



What is Cisco NBAR?

Given the complex behavior and architecture of many popular applications, the discovery and identification of application traffic flowing over network links can be challenging. However, technologies such as Cisco Network-Based Application Recognition (NBAR) provide Layer 7 application visibility directly from the router without additional probes or packet capture modules.

Similar to Cisco IP SLA, Cisco CBQoS, and Cisco NetFlow, NBAR is an inherent component of Cisco IOS. From within the network device operating system, NBAR can inspect packets traversing the device and identify the corresponding applications. This means traffic such as TCP packets running over port 80 could be more accurately labeled as <http://www.google.com>, SAP, Microsoft SharePoint, or <http://www.salesforce.com>. This level of identification at the router is especially beneficial in virtualized environments, where associating server port ranges with IP addresses to identify applications can be challenging. Service providers can also benefit from NBAR capabilities by properly identifying applications prior to VPN encryption, allowing them to provide differentiated services across their WAN.

Sample List of Protocols

Protocol	Type	Description
BitTorrent	TCP	File-sharing application
Gnutella	TCP	File-sharing application
Kazaa2	TCP	File-sharing application
eDonkey	TCP	File-sharing application
Fasttrack	TCP	File-sharing application
Napster	TCP	File-sharing application
SCCP	TCP	Skinny Call Control Protocol
SIP	TCP and UDP	Session Initiation Protocol
MGCP	TCP and UDP	Media Gateway Control Protocol

H.323	TCP and UDP	An ITU-T standard for digital videoconferencing over TCP/IP networks
SKYPE	TCP and UDP	Application allowing telephone conversation over the Internet
FTP	TCP	File Transfer Protocol
Exchange	TCP	MS-RPC for Exchange
HTTP	TCP	HTTP with URL, host, or MIME classification
Citrix	TCP	Citrix published application
Netshow	TCP/UDP	Microsoft Netshow
RealAudio	TCP/UDP	RealAudio Streaming Protocol
r-commands	TCP	rsh, rlogin, rexec
StreamWorks	UDP	Xing Technology Stream Works audio/video
SQL*NET	TCP/UDP	SQL*NET for Oracle
SunRPC	TCP/UDP	Sun Remote Procedure Call
TFTP	UDP	Trivial File Transfer Protocol
VDOLive	TCP/UDP	VDOLive streaming video

While Cisco IOS NetFlow has become the de facto standard for identifying protocol traffic mixes on network circuits, it does not provide application-layer visibility. Instead, it requires the user to make the connection between protocol port and a specific application. NBAR closes this gap for programs requiring specific application classification, such as QoS. While NetFlow continues to rise in popularity due to its widespread availability and straightforward implementation, NBAR complements NetFlow when application layer identification is needed.

