



## Q&A

# New Cisco 2800 And 3800 Series Integrated Services Router Wan Optimization Bundles

**Q.** What are the components of the new Cisco® 2800 and 3800 series integrated services router WAN optimization bundles?

**A.** There are two new WAN optimization bundles. The basic WAN optimization bundles are composed of a Cisco 2821 or 2851 or Cisco 3825 or 3845 integrated services router with hardware-based compression Advanced Integration Module (product number AIM-COMPR4) for high-performance compression, as well as the integrated Content Engine network module (product number NM-CE-BP-80G-K9) for optimization of rich media and Web traffic. The secure WAN optimization bundles are composed of a Cisco 2821 or 2851 or Cisco 3825 or 3845 integrated services router with hardware-based encryption Advanced Integration Module (product number AIM-VPN-II+) for high-performance encryption and compression, as well as the Cisco integrated Content Engine network module (product number NM-CE-BP-80G-K9) for optimization of rich media and Web traffic (Table 1).

**Table 1.** Cisco Integrated Services Router WAN Optimization Bundles and Components

Integrated Services Router WAN Optimization Bundles Product Number	Entry-Level WAN Optimization Bundle Components
CISCO3845-AA/K9	Cisco 3845, 3825, 2851, and 2821 integrated services routers with AC power
CISCO3825-AA/K9	Content Engine Network Module NM-CE-BP-80G-K9
CISCO2851-AA/K9	Hardware Compression module, AIM-COMPR4
CISCO2821-AA/K9	Cisco IOS® Software IP Base feature set
Integrated Services Router Secure WAN Optimization Bundles Product Number	Integrated Services Router Secure WAN Optimization Bundle Components
CISCO3845-SAA/K9	Cisco 3845, 3825, 2851, and 2821 integrated services routers with AC power
CISCO3825-SAA/K9	Content Engine network module, NM-CE-BP-80G-K9
CISCO2851-SAA/K9	Encryption/Compression module, AIM-VPNII Plus
CISCO2821-SAA/K9	Advanced IP Services feature set

**Q.** When will these new WAN optimization bundles be available?

**A.** The WAN optimization bundles were available to order on September 19, 2005.

**Q.** What are the new WAN optimization product part numbers and feature sets and releases provided in the bundle?

**A.** The new WAN optimization product IDs, feature sets, and releases are listed in Table 2.

**Table 2.** Cisco 2800 and 3800 WAN Optimization Bundles

Models	Entry-Level WAN Optimization	Integrated Services Router Release and Feature Set	Secure WAN Optimization Bundles	Integrated Services Router Release and Feature Set
Cisco 3845 Integrated Services Router	CISCO3845-AA/K9	IP Base, Cisco IOS Software Release 12.3(11)T	CISCO3845-SAA/K9	Advanced IP Services, Cisco IOS Software Release 12.4(1)
Cisco 3825 Integrated Services Router	CISCO3825-AA/K9	IP Base, Cisco IOS Software Release 12.3(11)T	CISCO3825-SAA/K9	Advanced IP Services, Cisco IOS Software Release 12.4(1)

Models	Entry-Level WAN Optimization	Integrated Services Router Release and Feature Set	Secure WAN Optimization Bundles	Integrated Services Router Release and Feature Set
<b>Cisco 2851 Integrated Services Router</b>	CISCO2851-AA/K9	IP Base, Cisco IOS Software Release 12.3(8)T	CISCO2851-SAA/K9	Advanced IP Services, Cisco IOS Software Release 12.4(1)
<b>Cisco 2821 Integrated Services Router</b>	CISCO2821-AA/K9	IP Base, Cisco IOS Software Release 12.3(8)T	CISCO2821-SAA/K9	Advanced IP Services, Cisco IOS Software Release 12.4(1)

**Q.** Does any additional memory come with these new WAN optimization bundles?

**A.** No, the WAN optimization bundles come with 64 MB compact flash memory and 256 MB DRAM. Increased compact flash memory and DRAM upgrades up to 256 MB compact flash memory and 1 GB DRAM are available from the factory.

**Q.** What WAN optimization solutions does Cisco Systems® offer?

**A.** WAN optimization is the ability to improve the performance of business applications over WANs and includes monitoring and diagnostics, traffic management, compression, and caching. Cisco has the broadest range of technologies and products to address both generic and application-specific WAN optimization challenges.

The Cisco WAN optimization solutions offer the industry's most integrated, yet flexible and cost-effective bandwidth management solutions. An integrated services solution in the branch router is the logical point of consolidation for WAN optimization technologies, such as compression, caching, wide-area application services, quality of service (QoS), and access control, because it sits at the WAN/LAN interface where bottlenecks can efficiently be mitigated and critical network services (voice over IP [VoIP], security, QoS, and Multiprotocol Label Switching [MPLS]) need to be deployed. Cisco Layer 2 integrated compression, combined with a content engine object and sequence caching module, provide WAN bandwidth management that improves application response time on congested links by reducing the amount of data sent across the WAN. Layer 2 compression provides many benefits over standalone compression appliances by providing a tightly integrated solution that interoperates with critical Cisco IOS Software features and services such as QoS, policy-based routing (PBR), network-based application recognition (NBAR), Network Address Translation (NAT), and access control lists (ACLs).

**Q.** What are the key benefits of the WAN optimization bundles?

**A.** The new WAN optimization bundles provide a comprehensive bandwidth management solution for improving application response time over low-speed and congested WAN links. The WAN optimization bundles provide bandwidth optimization, reducing the amount of bandwidth required over low-speed links, latency reduction, and application acceleration of Web-based traffic to the branch office at an attractive price.

The Cisco WAN optimization solution presents many benefits over external, standalone appliances, including superior integration with security, voice, and QoS technologies, as well as integrated management and maintenance. Other key benefits include:

- Layer 2 and Layer 3 payload compression and hardware acceleration
- HTTP, FTP, Multimedia Message Service (MMS), Real Time Streaming Protocol (RTSP), common Internet file system (CIFS), and Network File System (NFS) caching and TCP/IP optimization
- QoS, NBAR application-level traffic classification, and bandwidth estimation
- URL and traffic filtering
- VoIP compression techniques (codec compression, Real-Time Transport Protocol (RTP) header compression, and voice activity detection)
- Remote Monitoring (RMON-II) and diagnostic capabilities
- Multilink route optimization such as Cisco Optimized Edge Routing (OER) and PBR

**Q.** When should I deploy an integrated services router WAN optimization bundle?

**A.** WAN optimization bundles should be deployed when the effective data throughput over the WAN needs to be increased by 20 to 50 percent. WAN optimization bundles should be deployed in situations where numerous low-speed serial links (T1/E1 or below) are running at or near full capacity, end users complain of very slow application response times, and obtaining additional bandwidth from the service provider is either cost-prohibitive or impossible. Also, when a reasonable percentage of data transversing the WAN is Web-based HTTP traffic, the content engine object caching feature could provide significant bandwidth savings.

**Q.** How do you position the Cisco 2800 and 3800 integrated services router WAN optimization bundles in the branch office?

**A.** The Cisco 2800 integrated services router WAN optimization bundles should be positioned at medium-sized and larger branch offices of 20 to 50 end users with bandwidth requirements up to 4 Mbps (2 T1/E1). The Cisco 3800 integrated services router WAN optimization bundles should be positioned at large branch offices and small regional aggregation sites with 50 to 150 end users and bandwidth requirements up to 16 Mbps (8 T1/E1).

**Q.** What are the key benefits of the Layer 2 data compression AIMs?

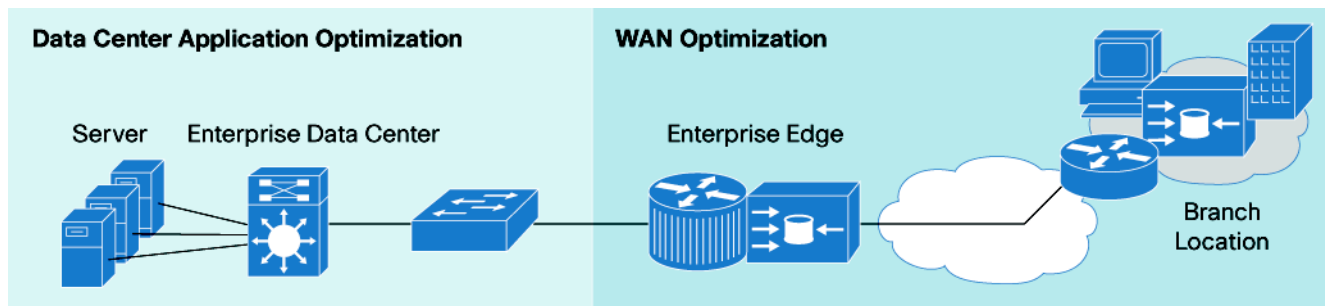
**A.** Key benefits of hardware-accelerated data compression AIMs are listed in Table 3.

**Table 3.** Data Compression AIM Feature and Benefits Comparison

Feature	Benefit
<b>Dedicated Hardware for Data Compression</b>	Offloads compression functions from the platform CPU to improve overall platform performance and efficiency, up to 16 Mbps aggregate
<b>High-Performance Compression Engine</b>	Offers compression performance of speeds up to six times that of software-based solutions
<b>Network Interface Independence</b>	Provides investment protection—as serial link requirements change, the same AIM can be used without hardware modifications
<b>Available Internal AIM Slots Used</b>	External interfaces (WAN interface cards and network modules) remain free for other applications
<b>Field Upgradable</b>	Easy to upgrade by inserting into available AIM slot
<b>Onboard Memory on AIM for Maintaining Compression Sessions</b>	Supports 120 full-duplex sessions, with no additional memory required
<b>Frame Relay and Point-to-Point Protocol (PPP) Simultaneous Support</b>	Reduces overall cost of hardware-based compression; eliminates the need to have multiple compression devices
<b>Interoperable with Cisco IOS Software STAC and MPPC (Microsoft Point-to-Point Compression) Compression on all Compression-Enabled Platforms</b>	Allows mix of hardware- and software-based compression to create an overall solution tailored for performance and cost
<b>Automatic Compression Configuration Selection</b>	Simplifies platform configurations
<b>Manual Compression Configuration Selection</b>	Allows fine-tuning of WAN and platform performance on a per-interface basis using software-based compression on some links, hardware-based compression on other links, and uncompressed data on the remaining links
<b>Cisco IOS Software Commands for Monitoring Compression Activity</b>	Provides detailed statistics and diagnostics for compressed links
<b>Works with Cisco IOS Software QoS Mechanisms</b>	Provides a total solution for bandwidth management and optimization
<b>Multiple Compression Modes—Packet-by-Packet Compression (PPC) and Linear-Packet Compression</b>	With PPC, optimizes throughput on a specific application; with linear-packet compression, maintains compression history across multiple packets for maximum compression ratio

- Q.** What are some of the other Cisco WAN optimization and application acceleration solutions available today for the branch and headquarters?
- A.** Figure 1 shows the Cisco WAN optimization components available today for the branch and data center.

**Figure 1.** Cisco WAN Optimization Components



Products	Products
<ul style="list-style-type: none"> <li>• Cisco Catalyst® 6500 Content Switching Module with Secure Sockets Layer (SSL) encryption</li> <li>• Cisco Global Site</li> <li>• Cisco CSS 11500 Series content services switches</li> </ul>	<ul style="list-style-type: none"> <li>• Cisco integrated services routers with Cisco IOS Software and content and compression modules</li> <li>• Cisco content engines</li> <li>• Cisco file engines</li> </ul>
Technologies	Technologies
<ul style="list-style-type: none"> <li>• Server load balancing</li> <li>• Connection management</li> <li>• SSL termination</li> <li>• URL rewrite</li> <li>• Gzip compression in real time</li> <li>• Object caching</li> <li>• Transaction assurance</li> </ul>	<ul style="list-style-type: none"> <li>• Traffic shaping and QoS</li> <li>• Object and sequence caching</li> <li>• Protocol optimization services</li> <li>• Inappropriate traffic filtering</li> <li>• Policy-based file distribution</li> <li>• Cisco WAFS (common Internet file system (CIFS) and NFS)</li> <li>• Local services (software distribution, Domain Name System [DNS], etc.)</li> <li>• Multiprotocol video streaming proxy</li> <li>• Hardware compression</li> <li>• VoIP codec optimization</li> <li>• Pragmatic protocol-aware multicast</li> </ul>

- Q.** How long will these WAN optimization bundles be available?
- A.** There is no specific time limit to availability of these WAN optimization bundles for the Cisco 2800 and 3800 series integrated services routers. A minimum of 6 months' end-of-sale notification will be provided prior to the end-of-sale date.



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