Q & A

# Cisco Application Analysis Solution Version 1.1

## Cisco Application Analysis Solution 1.1

**Q.** What is Cisco® Application Analysis Solution (AAS)?

**A.** Cisco AAS is a software application that provides a detailed, quantitative understanding of the complex interactions among applications, servers, and networks to help efficiently and cost-effectively deploy and support networked applications. It is a single-user decision support tool used by network and application planning and support organizations to:

- Pinpoint network and application points of congestion
- Diagnose application performance problems
- Explore proposed "fixes" to existing applications
- Predict application performance under varying configurations and network conditions

An optional Cisco AAS-Advanced Capture Module (ACM) works with the Cisco AAS Capture Agents to eliminate the need to manually launch an application trace, but rather performs continuous packet capture.

**Q.** Is Cisco AAS part of the Cisco Network Application Performance Analysis (NAPA) solution?

**A.** Yes. The Cisco NAPA solution redefines how enterprises can monitor and manage application performance and network services to support business initiatives. For more information about the Cisco NAPA solution, please visit: www.cisco.com/go/napas.

**Q.** What types of users will benefit from Cisco AAS?

**A.** Cisco AAS is suitable for any medium-sized or large enterprise that operates an IP network to support critical business applications. Users may include staff from network or infrastructure planning, operations, or application development. Cisco AAS is unique in its ability to characterize application behavior, including its interaction with the underlying IT infrastructure, in a simple, straightforward way. Users are able to clearly understand application dynamics, and the relative impact of a host of variables on application performance.

**Q.** What is a typical workflow when using Cisco AAS?

**A.** A typical workflow comprises the following steps:

- Capture data
- If required, filter the data upon import into Cisco AAS to target specific application flows and time periods (for example, for a single transaction)
- Analyze the data automatically with Cisco AAS: "decompose" the flow into application and network components; determine the relative processing time spent at various layers for a multitier application; decode application flows into messages; diagnose points of congestion
- "Test" various solutions (for example, change TCP windowing, or perform a virtual recode of the application to change message sizes) to assess the impact on end-to-end performance
- View comprehensive reports

**Q.** How is Cisco AAS used to support network or application planning?

**A.** Cisco AAS can be used to support application deployment planning. A simple model of the production network can be inferred by Cisco AAS from the application trace information, including operational characteristics such as delay. The sample application flows can be "scaled" to represent growing transaction volume and/or wider deployment.

More detailed planning, including detailed network planning, can be accomplished by leveraging data from Cisco AAS in the Cisco Network Planning Solution (NPS). For more information about Cisco NPS, please visit www.cisco.com/en/US/products/ps6363/index.html or contact your local account representative.

## Cisco AAS Capture Agent

**Q.** Does Cisco AAS provide mechanisms to capture application data for analysis?

**A.** Yes, Cisco AAS provides application Capture Agents for a broad scope of target operating environments. Alternatively, data can be captured by the Cisco Network Analysis Module (NAM), or third-party sources.

**Q.** How many instances of the Cisco AAS Capture Agent can be installed?

**A.** The user can install as many instances of the Cisco AAS Capture Agent as desired to support application and network management requirements. Some users have incorporated the Agent into their standard desktop/server build to ensure it is readily available to support application performance troubleshooting.

**Q.** Why are there multiple versions of the Cisco AAS Capture Agent?

**A.** Different versions are specific to different operating environments. Refer to the Installation Guide to determine the version that supports a specific OS. Supported environments include:

- Windows 95, Windows 98/ME, Windows NT 4.0, Windows 2000 (32-bit), Windows Server 2003 (32-bit), Windows XP (32-bit)
- Sun Solaris 7, 8, 9
- Linux Kernel 2.2 and 2.4
- HP UX 11.0 (32-bit)
- IBM AIX 4.3.3, 5.x (32-bit)

**Q.** What is the performance impact of the Cisco AAS Capture Agent on the target platform?

**A.** When not performing a capture, the Agent is completely idle, and consumes no CPU and minimal memory (2 to 5 MB). Typically during a capture, the Capture Agent has a very light footprint in terms of memory (555 to 9 MB) and CPU usage. However, if the Capture Agent is used to record data for an extended period of time at a sustained data transfer rate approaching full high-speed LAN data rates, CPU usage can become more significant. (In this case, note that configuring the Capture Agent to only capture the first 90 bytes of each packet will reduce the performance impact.)

## Optional Cisco AAS-ACM

**Q.** What is Cisco AAS-ACM and why is it useful?

**A.** Cisco AAS-ACM is an optional module for Cisco AAS that works with the Cisco AAS Capture Agents to eliminate the need to manually launch an application trace. Instead, it performs continuous capture, writing packets to a rolling buffer. This is especially useful when troubleshooting intermittent problems. When a problem occurs, the relevant packets can be retrieved by the Capture Agents based on when the problem transaction was observed.

**Q.** Will Cisco AAS-ACM work with other tools that capture application traces?

**A.** No. Cisco AAS-ACM only supports the Capture Agents provided with Cisco AAS.

## Integration with Cisco and Third-Party Solutions

**Q.** Does the Cisco AAS integrate with the Cisco NAM?

**A.** Yes. The Application Capture Manager is an integrated feature of Cisco AAS that directly controls capturing traces from several sources, including the Cisco NAM.

**Q.** How does data capture using the Cisco NAM differ from capturing data using the Capture Agent, or Cisco AAS-ACM?

**A.** Data capture using the Capture Agent, with or without the Cisco AAS-ACM, is usually targeted to a specific application because it is captured at the target source: client system, application server, data server, etc. The Cisco NAM captures data for all the flows that traverse an interface, and usually on an ongoing basis. This data is filtered upon import into Cisco AAS to isolate the target flows and time period.

**Q.** With what other Cisco solutions does Cisco AAS integrate?

**A.** Cisco AAS integrates with the Cisco Network Planning Solution (NPS) to enable detailed application and network studies. Application Capture Agent traces from Cisco AAS can be imported into the Cisco NPS to model flows for specific applications, to support application growth and deployment studies, etc. This data can be scaled to represent growth, or used to conduct detailed network quality of service (QoS) studies, etc. For more information about Cisco NPS, please visit www.cisco.com/en/US/products/ps6363/index.html or contact your local account representative.

Cisco AAS can also integrate with Cisco NPS. Cisco NPS is a decision-support tool that helps network planning, engineering, and operations organizations to support growth, ensure network resiliency including during unplanned changes or failures, improve application and service continuity, plan for new technology deployments, and validate planned configuration changes. Application flows that have been captured, profiled, and analyzed in Cisco AAS can be imported into Cisco NPS to perform detailed network planning to support the target application, including capacity, QoS, and resiliency. Additionally, the detailed network data model from the Virtual Network Data Server of Cisco NPS can be imported into Cisco AAS. Cisco AAS provides the ability to map profiled application flows over a simple network model inferred directly from the application traces. A more accurate, detailed network model can be created in Cisco AAS by using the data model from the Virtual Network Data Server. It should be noted that while Cisco AAS provides some high-level network planning capabilities, these are significantly less detailed and narrower in scope than those supported in Cisco NPS.

**Q.** What third-party application trace input or formats are supported as input to Cisco AAS?

**A.** Cisco AAS supports the following trace file formats:

- Sniffer .cap file format (uncompressed)
- Industry-standard binary .enc file format (uncompressed)
- TCPdump
- windump
- .fdc (FDDI) files, uncompressed

**Q.** Can traces be captured from (IBM) mainframe-based applications for analysis by Cisco AAS?

**A.** Yes. Trace data is collected as IP packets enter or leave TCP/IP. The actual collection occurs within the device drivers of TCP/IP, which capture the data that has just been received from or sent to the network. The selection criteria for choosing packets to trace are specified through

the PKTTRACE statement for the TCP/IP address space. The trace is written to a CTrace data set that is subsequently processed with the IPCS Format program to create an .enc or .trc file.

Most IBM mainframe environments are supported:

- CS/390 TCP/IP or Z/OS communication server TCP/IP
- OS/390 or z/OS

The trace utility is integrated in z/OS Version 1 Release 2. For OS/390, the utility can be downloaded from IBM's Website.

## Installation and Implementation

**Q.** Do multiple concurrent users require more than one license?

**A.** Yes. Concurrent users require an equivalent number of Cisco AAS licenses. Alternatively, multiple users may share a single license for Cisco AAS but not concurrently. A License Server allows each user to "check out" a license on an as-needed basis and return it automatically when completed.

**Q.** Does the user require application development expertise to effectively use Cisco AAS?

**A.** No, network planners and engineers are able to use Cisco AAS very effectively to diagnose the source of application response issues ("Is it the network or the system?"), and to support application deployment planning. Cisco AAS embodies the application expertise required to automatically analyze applications and identify recommended solutions.

**Q.** How much time and effort is required to implement Cisco AAS? Are professional services needed for implementation?

**A.** The time and effort required to implement Cisco AAS is small – very little configuration is required. Sample models and tutorials are provided to introduce the user interface, product features, scope of technology and protocol support, etc., thereby accelerating the "learning curve." Additionally, detailed methodology guides are included in the product documentation to walk the user through workflows and approaches for common analyses, such as network capacity planning.

**Q.** Is a separate license required for Cisco AAS-ACM?

**A.** Yes. Installation requires a separate Cisco AAS-ACM license as well as a license for the underlying Cisco AAS.

## For More Information

For more information about the Cisco Application Analysis Solution, visit www.cisco.com/en/US/products/ps6362/index.html, contact your local account representative at Cisco Systems®, or send an e-mail to the Product Marketing group at netwrk-ap-mktg@cisco.com.


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