

Chapter 1

Advanced Insight Solutions Overview

Advanced Insight Solutions (AIS) is a Juniper Networks product that provides reactive and proactive support for Juniper Networks devices operating in service provider and enterprise networks by:

- Automatically detecting problem incidents and intelligence information
- Managing incidents to quick resolution by Juniper Support Systems (JSS) engineers and specialized tools
- Providing intelligence information updates to prevent problem incidents from occurring.

This chapter describes the Advanced Insight Solutions (AIS) major features and how it works.

This chapter includes the following topics:

- AIS Key Benefits on page 3
- AIS Key Features on page 4
- How AIS Works on page 12

AIS Key Benefits

AIS provides a comprehensive set of tools and processes designed to automate the delivery of reactive and proactive support services for Juniper Networks devices running on the networks. AIS, for full intended functionality, requires an annual subscription to Juniper Support Systems (JSS) support services and Advanced Insight Manager application licensing, and capacity licenses for the number of devices you want AIS to manage and support. See “AIS Licensing and Service Subscriptions” on page 8.

AIM provides the following key benefits:

- Advanced Insight Scripts (AI-Scripts)—These JUNOS operation (op) scripts, that need to be installed and activated on Juniper Networks devices, reduce network downtime significantly by automatically detecting, collecting, and depositing incidents and intelligence information necessary for Juniper Support Systems (JSS) to quickly and efficiently resolve cases and proactively identify customer-specific issues before they become problems.

- Advanced Insight Manager (AIM)—This application reduces the cost of service license agreements (SLAs) violations by providing a faster, more efficient reaction to incidents and intelligence information. Incidents and intelligence information is easily flagged to the right users so that they can quickly request case resolution from JSS and intelligence updates. AIM connects to where devices deposit incident and intelligence information and provides a central point of control for case resolution status and intelligence updates. Reaction policies can be designed to alert the network administrator or third-party network management system (NSM) of key incidents, alerts, and intelligence information. All communication between AIM and JSS occurs over a secure channel, and each transaction is authenticated and verified by JSS.
- JSS—Reduces the amount, severity, and duration of network outages by using the Juniper Networks engineering expertise and customized tools to quickly resolving cases and communicating case status with AIM. JSS quickly opens and resolves incident cases if the customer subscribes to the AIS Base Service (Incident-Driven Online Service). JSS sends alerts or intelligence updates or proactive recommendations if the customer subscribes to AIS Proactive Service Intelligence-Driven Online Service.

AIS Key Features

AIS is a Juniper Networks product that provides reactive and proactive support for EX-series, J-series, M-series, MX-series, and T-series routing platforms (devices) in customer networks that have been configured for and are running Advanced Insight Scripts (AI-Scripts), which are specialized JUNOS event scripts.

This section contains the following information:

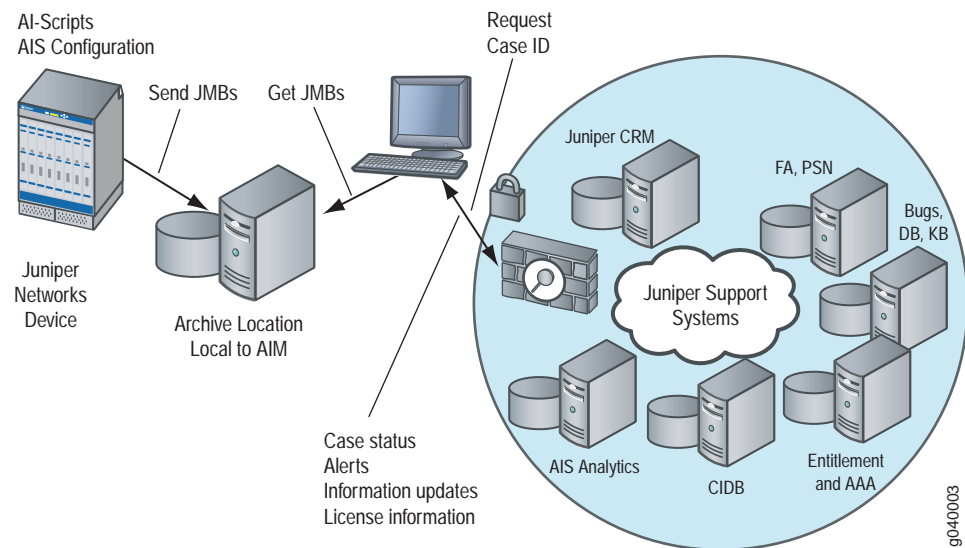
- AIS Major Elements on page 5
- AIS Licensing and Service Subscriptions on page 8
- AIM Customer/Partner Engagement Models on page 9
- JUNOScope 9.0 Software Script Management on page 11
- Incident-Driven Analysis Workflow on page 12
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AIS Major Elements

AIS consists of three major elements (see Figure 1):

- AI-Scripts on page 5
- Advanced Insight Manager (AIM) Application on page 6
- JSS on page 7

Figure 1: AIS Major Elements



AI-Scripts

Specialized AI-Script install packages must be installed on AIS-configured JUNOS devices. AI-Scripts, running on devices, automatically do the following:

- React to specific problem events that occur on devices and provide relevant information about the problems for analysis
- Periodically collect intelligence data useful in preventing future problems.
- Package all problem incident and intelligence data into a JMB and send it to a remote archive location so that it can be collected and displayed by AIM.

For more information about AI-Scripts, see “Installing and Understanding AI-Scripts” on page 37.

Advanced Insight Manager (AIM) Application

The Advanced Insight Manager (AIM) application provides a gateway between JUNOS device archive locations and JSS. AIM provides the following features:

- Installs on a Sun Solaris or Red Hat Enterprise Linux server. Connect to it from a Web browser, such as Microsoft Internet Explorer 6, Netscape Navigator 6 or later with JavaScript enabled, or Mozilla Firefox.
- Processes incident JMBs through case ownership and case creation to quick resolution. You need an AIS Base Service (Incident-Driven Online Service) subscription.
- Processes intelligence JMBs to JSS for use to provide intelligence and alert updates. You need an AIS Proactive Service (Intelligence-Driven Online Service) subscription.
- Operates in fully functional, demo mode for 60 days with support for one organization and five devices.
- A license file is electronically sent to you. Load the license file into AIM for activation of the licensed features purchased, such as:
 - Base Product—Required to use AIM beyond a 60-day demo period. Allows the operation of Incident Manager and Intelligence Manager and the creation of one organization.
 - Capacity—Required to control the number of devices that can send incident and intelligence JMBs.
 - Feature Licenses—Allow you to activate certain key AIM features



NOTE: Having a license in AIM does not automatically mean that you have a license to subscribe to the AIS Base or AIS Proactive services needed for full functionality of the Advanced Insight Manager (AIS) product.

- Multi-Site organizations provide a way to manage multiple sites with one AIM installation by dividing the network into multiple logical customer sites to participate in Advanced Insight Solutions (AIS) services.
- Using organization device group and archive location settings, you can optionally have JUNOScope Script System automatically install AI-Scripts on multiple devices.
- User privileges control access to AIM features. Access depends on which user group the user belongs to and which device groups the user group is associated with. AIM displays only the devices that the user has access to and incidents and intelligence messages for those devices.
- Sends AIM incident SNMP traps to specific network management systems based on configured trap destinations.
- Includes three main user interfaces to manage incidents, intelligence information, and reaction policies:

- My AIM Home displays incidents, intelligence messages, and reaction policies owned by or flagged to a user.
- Incident Manager displays incidents collected from JUNOS device remote archives. You create reaction policies to alert you when incidents occur, incidents are reported to JSS, a Case Management ID is assigned, or a case is updated by JSS. You can view incidents by organizations.
- Intelligence Manager displays intelligence updates from JSS and Information JMBs collected from JUNOS device remote archives. You can view intelligence information by organizations.

For more information about using AIM, see “Setting Up Advanced Insight Manager” on page 49 and “Using Advanced Insight Manager” on page 105.

JSS

JSS, using Juniper Networks knowledge base, engineering expertise, and specialized tools, resolves incident cases that you open using AIM. JSS sends case resolution status to AIM. JSS receives intelligence information from devices on the network using AIM and sends intelligence updates and alerts for which you have registered to AIM.

All communication between AIM and JSS occurs over a secure channel, and each transaction is authenticated and verified by JSS.

To receive JSS functionality with AIM, you must subscribe to one or both of the JSS services:

- AIS Base Service (Incident-Driven Online Service)
- AIS Proactive Service (Intelligence-Driven Online Service)

For a description of these services, see “AIS Licensing and Service Subscriptions” on page 8.

AIS Licensing and Service Subscriptions

The AI-Scripts require no fees or licensing.

The AIM application requires the base, feature (optional), or capacity licenses based on the number of devices that need AIS support. AIM License Management displays the current license and services you have purchased once the license file is imported. For more information about AIM licensing, see “AIS License Management” on page 59.

To receive incident resolution and intelligence updates services from JSS, you must purchase the following annual subscriptions:

- AIS Base Service (Incident-Driven Online Service)—This service allows you to open incident cases directly. JSS sends you a case ID and case resolution status.
- AIS Proactive Service (Intelligence-Driven Online Service)—This service allows the customer to send a specified amount of intelligence information to JSS from information JMBs collected by AIM from device archive locations. JSS sends the customer proactive information updates and alerts.

JSS services are provided for the following device classes. Capacity licenses are required for the number of devices for which you need AIS support.

- Class 1—CPE and branch devices, such as J-series, M7i, M10i, M20, M120, EX-3200, and EX4200 platforms
- Class 2—Edge and Aggregation devices, such as M40e, M320, and MX-series platforms
- Class 3—Core devices, such as T-series and TX platforms

AIM Customer/Partner Engagement Models

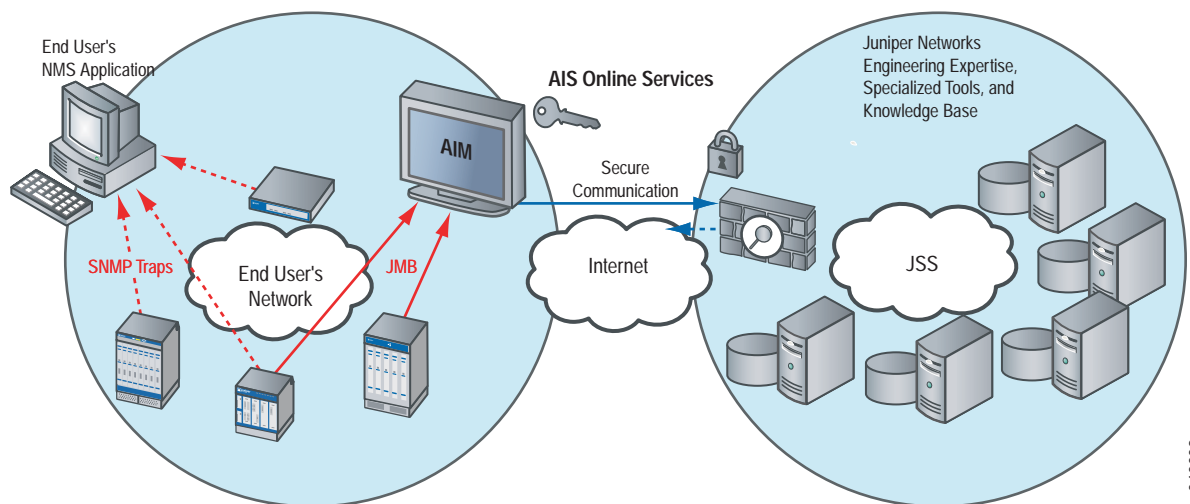
You can deploy AIS several ways depending on your customer support models:

- Direct-Customer AIS Engagement Model on page 9
- Partner-Deployed AIS Engagement Model on page 10
- Partner end-user-deployed

Direct-Customer AIS Engagement Model

You, the AIS direct customer, installs AIS software elements (AI-Scripts and AIM), and subscribes to AIS services. See “Installing Advanced Insight Manager” on page 25. See “Installing and Understanding AI-Scripts” on page 37. See “AIS Licensing and Service Subscriptions” on page 8. See Figure 2.

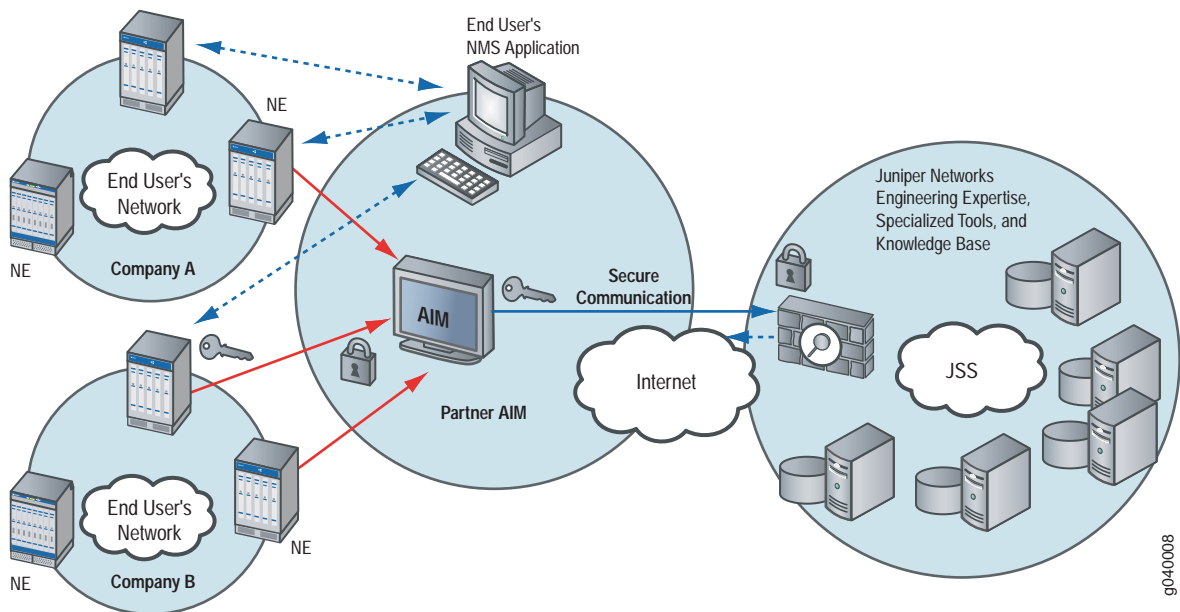
Figure 2: AIS Direct-Customer Engagement Model



Partner-Deployed AIS Engagement Model

The AIS Partner installs AIM software elements (AI-Scripts and AIM) to manage multiple end-users. The AIM server is used as an aggregation point for JMBs from many customers. The partner administrates the AIM server and end user customers have read-only access to AIM. The partner submits all case requests on behalf of customers. All connections are through authenticated and encrypted protocols. Secure file transfers occur from multiple device archive locations to partner's AIM. An HTTPS connection is made from AIM to JSS. See "Installing Advanced Insight Manager" on page 25. See "Installing and Understanding AI-Scripts" on page 37. See "AIS Licensing and Service Subscriptions" on page 8. See Figure 3.

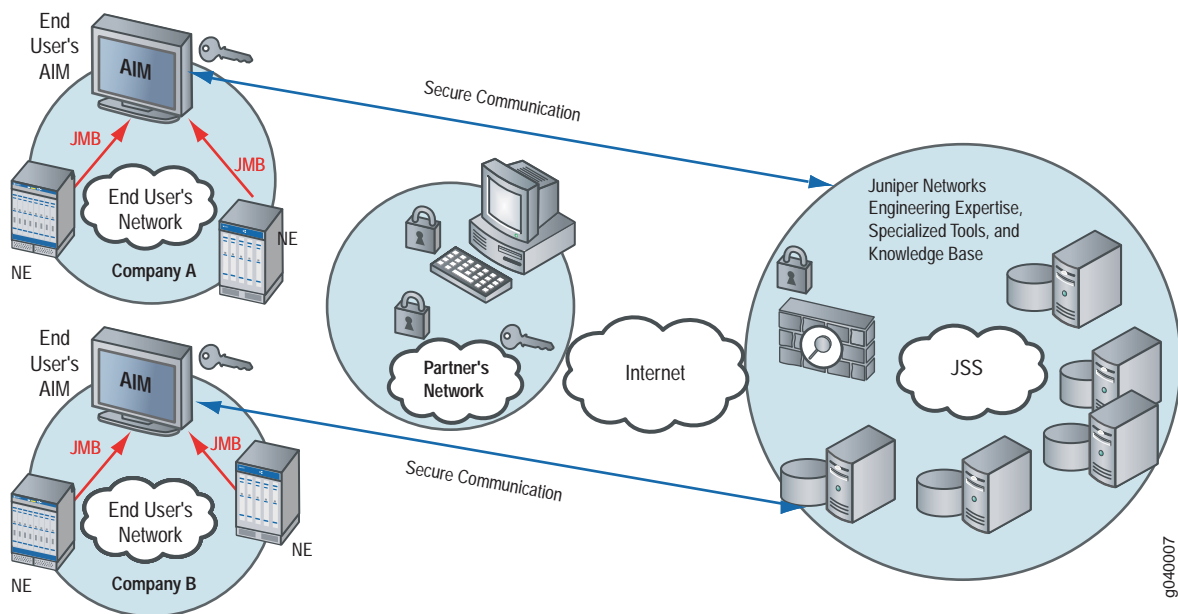
Figure 3: AIS Partner-Deployed Engagement Model



Partner End-User Deployed AIS Engagement Model

AIM is installed on each end user's network and accessed remotely by the partner through a Web client. There is no AIM at the partner location. Each end user's AIM communicates directly with JSS. The partner can choose to administer each end user's AIM individually or allow each end user to administer their own AIM. If the end user sends a case request to JSS (for example, if the end user has administrative privileges to their own AIM) the partner can view information by remotely logging in to an end user's AIM. A firewall hole or tunnel between the end-user and AIM is necessary. All connections are through authenticated and encrypted protocols. See Figure 4.

Figure 4: Partner End-User-Deployed Customer/Partner Engagement Model



JUNOScope 9.0 Software Script Management

(Optional) AIM integrates with the JUNOScope 9.0 software through an API to automatically install an AI-Script install package to multiple devices. JUNOScope is an element management tool, used to support devices on the network. The customer can import devices managed by JUNOScope using AIM JUNOScope settings, then specify on which devices to install AI-Script install packages using AIM Organizations settings. Install JUNOScope must be installed first on the same server on which you will install AIM.

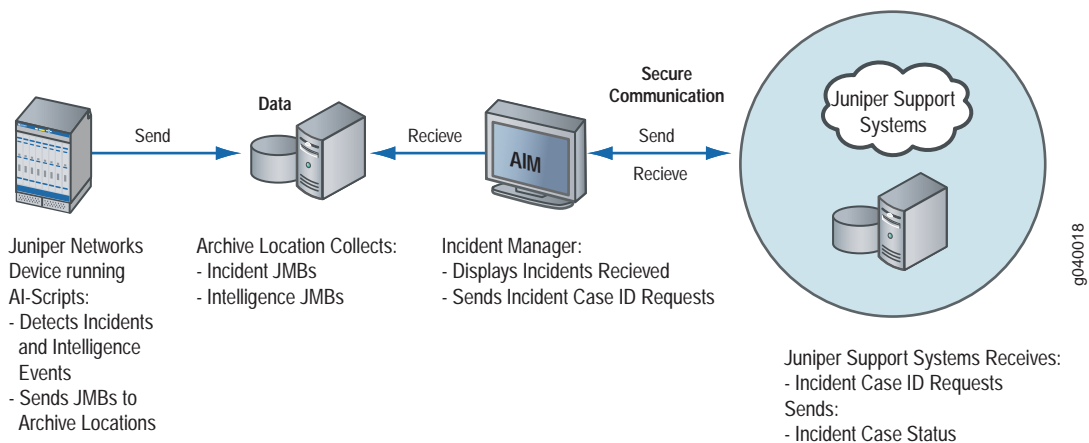
How AIS Works

There are two distinct workflows within AIS: one for incident information; the other for intelligence information. AIM periodically polls the archive location for incident and intelligence information and displays the information for a single point of management in Incident and Intelligence Manager.

Incident-Driven Analysis Workflow

The AIS incident-driven workflow occurs as follows (see Figure 5):

Figure 5: AIS Incident-Driven Workflow



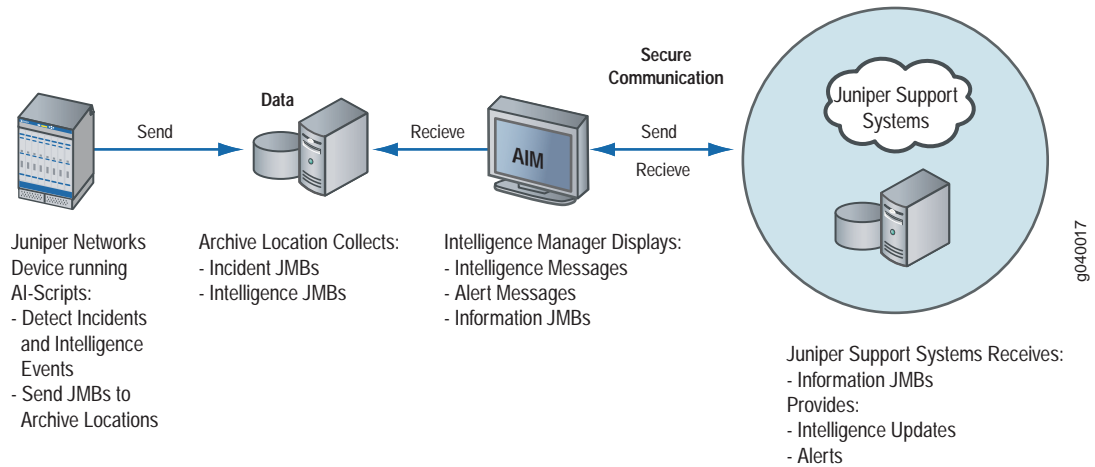
1. A trigger event occurs and is detected on a device configured for and running AI-Scripts. An AI-Script is executed.
2. A tailored AI-Script builds a incident Juniper Message Bundle (JMB) with event and router data, and sends it to a designated AIM archive location.
3. AIM receives the incident JMB and displays it in Incident Manager. The incidents owned or flagged to a user appear in My AIM Home.
4. If you have enrolled in the AIS Base Service (Incident-Driven Online Service), incidents case IDs can be requested from JSS from Incident Manager to open a case with all relevant information for resolution.
5. JSS creates a case. Any attachments are uploaded from AIM to JSS.
6. JSS returns a case ID to AIM.
7. JSS engineers work on the case and reports case status to AIM.

For more information about using Incident Manager, see “Using AIM Incident Manager” on page 127.

Intelligence-Driven Analysis Workflow

JSS receives intelligence JMBs from AIM and collects in the knowledge base. AIM periodically polls JSS for the availability of intelligence messages and created by Juniper personnel specifically for the customer. The intelligence-driven workflow occurs as follows (see Figure 6):

Figure 6: AIS Intelligence-Driven Workflow



1. An intelligence trigger event is detected on a device running AI-Scripts
2. A tailored AI-Script builds an intelligence JMB and sends it to a designated archive location.
3. AIM periodically polls the archive location and receives the intelligence JMB.
4. The customer can specify how much information is shared with JSS using AIM settings.
5. AIM displays the intelligence JMB in Intelligence Manager Information JMBs.
6. If the customer is enrolled in AIS Proactive Service (Intelligence-Driven Online Service), the intelligence JMB is sent to JSS through a secure communication.
7. AIM periodically queries JSS for intelligence updates. Intelligence Updates consist of alerts (based on the AIM alert subscriptions) or intelligence updates created by Juniper Networks personnel specifically for the customer.
8. JSS checks to see if there are any alerts or intelligence update messages destined for the customer's AIM.
9. JSS forwards any alerts or intelligence updates to AIM.
10. AIM receives the alerts or intelligence updates and displays them in Intelligence Manager Information Updates.

For more information about using AIM Intelligence Manager, see "Using AIM Intelligence Manager" on page 141.

