



# Release Notes for NBAR2 Protocol Pack 16.0.0

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## Overview

NBAR2 Protocol Pack 16.0.0 contains the Enhanced Web Classification feature that supports multi-transactions export of URLs. For more information on this feature, see [Classifying Network Traffic Using NBAR](#).

### New Features

In this Protocol Pack release, the following new feature was added:

Feature	Description
Statistical Engine Signatures	<p>Classifies traffic by comparing it to machine-learned clusters. Statistical classification can be to one of the four statistical protocols:</p> <ul style="list-style-type: none"> <li>• Statistical conference protocols <ul style="list-style-type: none"> <li>◦ statistical-conf-audio</li> <li>◦ statistical-conf-video</li> </ul> </li> <li>• Statistical peer-to-peer protocol <ul style="list-style-type: none"> <li>◦ statistical-p2p</li> </ul> </li> <li>• Statistical streaming/download protocol <ul style="list-style-type: none"> <li>◦ statistical-download</li> </ul> </li> </ul>

## Supported Platforms

NBAR2 Protocol Pack 16.0.0 is supported on the following platforms:

- Cisco ASR 1000 Series Aggregation Services Routers (ASR1000)
- Cisco 4000 Series Integrated Services Routers (ISR4000)
- Cisco Integrated Services Routers Generation 2 (ISRG2)

## Supported Releases

NBAR Protocol Pack 16.0.0 is supported on the following releases:

Built-in	Supported on Maintenance Releases
Cisco IOS XE Denali 16.2.1	Cisco IOS XE 3.16.1S Version 15.5(3)S1 and later (See <a href="#">Limitations for Cisco IOS XE 3.16.1S Version 15.5(3)S1 and IOS Version 15.5(3)M1</a> , on page 6 for limitations relevant to the 15.5(3)S1 release.)
	Cisco IOS Version 15.5(3)M1 and later (See <a href="#">Limitations for Cisco IOS XE 3.16.1S Version 15.5(3)S1 and IOS Version 15.5(3)M1</a> , on page 6 for limitations relevant to the 15.5(3)M1 release.)

## New Protocols in NBAR2 Protocol Pack 16.0.0

The table below lists the new protocols for NBAR2 Protocol Pack 16.0.0.

Protocol Name	Common Name	Long Description
cisco-collaboration	Cisco Collaboration Media	Cisco Collaboration Media - Voice, video, and desktop sharing by various Cisco Unified Communications clients.
cisco-spark	Cisco Spark	Cisco Spark - unified communications client and SaaS with mobile team communication: group chat, private chat, video calls with screen sharing, and file sharing.
https	Hypertext Transfer Protocol Secure (HTTPS)	Hypertext Transfer Protocol Secure (HTTPS)
pearson	Pearson	Pearson - education content provider.
statistical-conf-audio	Statistical Conference Audio	Statistical Conference Audio based on machine learning.
statistical-conf-video	Statistical Conference Video	Statistical Conference Video based on machine learning.
statistical-download	Statistical Download	Statistical Download based on machine learning.
statistical-p2p	Statistical Peer-To-Peer	Statistical Peer-To-Peer based on machine learning.

## Updated Protocols in NBAR2 Protocol Pack 16.0.0

The table below lists the protocols updated in NBAR2 Protocol Pack 16.0.0.

Protocol	Updates
aol-messenger	Updated signatures
capwap-control	Updated signatures
capwap-data	Updated signatures
cisco-jabber-control	Updated signatures
citrix	Updated signatures
gmail	Updated signatures
google-services	Updated signatures

Protocol	Updates
h323	Updated signatures
ip-messenger	Updated signatures
ms-lync	Updated signatures
ms-office-365	Updated signatures
ms-services	Updated signatures
openvpn	Updated signatures
oracle-sqlnet	Updated signatures
perforce	Updated signatures
skype	Updated signatures
socks	Updated signatures
teamviewer	Updated signatures
ventrilo	Updated signatures
vmware-vsphere	Updated signatures
whatsapp	Updated signatures
windows-azure	Updated signatures
windows-update	Updated signatures
xbox-web-portal	Updated signatures
xunlei-kankan	Updated signatures

## Deprecated Protocols in NBAR2 Protocol Pack 16.0.0

In this release, the following protocol has changed status to deprecated:

- secure-http

# Caveats in NBAR2 Protocol Pack 16.0.0



## Note

If you have an account on Cisco.com, you can also use the Bug Search Tool to find select caveats of any severity. To reach the Bug Toolkit, log in to Cisco.com and open <https://tools.cisco.com/bugsearch/search>. (If the defect cannot be displayed, this may be because the defect number does not exist or the defect does not have a description.)

## Known Caveats in NBAR2 Protocol Pack 16.0.0

The following table lists the known caveats in NBAR2 Protocol Pack 16.0.0:

Known Caveat	Description
CSCuh49380	PCoIP session-priority configuration limitation.
CSCuh53623	Segmented packets are not classified when using NBAR sub classification.
CSCun61772	IPv4 bundles might be used in IPv6 traffic.
CSCux33859	(Applies only to Cisco IOS XE 3.16.1S Version 15.5(3)S1, and IOS Version 15.5(3)M1) Microsoft Lync audio/video is not classified correctly in some cases. If your organization uses Microsoft Lync and one of these releases, it is not recommended to upgrade to Protocol Pack 16.0.0. Use a later release (such as 3.16.2S and above) for full Protocol Pack 16.0.0 support of Microsoft Lync audio/video. See <a href="#">Limitations for Cisco IOS XE 3.16.1S Version 15.5(3)S1 and IOS Version 15.5(3)M1</a> , on page 6.

## Downloading NBAR2 Protocol Pack 16.0.0

NBAR2 Protocol Packs are available for download as Software Type 'NBAR2 Protocol Pack' on cisco.com software download page (<http://www.cisco.com/cisco/software/navigator.html>).

## Special Notes and Limitations

Protocol Name	Special Note or Limitation
apple-app-store	Login and a few encrypted sessions are classified as iTunes.
bittorrent	HTTP traffic generated by the bitcomet bittorrent client might be classified as HTTP.

Protocol Name	Special Note or Limitation
capwap-data	For capwap-data to be classified correctly, capwap-control must also be enabled.
ftp	During configuring QoS class-map with ftp-data, the FTP protocol must be selected. As an alternative, the FTP application group can be selected.
hulu	Encrypted video streaming generated by hulu may be classified as its underlying protocol rtmpe.
logmein	Traffic generated by the logmein android app may be classified incorrectly as ssl.
ms-lync	Login and chat traffic generated by the ms-lync client may be classified incorrectly as ssl.
pcanywhere	Traffic generated by pcanywhere for mac may be classified as unknown.
perfect-dark	Some perfect-dark sessions may be classified as unknown.
qq-accounts	Login to QQ applications which is not via the internet may not be classified as qq-accounts.
secondlife	Voice traffic generated by secondlife may be classified incorrectly as ssl.
ssl	<p>The Sub Classification (SC) mechanism was modified to include search for wildcard.</p> <p><b>Note</b> The SC rule for the part of the Server Name Indication (SNI) or the common name (CN) can now include a wildcard. If a wildcard is not used, the complete SNI or the CN is required.</p> <p>For example, you can either use, "*.pqr.com" or "abc.pqr.com" to classify abc.pqr.com.</p>

### Limitations for Cisco IOS XE 3.16.1S Version 15.5(3)S1 and IOS Version 15.5(3)M1

The following limitations are specific to these two maintenance releases.

Protocol Name	Special Note or Limitation
cisco-collaboration	<p>In these releases, Cisco Collaboration Media traffic is not supported. See <a href="#">CISCO-COLLABORATION</a>.</p> <p>If your organization uses...</p> <ul style="list-style-type: none"><li>• Cisco Collaboration Media and</li><li>• Cisco IOS XE 3.16.1S Version 15.5(3)S1 or IOS Version 15.5(3)M1</li></ul> <p>... it is not recommended to upgrade to Protocol Pack 16.0.0. Use a later IOS or IOS XE release (such as 15.5(3)S/M2 and above) for full Protocol Pack 16.0.0 support of Cisco Collaboration Media.</p>
ms-lync	<p>In these releases, Microsoft Lync audio/video is not classified correctly in some cases.</p> <p>If your organization uses...</p> <ul style="list-style-type: none"><li>• Microsoft Lync and</li><li>• Cisco IOS XE 3.16.1S Version 15.5(3)S1 or IOS Version 15.5(3)M1</li></ul> <p>... it is not recommended to upgrade to Protocol Pack 16.0.0. Use a later IOS or IOS XE release (such as 15.5(3)S/M2 and above) for full Protocol Pack 16.0.0 support of Microsoft Lync audio/video.</p>

# Additional References

## Related Documents

Related Topic	Document Title
Application Visibility and Control	<a href="#">Cisco Application Visibility and Control User Guide</a>
Classifying Network Traffic Using NBAR	<a href="#">Classifying Network Traffic Using NBAR module</a>
NBAR Protocol Pack	<a href="#">NBAR Protocol Pack module</a>
QoS: NBAR Configuration Guide	<a href="#">QoS: NBAR Configuration Guide</a>
QoS Command Reference	<a href="#">Quality of Service Solutions Command Reference</a>