

## Cisco AXP – nGenius Integrated Agent for Cisco Integrated Services Routers

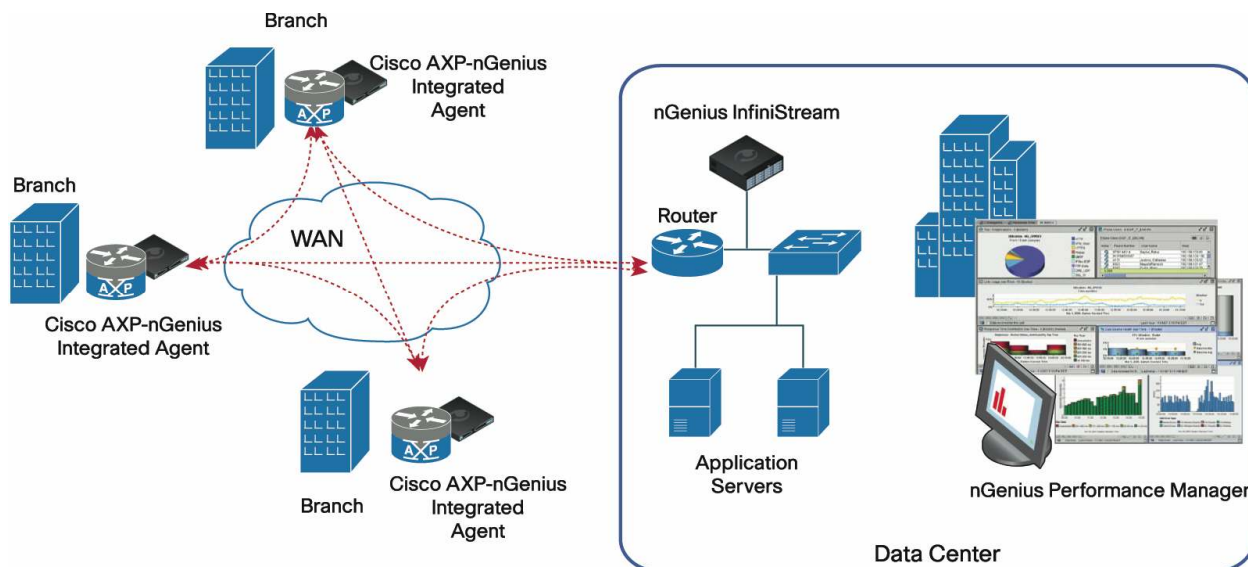
### Product Overview

The Cisco® AXP – nGenius® Integrated Agent for Cisco Integrated Services Routers (ISRs) embeds software-based probe technology into the routers to provide cost-effective visibility into the performance of branch-office environments.

Cisco Application Extension Platform (AXP) is used as the hosting environment to embed nGenius Integrated Agent into the routers. The Cisco AXP hosting environment provides the infrastructure to securely host, install, upgrade, and manage the nGenius Integrated Agent application. This integrated solution complements the existing nGenius hardware instrumentation strategy by extending the NetScout intelligent data source family further out into the network to bring cost-effective visibility closer to the user. This enhanced visibility further strengthens the Cisco Borderless Networks initiative that enables organizations and individuals to communicate anytime, anywhere, in any way they wish.

Figure 1 shows how Cisco AXP – nGenius Integrated Agent facilitates end-to-end monitoring as well as site-to-site monitoring.

**Figure 1.** Instrumenting Branch Locations Using the Cisco AXP – nGenius Integrated Agent



Taking advantage of the powerful services virtualization capabilities of the Cisco AXP, organizations gain the benefits of unified service delivery management without increasing the hardware footprint and complexity in the branch. This reduces the cost of operations by freeing up valuable rack space, reducing management complexities, simplifying remote location asset management, and reducing power consumption. Consequently, IT staff can develop a comprehensive, unified service-delivery management strategy that can scale to cope with current and future demands from a widening array of services and applications, while at the same time further extending their view of network and application performance.

The Cisco AXP – nGenius Integrated Agent solution requires nGenius Performance Manager Workgroup or Enterprise for reporting and viewing. For details, please refer to the overview of nGenius Performance Manager v4.7 at:

[http://www.netscout.com/products/enterprise/nSAS/ngenius\\_analysis/Pages/nGenius\\_Performance\\_Manager.aspx](http://www.netscout.com/products/enterprise/nSAS/ngenius_analysis/Pages/nGenius_Performance_Manager.aspx).

## Features and Benefits

Cisco AXP – nGenius Integrated Agent provides the following benefits:

- Lowers the cost of monitoring the branch office by reducing both capital expenditures (CapEx) and operating expenses (OpEx)
- Reduces the hardware footprint by consolidating the nGenius probe solution inside the ISR
- Provides a unified view of the global network and consistent manageability to help ensure end-user experience in branch offices and across the enterprise
- Speeds local troubleshooting in order to minimize the effect of network and application performance degradations on branch-office environments
- Optimizes the service-delivery infrastructure to gain better performance and usage in branch-office locations
- Provides an efficient means of adding service-assurance capabilities to Cisco ISRs using a simplified, single-package installation

Cisco AXP – nGenius Integrated Agent provides following features:

- Application recognition and monitoring
- On-demand short-term packet capture and troubleshooting
- Response-time analysis and critical performance indicators including packet loss, interpacket delay, client and server errors, and timeouts
- Centralized application deployment and management using Cisco AXP and Cisco Services Ready-Engine (SRE) infrastructure
- Convergence management including volume, usage, host, and conversation details for Real-Time Transfer Protocol (RTP) Voice and RTP Video protocols
- Alarming and event identification: Defines alarms for link usage, application usage, application response time, application availability, and burst alarms at milliseconds resolution

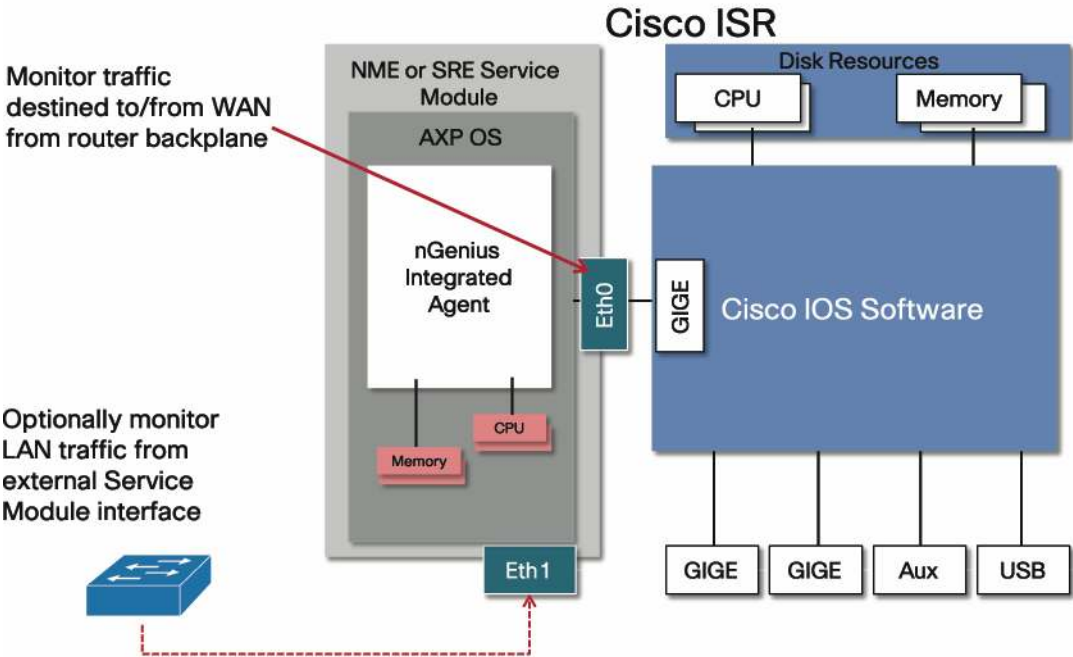
## Integration with Cisco Integrated Services Routers

The nGenius Integrated Agent software can be seamlessly deployed within Cisco 2900 and 3900 Series Integrated Services Routers Generation 2 (ISR G2) using Cisco AXP. This solution is also supported on the Cisco 2800 and 3800 Series ISRs. Cisco AXP provides the processing and network traffic interface capabilities using its own dedicated processor, hard disk, network interfaces, and memory, all of which operate independently of the host router resources. This independence helps ensure maximum concurrent routing and application performance while reducing physical footprint, lowering power consumption, and consolidating management. Using Cisco ISR and AXP infrastructure, nGenius Integrated Agent software can be installed locally or remotely. With this high degree of flexibility, IT organizations can quickly deploy extended monitoring to virtually any branch office location.

Figure 2 shows how the Cisco AXP – nGenius Integrated Agent is integrated with Cisco ISRs. As the figure illustrates, nGenius Integrated Agent runs in a virtual application instance on the AXP module within the Cisco ISR and uses the Cisco packet API to collect and process network traffic on both the router backplane and an external Gigabit Ethernet interface. Typically, the router backplane interface is used to monitor the traffic destined for the WAN, while the external Gigabit Ethernet interface is used to SPAN switches on the branch LAN for local traffic

monitoring and troubleshooting activities. The metadata derived from these packet flows is used by the nGenius Service Assurance Solution for real-time analysis and reporting.

**Figure 2.** Architecture Diagram



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### Platform Support

The Cisco AXP – nGenius Integrated Agent is supported on the Cisco AXP modules and Cisco ISR G2 combinations listed in Table 1.

**Table 1.** Supported Cisco ISR G2 Platforms and Cisco Service Module-SRE (SM-SRE) Modules

| Part Number   | Supported Cisco ISR G2 Models |      |      |      |      |
|---------------|-------------------------------|------|------|------|------|
|               | 2911                          | 2921 | 2951 | 3925 | 3945 |
| SM-SRE-700-K9 | Yes                           | Yes  | Yes  | Yes  | Yes  |
| SM-SRE-900-K9 | Yes                           | Yes  | Yes  | Yes  | Yes  |

First-generation Cisco ISR models and Cisco AXP modules are also supported, but this support will be phased out and replaced with the Cisco ISR G2 and Cisco SM-SRE modules listed in Table 1. Table 2 lists additional supported platforms, which will be phased out.

**Table 2.** Additional Supported Platforms

| Part Number      | Supported Cisco ISR Models (First-Generation ISRs) |      |      |      |      |
|------------------|--|------|------|------|------|
|                  | 2811   | 2821 | 2851 | 3825 | 3845 |
| NME-APPRE-502-K9 | Yes  | Yes  | Yes  | Yes  | Yes  |
| NME-APPRE-522-K9 |  |      |      | Yes  | Yes  |

### Product Specifications

For product specifications, please refer to the Cisco Application Extension Platform data sheet at: [http://www.cisco.com/en/US/prod/collateral/routers/ps9701/data\\_sheet\\_c78\\_466714.html](http://www.cisco.com/en/US/prod/collateral/routers/ps9701/data_sheet_c78_466714.html).

## Ordering Information

To place an order, visit the [Cisco Ordering Home Page](#) and refer to Table 3 & 4. To download software, visit the [Cisco Software Center](#).

**Table 3.** Ordering Information for ISR G2

| Product Name                                     | Part Number                    |
|--|--------------------------------|
| Cisco SRE Service Module (SM) -SRE 700 or 900 SM | SM-SRE-700-K9 or SM-SRE-900-K9 |
| AXP software infrastructure for SM-SRE Platform  | SRE-AXP-1.5-K9                 |
| Permanent License for AXP on SM-SRE Platform     | FL-AXP-SM-GP                   |
| nGenius Integrated Agent                         | IA1100 *+                      |

\* nGenius Integrated Agent is orderable for G2 in mid of June 2010.

**Table 4.** Ordering Information for ISR ( first generation ISR )

| Product Name                                       | Part Number                          |
|--|--------------------------------------|
| AXP NME 502 or 522 Service Module                  | NME-APPRE-502-K9 or NME-APPRE-522-K9 |
| AXP software infrastructure for NME-APPRE Platform | SN-AXP                               |
| nGenius Integrated Agent                           | IA1100+                              |

+ nGenius Integrate Agent should be ordred from NetScout Systems, Inc.

## For More Information

Cisco:

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- Website: <http://www.cisco.com/go/axp>

NetScout:

- Email : [info-cisco-axp@netscout.com](mailto:info-cisco-axp@netscout.com)
- Website: <http://www.netscout.com/cisco-isr>



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