

Cisco Wide Area Application Services AppNav Module

Q. What is Cisco® Wide Area Application Services (WAAS) AppNav module?

A. The Cisco AppNav module enables on-demand elastic provisioning and pooling of WAN optimization resources, offering more robust virtualization, control, and management capabilities and enabling a more natural migration to the cloud, with the simplicity of an in-path solution and scalability of an off-path solution.

Q. What problems does the Cisco AppNav module solve?

A. The Cisco AppNav module:

- Addresses some of the challenges of “bring your own device” (BYOD) computing: In the past, the end user had a PC. Today, the end user may have a PC, a smartphone, and perhaps a tablet, each of which may be used to connect to email and the Internet, and some of which may be connected to applications such as virtual desktop infrastructure (VDI) solutions. BYOD computing will consume more bandwidth at the branch office and require the capability to rapidly and transparently (to the network) add data center WAN optimization connectivity.
- Enables easy expansion of the WAN optimization footprint within the organization: Historically many organizations deploy WAN optimization to only a fraction of their branch offices because of the high cost (resulting from deployment of WAN optimization appliances at the branch office, service calls, and the addition of data center capacity). Cisco has dramatically reduced the cost of WAN optimization, enabling branch-office endpoints with the integration of Cisco Integrated Services Routers (ISRs), which allows customers to deploy WAN optimization with no service calls required. The Cisco AppNav module enables customers to easily and rapidly add data center capacity to support branch-office growth.

The Cisco AppNav module enables you to easily add WAN optimization capacity to your data center without having to make any changes to your network configurations (no need to modify flow masks, etc.) or topologies. Unlike competing technologies, the Cisco AppNav technology allows you to expand WAN optimization capacity without any service disruption, regardless of whether it is deployed in the path or off the path.

- Provides optimal end-user experience for the cloud: Cisco AppNav technology is being integrated into the Cisco Cloud Services Router 1K (CSR). Therefore, when customers and cloud providers enable the Cisco CSR 1K in the cloud, they will not only get transparent, secure connectivity from the branch office to the cloud using the same mechanisms with which they are comfortable today (that is, GetVPN and IP Security [IPsec] VPN), but they will also be able to logically provision WAN optimization at the cloud endpoint and have it interoperate securely and transparently with the WAN optimization capabilities that are built into their Cisco ISRs. Essentially, Cisco AppNav technology for the cloud allows you to create an elastic pool of WAN optimization resources. The Cisco AppNav module in Cisco CSR 1000V redirects traffic based on policy to that WAN optimization pool. It allows to add or remove capacity to this pool - physical or virtual or a combination of the two - with no changes whatsoever to the cloud router or the cloud provider's network topology.

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- Q.** Do I need to replace my data center Cisco Wide Area Virtualization Engine (WAVE) appliances?
- A.** No. You need to have only one (or two, if redundancy is required) Cisco WAVE devices that are capable of connecting a Cisco AppNav I/O module (IOM) in your data center. The Cisco WAVE 694, 7541, 7571, and 8541 all support the Cisco AppNav IOM. Other devices in your data center need only be running the latest version of Cisco WAAS, which is Release 5.0. You can also deploy Cisco WAVE devices, either physical or virtual, of different capacities and models in your data center, giving you excellent flexibility and investment protection. The Cisco AppNav technology helps ensure that traffic is distributed to the appropriate Cisco WAVE devices based on both system capacity and system performance, giving you optimal traffic distribution as well as optimal performance.
- Q.** What changes do I need to make to my network topology to make this feature work?
- A.** None. Cisco AppNav technology is designed from the foundation to support the customer's network environment. The Cisco AppNav module can be deployed both in the path and off the path, and it natively supports asymmetric routing conditions and will work in common Layer 3 topologies as well as in scenarios in which Cisco Overlay Transport Virtualization (OTV) is deployed.
- Q.** In my organization, different lines of business fund application rollouts separately. Can Cisco AppNav technology help ensure that these applications are isolated?
- A.** Yes. Cisco AppNav technology gives you the flexibility to essentially bind a set of applications or another logical construct to a set of Cisco WAVE resources in the data center. You can define specific affinity and failover rules based on your specific organization requirements. This capability also helps customers deploy their own private clouds.
- Q.** What happens if a Cisco AppNav module fails?
- A.** All Cisco AppNav modules synchronize the TCP connection state with other Cisco AppNav modules in the same cluster. Thus, in the event of a Cisco AppNav module failure, the other Cisco AppNav modules will take over, helping ensure that your application traffic is not disrupted.
- Q.** How scalable is the Cisco AppNav module?
- A.** The Cisco AppNav module allows customers to scale to 10 Gbps of throughput or greater and 1 million or more TCP flows.
- Q.** Does this technology replace Web Cache Communication Protocol (WCCP)?
- A.** No. Cisco AppNav technology is a complementary technology to WCCP. WCCP provides both redirection and load distribution capabilities and is the technology most widely used to deploy WAN optimization today. The Cisco AppNav module allows customers to offload the load distribution function from the WCCP router, allowing the router to focus on traffic interception and redirection to a single WAN optimization pool.
- Q.** How does the Cisco AppNav module differ from other existing solutions?
- A.** Other solutions require changes to customers' underlying network topology, and scaling up or scaling out can require significant re-planning, cost, or service disruption. The Cisco AppNav module is designed from the foundation to be transparent to the customer's topology; requiring no additional network elements for management and no changes to the customers fundamental network design. Cisco AppNav virtualization and capacity pooling capabilities further differentiate the Cisco AppNav module from other solutions.

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- Q.** We just recently invested in Cisco Virtual WAAS (vWAAS) and the Cisco Unified Computing System™ (Cisco UCS™), so that we can standardize on a private cloud architecture. Will Cisco vWAAS work with the Cisco AppNav module?
- A.** Yes. The Cisco AppNav module will work with virtual and physical and any combination of Cisco WAVE devices as long as they are running the latest Cisco WAAS Software Release 5.0. An important feature of the solution is that Cisco vWAAS does not need to be adjacent to the Cisco AppNav module.
- Q.** Do you recommend deploying the Cisco AppNav module in the path or off the path?
- A.** The solution will work fine either way. Further, the Cisco AppNav module combines the advantages of in-path deployment (it reduces the number of changes needed for your router configuration) and off-path deployment (it is nondisruptive, with the capability to cluster disparate devices, support 1 and 10 Gigabit Ethernet network interface speeds, and transparently add capacity) in a simple solution that is easy to deploy and manage.



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