

Cisco Wide Area Application Engine

The Cisco® Wide Area Application Engine (WAE) platforms are a portfolio of powerful, scalable network appliances that host Cisco WAN optimization and application acceleration solutions that enable branch-office server consolidation and performance improvements for centralized applications and provide remote users with LAN-like access to applications, storage, and content across the WAN.

Product Overview

The Cisco WAE Appliances provide a unified platform for hosting Cisco application acceleration and WAN optimization solutions, including Cisco Wide Area Application Services (WAAS) Software and Cisco Application and Content Networking System (ACNS) Software.

Cisco WAE Appliances Deployed with Cisco WAAS

Cisco WAAS is a powerful application acceleration and WAN optimization solution that accelerates the performance of any TCP-based application delivered across a WAN. Deployed as Cisco WAE Appliances or as network modules integrated with the branch router, Cisco WAAS solves the following IT challenges:

- Overcoming poor application performance over the WAN
- Consolidating branch-office IT infrastructure into data centers while helping ensure near-LAN application performance over the WAN
- Controlling continuous growth in bandwidth requirements
- Improving data protection, backup, and replication for remote offices and between data centers

By accelerating the performance of any TCP-based application over the WAN, Cisco WAAS offers the following benefits:

- Cost savings through consolidation of branch-office infrastructure in data centers
- Increased employee productivity by providing near-LAN performance for all enterprise applications
- Improved data protection and regulatory compliance by eliminating the need for less secure tape-based backup at remote offices

In addition to the benefits of WAN optimization described above, Cisco WAAS provides the lowest TCO solution, transparently preserves all existing network services, helps ensure reliable voice deployments, and uniquely interoperates with Cisco firewalls to secure accelerated traffic. For detailed information about Cisco WAAS, please visit <http://www.cisco.com/go/waas>.







Cisco WAE Appliances Deployed with Cisco ACNS

Cisco ACNS is a digital media delivery solution that optimizes delivery of video traffic over the WAN, from the data center to branch offices. Cisco ACNS allows enterprises to deliver large-scale corporate communications, on-demand training, and digital signage to remote offices with high quality and minimal effect on the network. For detailed information about Cisco ACNS, please visit <http://www.cisco.com/en/US/products/sw/conntsw/ps491/index.html>.

Product Line

The Cisco WAE Appliances are designed to address varying customer needs, from very small branch offices to massive data center deployments, and offer the highest single-device and clustered-device scalability in the industry (Table 1).

Table 1. Cisco WAE Appliance Product Line Positioning

Platform	Hardware	Positioning	Images
Cisco WAAS Network Module (NME-WAE)	<ul style="list-style-type: none"> Up to 2 GB RAM Up to 160 GB storage 	Router-integrated branch-office deployment; for more details, please visit the WAAS NME-WAE Website , or the ACNS NME-WAE Website	
Cisco WAE-512	<ul style="list-style-type: none"> 1 or 2 GB RAM 250 GB storage 	Edge deployments at small and medium-sized branch offices	
Cisco WAE-612	<ul style="list-style-type: none"> 2 or 4 GB RAM 300 GB storage Hot-swap hard disk drive (HDD) replacement supported with Cisco WAAS¹ 	<ul style="list-style-type: none"> Edge deployments at medium-sized and large enterprise branch offices Core deployments at small and medium-sized data centers 	
Cisco WAE-674	<ul style="list-style-type: none"> 4 or 8 GB RAM 600 GB storage Redundant, hot-swappable power supplies as an upgrade option Hot-swappable HDD replacement supported with Cisco WAAS¹ 	<ul style="list-style-type: none"> Edge deployments at medium-sized and large enterprise branch offices Core deployments at small and medium-sized data centers. 	
Cisco WAE-7341	<ul style="list-style-type: none"> 12 GB RAM 900 GB Storage Redundant, hot-swappable power supplies Hot-swappable HDD replacement supported with Cisco WAAS¹ 	Core deployments at large and very large data centers	
Cisco WAE-7371	<ul style="list-style-type: none"> 24 GB RAM 1.5 terabytes (TB) storage Redundant, hot-swappable power supplies Hot-swappable HDD replacement supported with Cisco WAAS* 	Core deployments at very large data centers	

* Hot-swappable HDD support while using Cisco WAAS enables the replacement of a failed HDD without disruption to normal system operation, increasing the availability of the Cisco WAE. Combined with support for RAID configurations, this feature maximizes system uptime.

Cisco WAE Software and Product Function Matrix

Cisco WAE Configured with Cisco WAAS Software

Cisco WAAS software offers three license options, Cisco WAAS Transport License, Cisco WAAS Enterprise License, and the Cisco WAAS Central Manager License, further described in the [Cisco WAAS data sheet](#). All three Cisco WAAS license options are supported on the Cisco WAE-512, WAE-612, WAE-674, WAE-7341, and WAE-7371 appliances.

Cisco WAE Configured with Cisco ACNS Software

Cisco ACNS Software can be configured on some models as a content engine, content router, or content distribution manager (CDM). All products are ordered and shipped directly from the factory as content engines. On the supported models (Table 2), content engines can be changed with a command-line interface (CLI) command. The product can have only one function (content engine, content router, or CDM) and cannot be configured to perform any two functions simultaneously. Cisco ACNS is not supported on the WAE-7371.

Table 2. Cisco WAE Deployed with Cisco ACNS: Product Function Matrix

Product	Cisco WAE-512	Cisco WAE-612	Cisco WAE-674	Cisco WAE-7341
Cisco ACNS Software (Version 5.5.1)	Yes	Yes	Yes	Yes
Cisco ACNS CDM	No	Yes	Yes	Yes
Cisco ACNS Content Router	No	Yes	Yes	Yes

Cisco WAE Hardware Specifications

Tables 3 and 4 present the hardware specifications for the Cisco WAE Appliances. For more information about the Cisco WAAS Network Module for the Cisco Integrated Services Routers branch router, please visit the [WAAS NME-WAE Website](#). For more information about the Cisco ACNS Network Module for the Cisco Integrated Services Routers, please visit the [ACNS NME-WAE Website](#).

Table 3. Cisco WAE Hardware Specifications: Cisco WAE-512, WAE-612, WAE-674, WAE-7341, and WAE-7371

Feature	Cisco WAE-512	Cisco WAE-612	Cisco WAE-674	Cisco WAE-7341	Cisco WAE-7371
Baseline RAM	1 or 2 GB	2 or 4 GB	4 or 8 GB	12 GB	24 GB
Usable Storage*	250 GB	300 GB	600 GB	900 GB	1.5 TB
Maximum HDD	2 X 250 GB HDD	2 X 300 GB HDD	3 X 300 GB HDD	4 X 300 GB HDD	6 X 300 GB HDD
RAID Support**	RAID-1	RAID-1	RAID-5	RAID-5	RAID-5
Network Interfaces	Two 10/100/1000BASE-T	Two 10/100/1000BASE-T	Two 10/100/1000BASE-T	Two 10/100/1000BASE-T	Two 10/100/1000BASE-T
Power	One 350W AC power supply	One 350W AC power supply	<ul style="list-style-type: none"> One 835W hot-swappable AC power supply Redundant power available as an option 	Two 835W hot-swappable redundant AC power supplies	Two 835W hot-swappable redundant AC power supplies
Rack Units	1	1	2	2	2
Optional: Support for 4-Port Network Interface Card (NIC) for Inline Cisco WAAS Deployment	Yes	Yes	Yes	Yes	Yes

Feature	Cisco WAE-512	Cisco WAE-612	Cisco WAE-674	Cisco WAE-7341	Cisco WAE-7371
Compact Flash Memory	128 MB	128 MB	128 MB	128 MB	128 MB
Height	1.75 in. (43 mm)	1.75 in. (43 mm)	3.36 in. (85.4 mm)	3.36 in. (85.4 mm)	3.36 in. (85.4 mm)
Width	17.2 in. (440 mm)	17.2 in. (440 mm)	17.5 in. (443.6 mm)	17.5 in. (443.6 mm)	17.5 in. (443.6 mm)
Depth	22.1 in. (559 mm)	22.1 in. (559 mm)	27.64 in. (702.0 mm)	27.64 in. (702.0 mm)	27.64 in. (702.0 mm)
Shipping Dimensions (with Packaging)	39 x 23 x 6.5 in. (990.6 x 584.2 x 165.1 mm); 6 boxes per pallet	39 x 23 x 6.5 in. (990.6 x 584.2 x 165.1 mm); 6 boxes per pallet	39 x 23 x 6.5 in. (990.6 x 584.2 x 254 mm); 4 boxes per pallet	39 x 23 x 6.5 in. (990.6 x 584.2 x 254 mm); 4 boxes per pallet	39 x 23 x 6.5 in. (990.6 x 584.2 x 254 mm); 4 boxes per pallet
Maximum Weight	28 lb (12.7 kg)	28 lb (12.7 kg)	64lb (29.03 kg)	64lb (29.03 kg)	64lb (29.03 kg)
Universal Input	<ul style="list-style-type: none"> Input voltage low range 100 to 127 VAC Input voltage high range 200 to 240 VAC Input kilovolt-amperes (kVA) approximately: <ul style="list-style-type: none"> Minimum: 0.102 kVA Maximum: 0.55 kVA 	<ul style="list-style-type: none"> Input voltage low range 100 to 127 VAC Input voltage high range 200 to 240 VAC Input kVA approximately: <ul style="list-style-type: none"> Minimum: 0.102 kVA Maximum: 0.55 kVA 	<ul style="list-style-type: none"> Input voltage low range 100 to 127 VAC Input voltage high range 180 to 265 VAC Input kVA approximately: <ul style="list-style-type: none"> Minimum: 0.29 kVA Maximum: 1.0 kVA 	<ul style="list-style-type: none"> Input voltage low range 100 to 127 VAC Input voltage high range 180 to 265 VAC Input kVA approximately: <ul style="list-style-type: none"> Minimum: 0.29 kVA Maximum: 1.0 kVA 	<ul style="list-style-type: none"> Input voltage low range 100 to 127 VAC Input voltage high range 180 to 265 VAC Input kVA approximately: <ul style="list-style-type: none"> Minimum: 0.29 kVA Maximum: 1.0 kVA
Operating Environment					
Operating Temperature	50 to 95°F (10 to 35°C)	50 to 95°F (10 to 35°C)	50 to 95°F (10 to 35°C)	50 to 95°F (10 to 35°C)	50 to 95°F (10 to 35°C)
Nonoperating Temperature	-40 to 140°F (-40 to 60°C)	-40 to 140°F (-40 to 60°C)	-40 to 140°F (-40 to 60°C)	-40 to 140°F (-40 to 60°C)	-40 to 140°F (-40 to 60°C)
Humidity	Nonoperating: 8 to 80%	Nonoperating: 8 to 80%	Nonoperating: 8 to 80%	Nonoperating: 8 to 80%	Nonoperating: 8 to 80%
Altitude	Maximum altitude: 6500 ft (2000m)	Maximum altitude: 6500 ft (2000m)	Maximum altitude: 7000 ft (2133m)	Maximum altitude: 7000 ft (2133m)	Maximum altitude: 7000 ft (2133m)
Compliance	CE marking	CE marking	CE marking	CE marking	CE marking
Safety	<ul style="list-style-type: none"> UL 1950 CSA-C22.2 No. 950 EN 60950 IEC 60950 	<ul style="list-style-type: none"> UL 1950 CSA-C22.2 No. 950 EN 60950 IEC 60950 	<ul style="list-style-type: none"> UL 1950 CSA-C22.2 No. 950 EN 60950 IEC 60950 	<ul style="list-style-type: none"> UL 1950 CSA-C22.2 No. 950 EN 60950 IEC 60950 	<ul style="list-style-type: none"> UL 1950 CSA-C22.2 No. 950 EN 60950 IEC 60950
EMC	<ul style="list-style-type: none"> FCC Part 15 (CFR 47) Class A ICES-003 Class A EN 55022 Class A with UTP cables CISPR22 Class A with UTP cables ASNZ 3548 Class A with UTP cables VCCI Class A with UTP cables EN 55024 EN 50082-1 	<ul style="list-style-type: none"> FCC Part 15 (CFR 47) Class A ICES-003 Class A EN 55022 Class A with UTP cables CISPR22 Class A with UTP cables ASNZ 3548 Class A with UTP cables VCCI Class A with UTP cables EN 55024 EN 50082-1 	<ul style="list-style-type: none"> FCC Part 15 (CFR 47) Class A ICES-003 Class A EN 55022 Class A with UTP cables CISPR22 Class A with UTP cables ASNZ 3548 Class A with UTP cables VCCI Class A with UTP cables EN 55024 EN 50082-1 	<ul style="list-style-type: none"> FCC Part 15 (CFR 47) Class A ICES-003 Class A EN 55022 Class A with UTP cables CISPR22 Class A with UTP cables ASNZ 3548 Class A with UTP cables VCCI Class A with UTP cables EN 55024 EN 50082-1 	<ul style="list-style-type: none"> FCC Part 15 (CFR 47) Class A ICES-003 Class A EN 55022 Class A with UTP cables CISPR22 Class A with UTP cables ASNZ 3548 Class A with UTP cables VCCI Class A with UTP cables EN 55024 EN 50082-1

* For Cisco WAAS only

** RAID is supported with Cisco WAAS software but not Cisco ACNS software.

Ordering Information

Cisco WAE hardware cannot be ordered separately; it must be ordered with Cisco WAAS or Cisco ACNS Software (Table 4).

Table 4. Ordering Information for Cisco WAE Hardware

Part Number	Hardware and Software Configuration Options
WAE-512-K9	<ul style="list-style-type: none"> • Software and license options: Cisco WAAS or Cisco ACNS • Storage options: One or two 250-GB SATA drives (part number DISK-SATA2-250GB) • Memory options: Additional 1-GB memory (part number MEM-WAE-1GB) • Optional 4-port network interface card (NIC) to support in-path (inline) deployments using Cisco WAAS (WAE-INLN-4CG)
WAE-612-K9	<ul style="list-style-type: none"> • Software and license options: Cisco WAAS Software or Cisco ACNS Software • Storage options: Two 300-GB SAS drives (part number DISK-SAS-300GB) • Memory options: Additional 2-GB memory (part number MEM-WAE-2GB) • Optional 4-port NIC to support in-path (inline) deployments using Cisco WAAS (part number WAE-INLN-4CG)
WAE-674-K9	<ul style="list-style-type: none"> • The WAE-674-K9 SKU includes 3 X 300 GB HDD and 4 GB RAM; no other HDD options are available • Software and license options: Cisco WAAS Software or Cisco ACNS Software • Memory options: Additional 4-GB memory (part number MEM-WAE-4GB) supported with Cisco WAAS only • Power and fan option: Additional (redundant) power and fan available (part number RED-PWR-FAN-674) • Optional 4-port NIC to support in-path (inline) deployments using Cisco WAAS (part number WAE-INLN-4CG)
WAE-7341-K9	<ul style="list-style-type: none"> • The WAE-7341-K9 SKU includes 4 X 300 GB HDD and 12 GB RAM; no other RAM or HDD options are available • Software and license options: Cisco WAAS Software or Cisco ACNS Software • Optional 4-port NIC to support in-path (inline) deployments using Cisco WAAS (part number WAE-INLN-4CG)
WAE-7371-K9	<ul style="list-style-type: none"> • The WAE-7371-K9 SKU includes 6 X 300 GB HDD and 24 GB RAM; no other RAM or HDD options are available • Software and license options: Cisco WAAS Software or Cisco ACNS Software • Optional 4-port NIC to support in-path (inline) deployments using Cisco WAAS (part number WAE-INLN-4CG)
Hardware Spares	
WAE-INLN-4CG=	4-port NIC to support in-path (inline) deployments using Cisco WAAS
DISK-SATA2-250GB(=)	250-GB HDD (SATA2); spare
DISK-SAS-300GB(=)	300-GB HDD (SAS) for Cisco WAE-612; spare
DISK-300GB-6/7SER(=)	300-GB HDD (SAS) for Cisco WAE-674, WAE-7341, and WAE-7371 only; spare
MEM-WAE-1GB(=)	1 Cisco WAE 1-GB memory module; spare
MEM-WAE-2GB(=)	2 Cisco WAE 1-GB memory modules; spare
MEM-WAE-4GB(=)	2 Cisco WAE 2-GB memory modules; spare
RED-PWR-FAN-674(=)	Redundant power and fan option for Cisco WAE-674; spare

Web Cache Communication Protocol Support

Web Cache Communication Protocol (WCCP) is a free software feature in Cisco IOS® Software that runs on the following Cisco platforms: Cisco routers such as the Cisco 1800, 2800, and 3800 Series Integrated Services Routers; Cisco 3700 Series Multiservice Access Routers; Cisco 7000 Series Routers; and Cisco switches such as the Cisco Catalyst® 4500, 4900, and 6500 Series Switches.

Service and Support

Cisco offers a wide range of services programs to accelerate customer success. These innovative services programs are delivered through a unique combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction. Cisco services help you protect your network investment, optimize network operations, and prepare your network for new applications to extend network intelligence and the power of your business. For more information about Cisco services, see [Cisco Technical Support Services](#) or [Cisco Advanced Services](#).

For More Information

For more information about Cisco WAAS, visit <http://www.cisco.com/go/waas> or contact your local account representative.



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