

Cisco Application-Oriented Networking

Q. What platforms support Cisco® Application-Oriented Networking (AON) technology? Is Cisco AON also a standalone appliance?

A. Cisco AON is supported by the following Cisco router platforms:

- Cisco 2800, 3700, and 3800 Series Integrated Services Routers

To address situations where a platform footprint does not exist (for example, a Cisco 3800 Series Router is in place) or organizational demarcation is required (for example network, application, or security devices), AON is also available on appliance form factors. Beginning with AON 3.0, Cisco AON will be available on the following Cisco Appliance form factors:

- CADE-1010 Integrated Single-Core Appliance
- CADE-2142 Integrated Dual Quad-Core Appliance

Q. What are the benefits to deploying Cisco AON rather than a dedicated external device?

A. Cisco AON embeds message services within the network fabric to enable benefits that an external device cannot deliver. As the network is ubiquitous, services can be made available at any point in the network; services can be shared across multiple systems; security and policy management can be centralized; and management of distributed policies can be simplified.

Q. Will Cisco AON slow down the hardware?

A. No. Only the traffic flows that require Cisco AON processing are forwarded to the AON module. All other traffic is handled in the Cisco Express Forwarding forwarding path.

Q. Which version of software supports Cisco AON?

A. Cisco AON hardware is supported by the following software images:

- Cisco IOS® Software (MSFC2): Release 12.2(18)SXF12
- Cisco 28xx/37xx/38xx IOS: Release 12.4(15)T

Q. How does the network direct traffic to Cisco AON nodes?

A. Cisco AON can receive traffic in two basic modes: explicit or transparent mode. In explicit mode, AON is advertised by Domain Name System (DNS) as the destination for a particular service, and TCP sessions for a particular service are directly forwarded to an AON node. Transparent mode uses network-based mechanisms to transparently intercept traffic and forward it to an available AON node. Transparent redirection uses either WCCP (Web Cache Coordination Protocol) functionality, for transparent redirection of traffic to Cisco AON, or Catalyst® 6500 Content Services Mode (CSM) in bridged mode.

Q. What is the sequence of events for a message in Cisco AON?

A. As packets enter a router with Cisco AON enabled, those identified as "interesting" are forwarded to the AON node where the TCP session is terminated on the appropriate adapter: HTTP, HTTPS, SOAP, Secure Sockets Layer (SSL)¹, Java Messaging Service (JMS), IBM/MQ, Java Data Base Connectivity (JDBC). Once received by the AON node, the message

¹ This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. For more details please visit the following website: <http://www.openssl.org/>.

is forwarded to the AON Message Execution Controller (MEC), which controls message classification. A Policy Execution Plan (PEP) is then identified that describes how the classified message should be processed. The message is forwarded to the MEC that controls how the message is processed. As the message progresses, different bladelets are applied to the message to enforce business policies. Once the message has been processed, a target application is identified, and the message is transmitted using an adapter that may differ from the input adapter.

Q. Is Cisco AON an extension to existing content networking solutions?

A. No. Cisco AON is an entirely new set of functions focused on application-to-application networking.

Q. What do AMC, AMA, ADS, SDK, ADK, and BAM stand for?

A. These denote various elements of the Cisco AON solution, as follows:

- **AMC:** AON Management Console; AMC is used to control policy definition and management of the AON nodes from a central management console.
- **AMA:** AON Management Agent; AMA resides on the AON blade and is responsible for management communications between the AON blade and AMC.
- **ADS:** AON Development Studio; ADS is a software that can be loaded on a Windows desktop and is used to design PEPs by combining bladelets that when applied to a particular application message enforce a particular business policy.
- **ADK:** Adapter Development Kit
- **BAM:** Business Activity Monitoring
- **BDK:** Bladelet Developer Kit

Q. What are bladelets?

A. Bladelets are specific functions that Cisco AON executes within a PEP. For example, the Log bladelet extracts information from a message based upon policy, then logs the resulting log message to a database. The difference between bladelets and custom bladelets is primarily one of support. Bladelets are embedded within the Cisco AON base feature set as a standard feature. A custom bladelet is not part of the base feature set, and it makes use of the AON extensibility framework that allows customization of the Cisco AON platform.

Q. What is the difference between a bladelet and an adapter?

A. An adapter provides different transport options for communicating with the Cisco AON node and also enables the node to understand the message grammar such that the message can be reconstructed. Once the message has been reconstructed, the appropriate PEP is identified and individual bladelets invoked to enact the message policy.

Q. Does Cisco AON support JMS?

A. Yes. AON supports JMS for multiple providers: Tibco EMS, BEA WebLogic JMS, Progress Sonic MQ, and IBM WebSphere MQ.

Q. Are Cisco AON adapters for MQ, EMS, and JMS certified by their vendors?

A. Yes. All Cisco AON embedded adapters have been sourced and licensed from their respective vendors.

Q. What is the high availability plan for the Cisco AON blade?

A. Cisco AON high availability and load balancing are based upon WCCP or external load balancers, and consequently all nodes are Active/Active.

Q. Does the Cisco initiative with nonstop forwarding/stateful switchover (NSF/SSO) capabilities apply to Cisco AON?

A. NSF and SSO add tremendous value to Cisco AON nodes that are embedded in NSF/SSO-capable devices. However, AON nodes do not share state between nodes for TCP or SSL sessions due to the large amount of data that would require replication. However, for messages that have been processed, state sharing is supported to ensure proper acknowledgment of messages.

Q. What is the impact of Cisco AON on network traffic?

A. Cisco AON nodes do not generate any traffic above that generated by message forwarding.

Q. Can Cisco AON modules be moved between chassis without restrictions due to serial numbers?

A. Yes. Each AON module's serial number is set in hardware at manufacturing time and is maintained across power cycles, so it is easy to move modules from one chassis to another.



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