Data Sheet

Cisco 2600, 2800, 3700, and 3800 Series Content Engine Network Modules

Intelligent Caching, Content Delivery, and Wide Area File Services for Cisco Routers

Figure 1. Cisco 2600, 2800, 3600, 3700, and 3800 Series Content Engine Network Module

The Cisco® 2600, 2800, 3600, 3700, and 3800 series Content Engine Network Modules (NM) offer the industry's first and only router-integrated application platform for accelerating data center-based applications, enabling consolidation of infrastructure into the data center.

The Content Engine Network Modules can be deployed with the following software options:

- **Cisco ACNS (Application and Content Networking System) Software**—Cisco ACNS software helps organizations of all sizes to reduce costs, increase productivity, and increase revenue by extending strategic applications and content from the data center to the branch. Cisco ACNS provides the following benefits:
  - **Web Application Acceleration**—Accelerating delivery of enterprise application data to the enterprise edge
  - **Secure Web Content Access Management**—Edge security, antivirus, and filtering capabilities stop unwanted traffic before it traverses the WAN
  - **Business Video**—Eases the pains of delivering rich media (eLearning, webcasts) to remote users
  - Point-of-sale video and Web kiosks
  - For more details about the Cisco ACNS Software, please refer to the Cisco ACNS software data sheet at: http://www.cisco.com/en/US/prod/collateral/contnetw/ps5680/ps491/ps6049/product_data_sheet0900aecd80261a22.html
- **Cisco WAFS (Wide Area File Services) Software**—Cisco WAFS provide users with LAN-like performance when accessing centralized file storage over the WAN. Through advanced protocol optimizations, intelligent data and metadata caching, and WAN optimizations, Cisco WAFS enables file storage consolidation into the data center, thereby providing significant reduction in the total cost of ownership (TCO) of storage, storage management, and data protection. Cisco WAFS provides the following benefits:
  - **File and Print Server Consolidation**—Remove costly and difficult to manage file and print servers from the remote office
  - **Remote Branch Data Protection**—With data consolidated into the data center, data can be protected centrally, eliminating the need for branch office backup systems
  - **File Access and Collaboration**—Centralized file storage enables true global collaboration and minimizes the number of redundant copies of files in the enterprise

- **Software Distribution**—Advanced file caching techniques integrate seamlessly with software distribution systems that utilize CIFS for package delivery, eliminating the need for branch office software distribution servers
- For more details about the Cisco WAFS Software, refer to the data sheet at: http://www.cisco.com/en/US/prod/collateral/contnetw/ps5680/ps6469/product_data_sheet0900aecd80323a4e.html

INTEGRATED APPLICATION ACCELERATION AND BRANCH-OFFICE ROUTING

By offering integrated application acceleration and branch-office routing in a single package, Cisco Systems® reduces the complexity and costs of value-added services, while optimizing WAN bandwidth and reducing operational costs. Organizations can take a phased approach, starting small with fewer services and incrementally adding services. For example—an organization can start with a simple service, such as accelerating security patch distribution or URL filtering, and then add video-based e-learning or corporate communications.

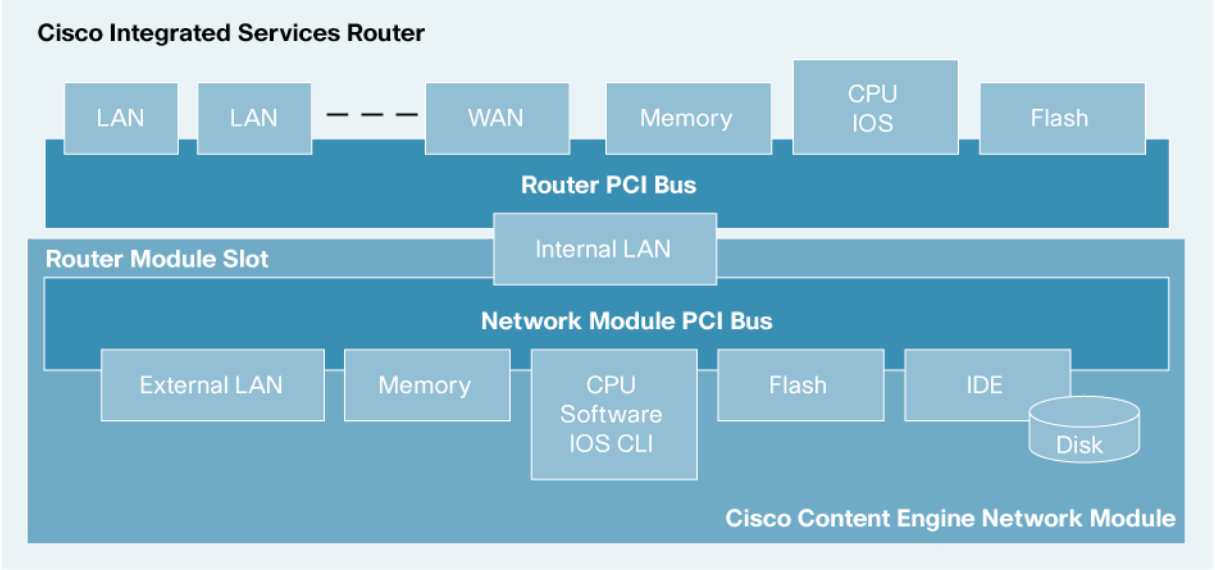
Compared to standalone appliances, the Content Engine Network Module in the branch-office router offers the following advantages:

- **Physical Space Savings**—The Content Engine uses a single network-module slot in a modular Cisco Integrated Services Router or legacy Cisco router
- **Simple Power and Cable Management**—The module takes advantage of the router power options, including DC power and redundant power
- **Common Management Interface**—The module can be configured and managed from the Cisco IOS® Software command-line interface (CLI)
- **Choice of Network Interfaces for Maximum Flexibility**—The internal Fast Ethernet interface on the router backplane provides seamless integration. The external Fast Ethernet interface provides maximum performance when connected to an external LAN switch such as the Cisco Catalyst family or Cisco Express family
- **Separate Processor for the Content Engine Network Module Maximizes Availability**—A service interruption on the Content Engine Network Module does not affect services on the router
- **Lower Operational Costs**—The module is covered under Cisco maintenance service for the router, minimizing network operational costs and complexity

HARDWARE ARCHITECTURE

The Content Engine Network Module provides a separate processor to run application acceleration and WAN optimization software within the Cisco 2600, 2800, 3600, 3700, and 3800 series routers. The Content Engine Network Module software communicates to the Cisco IOS Software in the router through the internal Fast Ethernet interface (Figure 2). The Cisco IOS Software can establish a console session to the Content Engine Network Module console through the **service-module content-engine** <*slot*>/0 **session** command. Module status is available with the Cisco IOS Software **service-module content-engine** <*slot*>/0 **status** command.

Figure 2. Architecture of the Integrated Content Engine Network Module and Router



CISCO 2600, 2800, 3600, 3700, AND 3800 SERIES CONTENT ENGINE NETWORK MODULE PRODUCT SUMMARY

Table 1 lists the part numbers and descriptions for the Cisco 2600, 2800, 3600, 3700, and 3800 series Content Engine Network Modules.

Table 1. Content Engine Network Modules

Part Number	Description
NM-CE-BP-40G-K9(=)	Content Engine Network Module, basic performance, 40-GB Integrated Drive Electronics (IDE) hard disk
NM-CE-BP-80G-K9(=)	Content Engine Network Module, basic performance, 80-GB IDE hard disk; supported in Cisco ACNS Software v5.1 and later
NM-CE-BP-SCSI(=)	Content Engine Network Module, basic performance, Small Computer System Interface (SCSI) controller (requires external SCSI disk array)

Table 2 lists the hardware options and spare parts for the Cisco 2600, 2800, 3600, 3700, and 3800 series WAN application network modules.

Table 2. Hardware Options and Spares

Part Number	Description
EM-CE-40G=	Expansion module, 40-GB IDE, field upgrade (for Cisco ACNS only)
EM-CE-80G=	Expansion module, 80-GB IDE, field upgrade
EM-CE-SCSI=	Expansion module, SCSI controller, field upgrade
MEM-CE-256D=	256-MB DRAM field upgrade
MEM-256CF-5.1-K9=	256-MB compact flash memory with Cisco ACNS Software recovery image

Table 3 lists the software options and licenses for the Cisco 2600, 2800, 3600, 3700, and 3800 series Content Engine Network Modules.

Table 3. Cisco ACNS Software Options and Licenses

Part Number	Description
SF-ACNS-5.3-K9	Cisco ACNS Software version 5.3
SF-ACNS-5.2-K9	Cisco ACNS Software version 5.2
AK-ACNS-5.1-K9=	Cisco ACNS Software version 5.3 accessory kit, spare
SF-NM-RCPS(=) **SF-NM-RCPS-8.0**	• RealNetworks RealSystem version 9 combined proxy and server for Cisco Content Engine Network Modules • Combined RealSystem v8 proxy and subscriber for Cisco Content Engine Network Modules
SF-WMS-56(=)	Microsoft Windows Media server for Cisco ACNS Software and Content Engine Network Module—supports up to 56 Mbps
SF-CE-510-TL-5.0(=)	Multicast client replication software for Cisco ACNS Software and Content Engine Network Module
SF-SMF12	SmartFilter software 12-month subscription for Cisco ACNS Software (pricing option depends on number of users)
SF-SMF24	SmartFilter software 24-month subscription for Cisco ACNS Software (pricing option depends on number of users)
SF-SMF36	SmartFilter software 36-month subscription for Cisco ACNS Software (pricing option depends on number of users)
SF-WEB12	Websense Enterprise Master Database 12-month subscription (pricing option per 100 users)
SF-WEB24	Websense Enterprise Master Database 24-month subscription (pricing option per 100 users)
SF-WEB36	Websense Enterprise Master Database 36-month subscription (pricing option per 100 users)

Table 4 lists the Cisco WAFS Software options and licenses.

The Cisco WAFS Software is supported only on the Content Engine Network Module model NM-CE-BP-80G-K9 with 512 MB of RAM and an 80 GB extended-availability hard drive.

Table 4. Cisco WAFS Software Options and Licenses

Part Number	Description
SF-WAFS-3.0-NM-K9	Cisco WAFS Software for one Content Engine Network Module

Table 5 lists the routers that support the Cisco 2600, 2800, 3600, 3700, and 3800 series Content Engine Network Modules. Multiple Content Engine Network Modules may be installed within modular routers, assuming slots are available.

Table 5. Cisco Routers Supporting Cisco 2600, 2800, 3600, 3700, and 3800 Content Engine Network Modules

Cisco Router	NM-CE-BP-40G-K9	NM-CE-BP-80G-K9
Cisco 2600 Series	Yes	Yes
Cisco 2600XM Series Multiservice Platform	Yes	Yes
Cisco 2691 Multiservice Platform	Yes	Yes
Cisco 2801 Integrated Services Router	No	No
Cisco 2811 Integrated Services Router	Yes	Yes
Cisco 2821 Integrated Services Router	Yes	Yes
Cisco 2851 Integrated Services Router	Yes	Yes

Cisco Router	NM-CE-BP-40G-K9	NM-CE-BP-80G-K9
Cisco 3640 and 3640A Multiservice Platform	Yes	Yes
Cisco 3660 Multiservice Platform	Yes	Yes
Cisco 3725 Multiservice Access Router	Yes	Yes
Cisco 3745 Multiservice Access Router	Yes	Yes
Cisco 3825 Integrated Services Router	Yes	Yes
Cisco 3845 Integrated Services Router	Yes	Yes

CISCO IOS SOFTWARE SUPPORT

The Cisco 2600, 2800, 3600, 3700, and 3800 series Content Engine Network Modules require Cisco IOS Software Release 12.2(13)T or later.

Table 6 gives hardware specifications for the Cisco 2600, 2800, 3600, 3700, and 3800 series Content Engine Network Modules.

Table 6. Hardware Specifications

Feature	Specifications
Network Sizing	Small branch offices
Hardware Features	
Processor	500-MHz Intel Mobile Pentium III
Default Synchronous Dynamic RAM (SDRAM)	512 MB
Maximum SDRAM	512 MB
Internal Disk Storage	• The basic performance 40GB Content Engine Network Module, model NM-CE-BP-40G-K9) has an internal 40GB IDE disk drive • The basic performance 80GB Content Engine Network Module, model NM-CE-BP-80G-K9) has an internal 80GB IDE disk drive with extended availability characteristics
Network Interfaces	• One internal 10-/100-Mbps Ethernet interface to router backplane • One External10-/100-Mbps Ethernet Interface
Flash Memory	16-MB internal memory plus optional external compact flash memory
Physical Specifications	
Dimensions (H x W x D)	1.55 x 7.10 x 7.2 inches (3.9 x 18.0 x 18.3 centimeters)
Weight	1.5 lb (0.7 kg) maximum
Operating Humidity	5 to 95% noncondensing
Operating Temperature	41 to 104°F (5 to 40°C)
Nonoperating Temperature	40 to 185°F (40 to 85°C)
Operational Altitude	0–10,000 feet (0–3000 meters)
Safety	UL 1950; CSA-C22.2 No. 950; EN 60950; and IEC 60950
EMC	FCC Part 15 Class A; EN55022 Class B; AS/NZS 3548 Class A; CISPR22 Class B; VCCI Class B; EN55024; EN61000-3-2; and EN61000-3-3

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