Cisco Application Extension Platform Solution

Remote Management for Your Cisco ISR AXP Devices

Introduction

The Cisco® Application Extension Platform offers application developers many options. It is an open platform that can be extended easily, but what happens after deployment?

As an enterprise IT manager, you are responsible for delivering and maintaining the infrastructure and services that enable your business to compete effectively and respond quickly to changing market requirements. Keeping business services operating smoothly requires in-depth knowledge of your environment from end-to-end, an understanding of how IT affects the availability and operations of business processes, and an effective set of well-integrated management tools. It is also critical to set appropriate expectations for the type, quality, performance, and availability of the IT services to which users will have access. Even more challenging is the constant pressure placed upon IT operations and capital expense budgets. For this reason, getting the most out of your IT investments is another important consideration.

In this context, end-to-end management is defined as the ability to visualize and maintain the entire enterprise from the front-end customer view and client-based tools to the back-end servers and hardware infrastructure that hosts critical business applications, defines enterprise communications, and controls network security.

This solution brochure illustrates how the Cisco Application Extension Platform (AXP) and ProSyst mPower Remote Manager can be used in a complementary manner to develop a well-integrated and highly manageable adaptive enterprise, helping IT organizations deliver consolidated end-to-end management and increased availability from the hardware infrastructure to the service level.

Industry Trends

Doing more with less is the name of the game in today's IT world. Budgets are tighter, staff resources are leaner, and the demand for new, more sophisticated, and highly available services continues to grow. Together, ProSyst and Cisco deliver deep and broad knowledge of the entire computing environment. ProSyst mPower Remote Manager and Cisco AXP provide centralized, remote application and system-level management for a multitude of Cisco integrated services router (ISR) devices and can be used to develop a highly optimized and more agile and adaptive enterprise.

A Closer Look at ProSyst mPower Remote Manager

ProSyst mPower Remote Manager (mPRM) is a powerful and flexible remote management platform allowing the administration of a large set of devices from a single management domain. mPRM is based on the open standards from Java, OSGi, and Open Mobile Alliance (OMA) specifications to help device manufacturers and service providers simplify the management of a wide range of devices.

mPRM allows dynamic injection of new applications, system extension libraries, and services behind the scenes while the devices continue to function.

The core features of mPRM include:

- Delivery of services and applications on demand (user pull, provider push)
- Installing, updating on the fly, removing, re-installing services and applications
- Starting, stopping, disabling services and applications
- Monitoring and tracking of software inventory
- Managing privileges and access rights
- Plug-in architecture for new management protocols and functionalty

Based on a modular component architecture (Figure 1), mPRM can be easily integrated with existing third-party enterprise systems like databases, CRM systems, and Java application servers. It helps small, medium, and enterprise-sized businesses transition to a service-oriented architecture (SOA) service management model for more efficient and effective service delivery in a dynamically changing business environment, where competitiveness requires flexibility, reduced costs, and adherence to compliance regulations.

Figure 1.   The Modular Architecture of the mPRM Management Platform
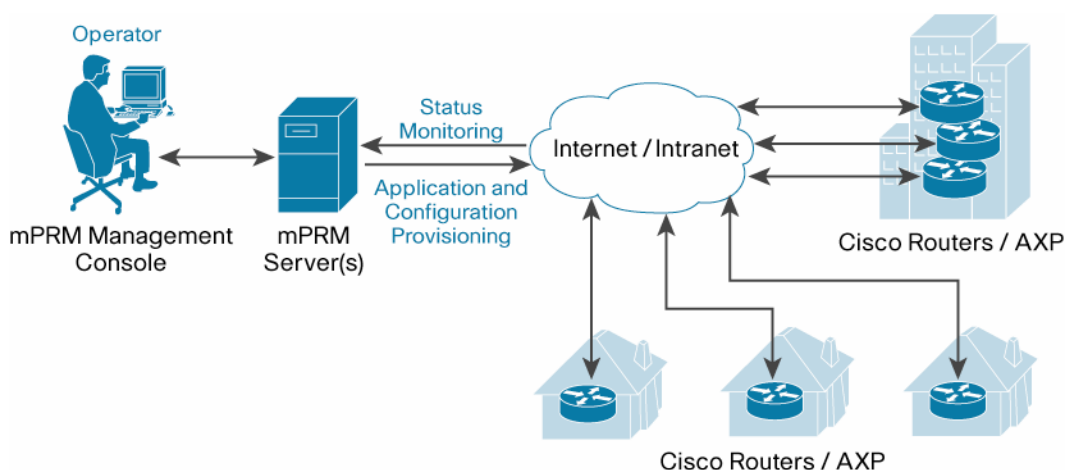
How It Works

ProSyst is a specialist in Java technology, just as Cisco is in network technology. Together Cisco AXP and the ProSyst mPower Remote Manager provide an ideal combination of Java and network technology.

ProSyst mPRM provides centralized remote application and system-level management of a wide range of Cisco ISR AXP devices. ProSyst mPRM is responsible for:

- **Deploying applications to the Cisco AXP platform**
  - Installs new applications
  - Upgrades, downgrades, uninstalls applications available on the Cisco ISRs
- **Applying system and application configuration changes**

  Cisco IOS® Software, AXP and application-specific configuration settings

- **Monitoring AXP platform and application configuration and run-time status**
  mPRM automatically collects and maintains information for each Cisco ISR, including installed system modules, plug-ins, and application software packages; device characteristics; and run-time status of applications and operating system processes.

- **Generating real-time alert notifications for application malfunctions**

- **Executing remote platform- and application-specific command-line interface (CLI) commands**

- **Provides remote management for your OSGi add-on running on top of Cisco AXP**
  Full OSGi framework management capabilities

AXP Product Overview

The Cisco Application Extension Platform(AXP) provides a standards-based Linux hosting environment within the ISR allowing 3rd parties to integrate applications with the router. Tightly integrated, the AXP environment is configured and managed through the router. Harnessing this integration, an AXP application can appear to the end-user as an extension of the router.
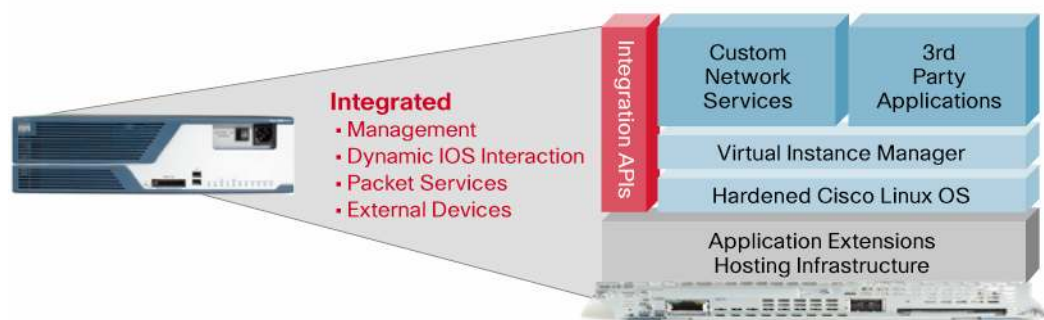
The AXP Solution consists of:

- Application Runtime Network Module providing dedicated resources to host applications.

- Application Extensions Platform Hosting environment providing the infrastructure to securely host, install, upgrade, manage and 3rd party applications and services.

- IOS Integration APIs allowing the application to integrate and leverage the features of the router.

- Software Developer Kit (SDK) allowing certified customers and partners to develop applications and services.

- AXP Partner Program provides the collateral, extended technical support and online resources to help partners, develop, deploy and market their AXP based solutions.

Features

The standard device management mPRM features are:

- **Device directory**

  Flexible and convenient mechanisms for grouping, filtering, and searching the registered Cisco ISRs by various built-in and user-defined device characteristics

- **Management operation control**

  Defining and managing the jobs that perform configuration actions on devices, including:
  - Executing management operations to single devices or groups of devices (mass deployment and configuration operations)
  - Scheduling operations to start at a specified time and/or to be repeated periodically
  - Tracking the progress of operations and their success or failure as a whole or on an individual device basis
  - Defining reusable batch management operations using a script language

- **Initial device configuration**

  Applying specific configuration settings for newly registered devices

- **Software repository**

  Central backend storage and download server, maintaining software components and applications (including Cisco AXP packages) targeted for deployment to the Cisco ISRs.

- **Management console**

  Powerful GUI application for monitoring and manipulation of the Cisco ISRs

- **Application development and integration interfaces**

  Providing a rich set of APIs allowing customization and development of additional applications, as well as integration with existing systems and applications

Business Benefits

The mPRM remote management software has been developed by ProSyst in partnership by Cisco to give you complete flexibility and control over updating, adding, replacing and removing any software asset on any Cisco AXP device throughout the software lifecycle. It is optimized for the Cisco AXP platform and is designed for high availability, scalability and reliability. With ProSyst mPRM integrated as part of an overall management solution, Cisco AXP devices can be remotely provisioned, maintained, and updated. This allows you to deliver new features and products to market more quickly and enhance the user's experience.

Providing sophisticated, automated problem diagnosis and resolution to improve system performance and reduce support costs, ProSyst´s mPRM takes full advantage of your existing IT infrastructure to make your system more responsive to your business priorities.

You can benefit from ProSyst´s vast experience and large installed base. mPRM requires minimal integration effort to improve time to market and provides the flexibility to comply with a wide range of use cases or standards requirements from different industry segments.

To find out more or to purchase the ProSyst mPower Remote Manager for your Cisco ISR Router with AXP, please contact:

Daniel Schellhoss at ProSyst Software

Phone: +49 221 6604 203 or e-mail d.schellhoss@prosyst.com

About ProSyst

ProSyst, a Java and OSGi pioneer, offers client- and server-side OSGi service platforms as well as the development of generic and custom applications. Manufacturers and service providers use the OSGi-based and certified technology from ProSyst to dynamically extend, manage, and secure platforms and to enable the creation of applications and functions as simple, interoperable, and sharable components.

ProSyst offers products and services for all markets that use OSGi technology, including mobile devices, smart home, automotive, enterprise, and industrial applications.

ProSyst customers include Alcatel, Alpine, BMW, Bosch, Bombardier, BuschJaeger (ABB), CA, Epson, GM, HP, ICW, Motorola, Miele, Nokia, Philips, SAP, Siemens, Sprint Nextel, Telefónica, Telstra and Thales Alenia Space, and many more.

The company was founded in 1997 in Cologne, Germany. ProSyst is a privately held company and employs 120+ Java/OSGi engineers. Contact ProSyst on the Web at http://www.prosyst.com.

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