Cisco Application Networking Manager 4.1

PB622538

Cisco® Application Networking Manager (ANM) Software is part of the Cisco Application Control Engine (ACE) product family. It is a critical component of any data center or cloud computing architecture that requires centralized configuration, operation, and monitoring of Cisco data center networking equipment and services. Cisco ANM provides this management capability for Cisco ACE devices. It also provides operations management for the Cisco Content Services Switch (CSS), Cisco Content Switching Module (CSM), Cisco CSM with SSL (CSM-S), and Cisco ACE Global Site Selector (GSS).

Cisco ANM 4.1 builds on Cisco ANM's highly effective operations capabilities to increase operator awareness and capabilities while reducing the burden of operating and managing application network services. The introduction of topology mapping for application services and enhanced integration with VMware provides continuity of operations between application and server administrators and network managers. Using the topology map tools, users can now see the relationships among the virtual IP address of the service, the supporting server farms, and the target application servers. Cisco ANM 4.1 also provides additional visibility by expanding on-screen real-time monitoring to VMware vCenter users and includes the monitoring of virtual machines for Cisco ANM users.

To bolster centralized management of Cisco ACE devices, Cisco ANM 4.1 enables secure delegation of SSL certificate and key management to application and server administrators and supports automated centralized backup and restoration of configurations and checkpoints for managed Cisco ACE devices.

Now offered as a VMware appliance, Cisco ANM 4.1 is easier than ever to implement and maintain. To help ensure that its capabilities are available to all Cisco ACE customers, Cisco is now offering Cisco ANM 4.1 free of charge.

New Features

- **Continuity of Cisco ANM operations and monitoring tasks within VMware:** Cisco ANM 4.1 offers enhanced integration into the VMware virtual data center environment. As before, application and server administrators using VMware vCenter to manage their VMware environment can access Cisco ANM to add, delete, activate, and suspend traffic and change load-balancing weights for servers benefiting from Cisco ACE load-balancing services. From within VMware vCenter, users now also have access to Cisco ANM's real server monitoring graphs, which greatly enhances users' knowledge of the true operations of their applications in real time. To speed implementation, application and server administrators can now use Cisco ANM discovery tools to automate importation and mapping of virtual machines to existing Cisco ACE real servers.

  As with all Cisco ANM functions, users can perform these tasks only on those elements for which they have been granted secure delegation by the system administrator. Therefore, although application and server administrators can now be allowed to manage the appropriate portions of the application delivery services for their servers, they cannot see or make changes to the underlying application delivery services or to the Cisco ACE devices themselves.
- **Continuity of VMware operations within Cisco ANM:** For network service–focused administrators who manage directly through Cisco ANM, Cisco ANM 4.1 adds information about VMware virtual machines associated with Cisco ACE real servers. Cisco ANM users with appropriate rights can now:
  - Control the way that Cisco ANM associates virtual machines and real servers

- Create real servers within Cisco ANM based on information about virtual machines
- See virtual machines created in VMware vCenter so that they can make appropriate updates to the Cisco ACE configuration: for example, create and map new real servers

- **Services visualization:** Addressing the need of both application and server administrators and network administrators to better visualize and understand the flow of traffic through Cisco ACE application networking services, Cisco ANM 4.1 introduces a graphical representation of the application services network (Figure 1). Now users performing operations and monitoring tasks in Cisco ANM can visually navigate maps of the network services topology (with panning and zooming) and quickly find, view, and print any set of interest to them. By selecting elements shown on these maps, the user can learn:
  - Cisco ACE GSS Domain Name System (DNS) rule, answer group, and answer virtual IP information
  - Cisco ACE virtual server, real server, and VMware virtual machine relationships
  - Detailed information about each real server and VMware virtual machines that is displayed

  As for other tasks, the topology mapping tools are available to authorized VMware vCenter users.

Figure 1. ANM Topology Map

- **Operations delegation for SSL services:** Cisco ANM now supports delegation of SSL key and certificate credentials maintenance to application and server administrators. This capability empowers the responsible application and server administrators to perform self-management, alleviating unnecessary burden from the network services team and reducing the risk of errors in key and certificate administration. This secure delegation extends to certificates and keys expiration date listings and certificate expiration alarms, helping ensure the security of this sensitive information.

- **Clarity in operations decision making:** Virtual and real server operations pages now provide even clearer decision-making information with the addition of age indicators for presented statistics, the capability to perform on-demand polling for selected objects, and enhanced presentation of high-availability peer objects.
- **Planning support:** Prior releases of Cisco ANM included monitoring dashboards, giving users useful real-time operations data at a glance and shortcuts to quickly and easily perform more in-depth analysis, which resulted in faster troubleshooting and problem resolution. Cisco ANM 4.1 now provides users with an optional statistical data export facility so that they can identify baseline and trends as well as perform capacity planning based on application networking services utilization and performance over time. To simplify data management, the Cisco ANM server manages the database disk use, performing such tasks as purging exported data according to user-defined rules and providing notifications when disk-use thresholds are reached.
- **Security of configurations:** Cisco ANM 4.1 implements automatic backup of Cisco ACE configurations, checkpoints, exportable SSL credentials, and licenses according to user-defined schedules. In addition to setting one-time backup and restore tasks, users can now set Cisco ANM to backup one or many Cisco ACE devices on daily, weekly, and monthly schedules. Multiple schedules can be created and applied to different sets of Cisco ACE devices. These backups can be sent to remote systems using FTP, SFTP, and TFTP.

New Web Services API

- **Continuity of tasks:** New with Cisco ANM 4.1, the Cisco ANM web services API provides a programmable interface for system developers to integrate Cisco ANM with customized or third-party management applications. The Cisco ANM web services API supports the most common operations for the Cisco ACE Module, Cisco ACE appliance, Cisco CSS, Cisco CSM, and Cisco CSM-S, including operations to:
  - List devices and virtual contexts
  - List server farms and real servers
  - List associations of VMware virtual machines and Cisco ACE, CSS, CSM or CSM-S real servers
  - Add and remove real servers from Cisco ACE server farms
  - Activate and suspend real servers for participation in load balancing
  - Change real server weight for load-balancing algorithms

Product Availability

- **Cisco ANM Virtual Appliance for VMware:** Cisco ANM is now available as a virtual appliance. The virtual appliance is run as a virtual machine in a VMware 4.0 or 4.1 environment. There is no change to the Cisco ANM user's web interface, nor does the use of this appliance affect the way that Cisco ANM manages network devices. When deployed, this appliance is nearly identical to Cisco ANM run on a standalone Linux server; it is a complete computing system, including the application and operating system and an interface similar to the Cisco IOS® Software interface for administration functions such as backing up and restoring the system and configuring Simple Network Management Protocol (SNMP) properties.

  In terms of data center design, a Cisco ANM virtual appliance is interchangeable with the Cisco ANM server. This interchangeability makes the appliance easy to deploy and scale, provides more efficient utilization of hardware resources, and eliminates the need to acquire, install, and maintain the operating system separately. The installation files for the Cisco ANM Virtual Appliance for VMware are provided in the same package as those for Cisco ANM Server for Red Hat Enterprise Linux.
- **Cisco ANM Server for Red Hat Enterprise Linux:** Cisco ANM servers can now be run on both supported 64-bit and 32-bit versions of Red Hat Enterprise Linux. The installation files for Cisco ANM Server for Red Hat Enterprise Linux are provided in the same package as those for Cisco ANM Virtual Appliance for VMware.

- **Cisco ANM open orderability:** To simplify deployment and help ensure that all Cisco ACE customers can gain the advantages of the Cisco ACE portfolio, including Cisco ANM capabilities, Cisco is now offering Cisco ANM 4.1 free of charge. Existing Cisco ANM server licenses will fulfill the licensing requirements for customers upgrading to Cisco ANM 4.1. Additional licensing beyond the base Cisco ANM server software is no longer required.

Upgrade Paths

Cisco ANM 4.1 supports upgrades on the same server from all versions of Cisco ANM 3.0. Customers upgrading from Cisco ANM 1.1, 1.2, and 2.0 must first upgrade to Cisco ANM 3.0 before migrating to Cisco ANM 4.1.

Customers upgrading on Cisco ANM Server for Red Hat Enterprise Linux must follow the instructions provided in the "Installation Guide for Cisco Application Networking Manager 4.1" with respect to server and operating system requirements.

Customers upgrading to Cisco ANM Virtual Appliance for VMware must follow the instructions provided in the "Installation Guide for Cisco Application Networking Manager 4.1" with respect to VMware virtual machine requirements.

All existing Cisco ANM customers are eligible for upgrade without charge to Cisco ANM 4.1. All Cisco ANM server licenses (ANM-SERVER-xx-K9) from Cisco ANM 1.1, 1.2, 2.0, and 3.0 fulfill the licensing requirements for upgrades. Customers with Cisco ANM 1.2, 2.0, and 3.0 licenses can reuse their current Cisco ANM licenses when upgrading to Cisco ANM 4.1 on the same server platform. Customers wanting to rehost their Cisco ANM on a different server platform or to move to Cisco ANM Virtual Appliance for VMware should contact the Cisco Technical Assistance Center (TAC) or Global Licensing Operations as usual to ask for a replacement Cisco ANM license PAK to rehost their existing license at the new server and appliance address.

Ordering Information

Beginning with Cisco ANM 4.1, the product is offered for order at no charge, though it does still require licensing. Cisco ANM server software license always must be ordered to receive the license necessary to install the product for production use, and Cisco Software Application Support requires a separate purchase. Table 1 lists the Cisco ANM 4.1 license available for ordering.

Cisco ANM is available for order through regular Cisco sales and distribution channels worldwide. To place an order, visit the Cisco Ordering homepage. To download software, visit the Cisco Software Center. To receive a 90-day evaluation license for Cisco ANM, visit the Cisco Licensing page at http://www.cisco.com/go/license and click the link for Evaluation Software.

The installation files for Cisco ANM Virtual Appliance for VMware and for Cisco ANM Server for Red Hat Enterprise Linux are provided in the same package.

Table 1. Ordering Information

Description	Part Number
Cisco ANM Server Software	ANM-SERVER-40-K9

Cisco Services

Cisco Services makes networks, applications, and the people who use them work better together.

Today, the network is a strategic platform in a world that demands better integration of people, information, and ideas. The network works better when services, together with products, create solutions aligned with business needs and opportunities.

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