboard that provides predefined information on:

* PDSN show commands outputs

* PDSN debug results

* PDSN syslog messages

Figure 5 illustrates a sample troubleshooting console.

Figure 5.   Cisco PDSN Service Manager Troubleshooting Dashboard

KEY FEATURES AND BENEFITS

Table 1 describes the benefits of Cisco PDSN Service Manager when deployed as part of an Element Manager System (EMS) infrastructure.

Table 1.   Features and Benefits of Cisco PDSN Service Manager

Feature	Description	Benefits
Centralized management of PDSN configuration	• Automates PDSN provisioning in all Cisco PDSN installations defined in a server farm.	• Reduces complexity of PDSN provisioning process by simultaneous interfacing with all installations of Cisco PDSN, even without being configured as a Mobile IP Foreign Agent. • Reduces time to add new mobile subscribers.
Troubleshooting dashboard	• Allows operators to execute maintenance tasks on Cisco PDSN. • Allows easy selection of tools to view syslogs, show commands output, and debug.	• Improves network serviceability by allowing operators to proactively assess Cisco PDSN status. • Facilitates problem identification and troubleshooting.
Multiple-device management	• Allows management of multiple installations of Cisco PDSN in a user-defined grouping. • Automatically downloads configurations in all Cisco PDSN installations in the server farm.	• Provides a unique PDSN provisioning scheme that spans all installations of Cisco PDSN in a server farm. • Prevents out-of-sync configurations.
CiscoWorks-based GUI	• Allows easy viewing, creation, modification, and deletion of PDSN service profiles in a GUI. • Provides automatic entry validation to help minimize configuration error while conforming to CiscoWorks look and feel.	• Improves time to service because operators don't need specialized skills in Cisco IOS® Software to configure PDSN services. • Provides all the tools of the CiscoWorks LMS product suite.

Automatic device inventory	• Uses CiscoWorks Common Services Device Credentials Repository data to automatically discover Cisco PDSN devices and gather management information from them.	• Accelerates time to service because operator avoids manual entry. • Reduces complexity.
Cisco PDSN discrepancy analysis	• Detects configuration discrepancies in installations of Cisco PDSN in the server farm. • Provides a report of discrepancies; shows any divergent Cisco IOS Software commands between Cisco PDSN installations.	• Helps eliminate misconfigurations. • Increases productivity by highlighting discrepancies. • Increases network serviceability.
CiscoWorks LMS interface	• Interacts with CiscoWorks Resource Manager Essentials (RME) to download/upload device configurations to Cisco PDSN. • CiscoWorks RME automatically uploads latest Cisco PDSN running configuration and synchronizes with Cisco PDSN Service Manager.	• Helps ensure that Cisco PDSN device configurations are synchronized with Cisco PDSN Service Manager. • Increases network reliability by using CiscoWorks RME Job Browser for orderly tasks such as device auditing.
Device configuration display	• Provides hierarchical Cisco PDSN configuration view. • Filters out Cisco IOS Software configurations unrelated to CDMA. • Shows configuration of any installation of Cisco PDSN in user-defined server farm.	• Allows operator to focus on mission-critical tasks without being overwhelmed by the whole device's configuration. • Reduces errors by showing only Cisco PDSN–related configurations. • Reduces configuration complexity.
System security and user account management	• Uses CiscoWorks user security levels to assign Cisco PDSN Service Manager predefined user roles. • User security levels include Help Desk Approver, Network Operator, Network Administrator, and System Administrator.	• Increases system security to restrict potential disruptions to the network or to the application itself. • Helps maintain system integrity by preventing accidental or malicious operations by unauthorized users.

PRODUCT SPECIFICATIONS

Cisco PDSN Service Manager supports the Cisco Mobile Exchange devices listed in Table 2.

Table 2. Cisco PDSN Service Manager Device Support

Supported Device	Cisco IOS Software Release	Cisco Hardware
Cisco PDSN 2.1	12.3(11)YF or later	Cisco 7206 Router or Cisco 6500/7600 Series Multiprocessor WAN Application Module (MWAM)
Cisco PDSN 3.0	12.3(14)YX or later	Cisco 7206 Router or Cisco 6500/7600 Series Multiprocessor WAN Application Module (MWAM)

SYSTEM REQUIREMENTS

Tables 3 and 4 list the system and client requirements for Cisco PDSN Service Manager.

Table 3. Sun Server System Requirements

Requirement Type	Minimum Requirement
System hardware	Dual processor UltraSPARC IIIi at minimum, clock speed 1 GHz, RAM 4 GB
Swap space	8 GB
Disk drives	Dual 80+GB SCSI or FC-AL drives

Network adapter	Suggested 100 MB or more
Operating system	Solaris 2.9
CiscoWorks LMS for coexistence	2.5.1

Table 4.   Client Requirements

Requirement Type	Minimum Requirement
System hardware	• At least a 1-GHz single CPU running Windows 2000 Professional or Windows XP • Sun UltraSPARC IIIi, single CPU 1 GHz or equivalent
Software	• Windows: Internet Explorer 6.0 SP1, Netscape 7.1 • Solaris: Netscape 7.0
Memory (RAM)	• 512 MB
Available disk space	• 80 GB
Operating environment	• Sun Solaris 2.9 • Windows XP, Windows 2000 Professional, Windows Server 2003
Swap space	• Space equal to twice the amount of memory (RAM)
Java Runtime Environment (JRE)	• Java Plug-in Version 1.4.2_04

ORDERING INFORMATION

Cisco PDSN Service Manager and the related upgrade for CiscoWorks for Mobile Wireless and Mobile Wireless Center 2.0 customers are available for purchase through regular Cisco sales and distribution channels worldwide. To place an order, visit the Cisco Ordering Home Page.

SERVICE AND SUPPORT

Cisco delivers a wide range of services through a unique combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction. Cisco services help you to protect your network investment, optimize network operations, and prepare the network for new applications to extend network intelligence and the power of your business. For more information about Cisco services, visit Cisco Technical Support Services or Cisco Advanced Services on the Cisco Website.

FOR MORE INFORMATION

For more information about Cisco PDSN Service Manager, visit www.cisco.com/go/mwc-cmx, contact your local account representative, or send e-mail to info-mwc@cisco.com.

CISCO SYSTEMS

C78-338340-00   03/06