Service Assurance Agent Implementation FAQ

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Questions

Introduction

This document contains questions and answers about Service Assurance Agent (SAA) implementation in different IOS versions and platforms.

Q. How can I know which SAA features are supported in a specific IOS image or on a certain hardware platform?

A. You can obtain most up−to−date SAA feature support information by IOS platforms and images, through a search by full or partial feature name under Service Assurance Agent(SAA) and/or Response Time Reporter(RTR) in the Feature Navigator Tool:

Currently these features are:

- Response Time Reporter(RTR)
- Response Time Reporter (RTR) enhancements
- Service Assurance Agent(SAA) APM Application Performance Monitoring
- Service Assurance Agent(SAA) DHCP Operation
- Service Assurance Agent(SAA) Distribution of Data
- Service Assurance Agent(SAA) DLSW Operation
- Service Assurance Agent(SAA) DNS Operation
- Service Assurance Agent(SAA) for ATM Interfaces
- Service Assurance Agent(SAA) for ATM Interfaces
- Service Assurance Agent(SAA) Frame Relay Operation
- Service Assurance Agent(SAA) FTP Operation
- Service Assurance Agent(SAA) History Statistics
- Service Assurance Agent(SAA) HTTP Operation
- Service Assurance Agent(SAA) ICMP Echo Operation
- Service Assurance Agent(SAA) ICMP Path Echo Operation
- Service Assurance Agent(SAA) Jitter Operation
- Service Assurance Agent(SAA) MPLS VPN Operation
- Service Assurance Agent(SAA) One Way Jitter
- Service Assurance Agent(SAA) Path Jitter
- Service Assurance Agent(SAA) Reaction Threshold
- Service Assurance Agent(SAA) Scheduling Operation
- Service Assurance Agent(SAA) SNA LU2 Operation

- Service Assurance Agent(SAA) SNMP Support
- Service Assurance Agent(SAA) TCP Connect
- Service Assurance Agent(SAA) UDP Echo Operation
- Service Assurance Agent(SAA) VoIP UDP Operation

Table 1 shows the history of the IOS and the Cisco Service Assurance Agent introduction.

Version History 11.2 The Response Time Reporter is introduced. 12.0(3)T Echo, pathEcho, tcpConnect and udpEcho operations are introduced in the "Response Time Reporter Enhancements" feature. 12.0(5)T The Response Time Reporter feature is replaced by the Cisco Service Assurance Agent (SA Agent) feature. The Jitter operation is introduced. 12.1(1)T SA Agent enhancements are introduced (for details, refer to the Service Assurance Agent Enhancements feature module document). 12.2(2)T The "SA Agent Support for Frame Relay, VoIP, and MPLS VPN Monitoring" feature is introduced. The "SA Agent Application Performance Monitor (APM)" feature is introduced, although it becomes fully operative starting from 12.2(13.7)T. 12.2(11)T Service Assurance Agent for ATM Interfaces is introduced. 12.3(4)T Service Assurance Agent (SAA) VoIP UDP Operation is introduced.

For more information refer to:

- Response Time Reporter (RTR)
- Response Time Reporter Enhancements
- Service Assurance Agent

Table 2 provides more details about the history of specific SAA probes support in IOS.

Frequently asked questions about SAA support on devices 11.2 12.0(3)T 12.0(5)T 12.0(8)S 12.1(1)T 12.2(2)T 12.2(11)T 12.3(4)T ICMP Ping X X X X X X X **ICMP Echo** **Path** X X X X X X X **SSCO (SNA)** X X X X X X X **UDP Echo** X X X X X X **TCP** **Connect** X X X X X X **UDPJitter** X X X X X **HTTP** X X X X X **DNS** X X X X X **DHCP** X X X X X **DLSw+** X X X X X **One−way Latency with UDP** X X X X **FTP** **Get** X X X MPLS VPN Aware X X X **Frame Relay** X X X **ICMP Path Jitter** X X X X **APM** X X X **ATM** X X **SLM** X X **VoIP UDP** X

Some SAA features have additional requirements:

- Frame Relay monitoring operations require the device to have an interface that supports Frame Relay.
- MPLS VPN monitoring operations require the device to support MPLS VPN.

Q. What are the differences between Engine I and Engine II?

A. Engine II is implemented from IOS version 12.2 (11)T.

All versions before 12.2(11)T have implemented Engine I.

The benefits for having implemented Engine II are:

- There is a reduction of memory consumption (1/5th per probe)
- SLM There is a new probe called Service Level Monitoring (SLM) to monitor T1, T2, and ATM PVCs between two nodes, using Visual Networks technology.

  Note: For more information on SML, refer to Service Assurance Agent for ATM Interfaces.

- XML Support Implementation of an XML parser within IOS. XML support for SLM−ATM and SLM−FR probes. CNS XML parser is being used for these operations. In order to use the XML support, you must have CNS architecture implemented in the Network

  Note: For more information refer to CNS Configuration Agent.
- Compatibility backwards Any operation achieved by Engine I can be achieved by Engine II.
- History enhancement The user can specify the compilation interval and number of groups of data to collect for each compilation interval.

  The purpose of the history enhancement is to compare performance on the network with a configurable compilation interval. Until today only CLI support has been added, SNMP support will be added later with the integration of some applications.

  An advanced history feature is currently only supported in embedded T1, T3 and ATM monitoring, TCP, and jitter probes.

  T1, T3 and ATM operations have an XML interface to get the enhanced history data. Jitter and TCP enhanced history is accessible only through CLI.

Q. How can I check which Engine my IOS image is running?

A. The command that allow you to determine the difference between engines is **show process cpu**.

Engine II

A. For Engine II, the process is SAA:

```
saa−ts2−5# sh proc cpu | include RTR
saa−ts2−5# sh proc cpu | include SAA
  38         228      1631        139  0.00% 0.00%  0.00%   0 SAA Sync Process
 130           4       471          8  0.00% 0.00%  0.00%   0 SAA Event Proces
```

Engine I

A. For Engine I, the process is RTR:

```
router# sh proc cpu  |  include RTR
 107    27006904 18330284       1473  0.00% 0.00%  0.00%   0 RTR Responder
 108           8      4105          1  0.00% 0.00%  0.00%   0 RTR Scheduler
 110        1156     32786         35  0.00% 0.00%  0.00%   0 IP RTR Probe 4
 111        7364    327818         22  0.00% 0.00%  0.00%   0 IP RTR Probe 3
 120        2680     32784         81  0.00% 0.00%  0.00%   0 IP RTR Probe 5
router# sh proc cpu  |  include SAA
router#
```

A. The version shown under the **show rtr application** command refers to the supported version of the CISCO−RTTMON−MIB.my. This MIB has been enhanced several times to include support for the new features. The latest MIB version is 2.2.0 may be present in both engines I and II. For example, version 12.2(8)T7 is using Engine I, version 12.2(13)T is using Engine II, and it supports the same MIB version 2.2.0. Earlier 2.1.0 version of the MIB is available as CISCO−RTTMON−MIB−120_5_T.my

```
router# show rtr application
        SAAgent Version: 2.2.0 Round Trip Time MIB
Time of last change in whole RTR: 00:40:32.684 UTC Mon Mar 1 1993
System max number of entries: 2000
&
```

Q. Which MIBs support SAA?

A. The latest version of Cisco Response Time Monitor MIB is available at CISCO−RTTMON−MIB.my. The only SAA operations that are not currently supported:

- Frame Relay
- Path Jitter
- ATM operations

The Cisco SA Agent Application Performance Monitor MIB () is introduced for APM support.

Related Information

- Cisco IOS Service Assurance Agent
- Cisco IOS MIB Locator
- Technical Support − Cisco Systems

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