



Release Notes for NBAR2 Protocol Pack 20.0.0

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Overview

NBAR2 Protocol Pack 20.0.0 provides classification improvements and support for the following features:

- Client-Server: Dynamic network learning of physical clients and servers. This feature allows the NBAR engine to classify new flows quickly and accurately.
- Socket cache: Learning commonly used sockets to provide fast classification.

This Protocol Pack is included as the built-in Protocol Pack for Cisco IOS XE Denali 16.3.1, and is also available for specific earlier versions of Cisco IOS and IOS XE, as described in [Supported Releases, on page 2](#). The release notes indicate the differences between the built-in version of this Protocol Pack and the version provided for earlier releases.

Supported Platforms

NBAR2 Protocol Pack 20.0.0 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 20.0.0 is supported on the following releases:

| Built-in | Supported on Maintenance Releases |
|----------------------------|--|
| Cisco IOS XE Denali 16.3.1 | Cisco IOS XE 3.16.2S Version 15.5(3)S2 and later maintenance releases of 3.16.(x)S/15.5(3)S(x) |
| | Cisco IOS Version 15.5(3)M2 and later maintenance releases of 15.5(3)M(x) |

New Protocols in NBAR2 Protocol Pack 20.0.0

The tables below list the new protocols added in NBAR2 Protocol Pack 20.0.0 (protocols added since 19.1.0).

The table below lists the new protocols included in Protocol Pack 20.0.0 for Cisco IOS Version 15.5(3)M2 and IOS-XE 3.16.2S Version 15.5(3)S2.

| Protocol Name | Common Name | Long Description |
|---------------------------|---------------------------|--|
| cassandra | Cassandra | Apache Cassandra is an open source distributed database management system designed to handle large amounts of data across many commodity servers, providing high availability with no single point of failure. |
| cisco-collaboration-audio | Cisco Collaboration Audio | Cisco Collaboration Voice traffic associated with various Cisco Unified Communication clients. |
| cisco-phone-media | Cisco Phone Media | Cisco-media is used mainly in corporations and can be used on- or off-site. |
| telepresence-audio | Telepresence Audio | Telepresence Voice. |

The table below lists the new protocols included in Protocol Pack 20.0.0 for Cisco IOS XE Denali 16.3.1.

| Protocol Name | Common Name | Long Description |
|----------------|----------------|--------------------------|
| backup-service | Backup Service | Backup Software Services |

| Protocol Name | Common Name | Long Description |
|---------------------------|-----------------------------|---|
| cassandra | Cassandra | Apache Cassandra is an open source distributed database management system designed to handle large amounts of data across many commodity servers, providing high availability with no single point of failure. |
| cisco-collaboration-audio | Cisco Collaboration Audio | Cisco Collaboration Voice traffic associated with various Cisco Unified Communication clients. |
| cisco-collab-control | Cisco Collaboration Control | Cisco Collaboration Control messages by various Cisco Unified Communication clients. |
| cisco-collab-video | Cisco Collaboration Video | Cisco Collaboration Video by various Cisco Unified Communication clients. |
| cisco-media-audio | Cisco Media Audio | Cisco IP Phones and PC-based Unified Communicators. |
| cisco-media-video | Cisco Media Video | Cisco IP Phones and PC-based Unified Communicators. |
| cisco-phone-control | Cisco Phone Control | Control flow of Cisco IP phone. |
| cisco-phone-media | Cisco Phone Media | Cisco-media is used mainly in corporations and can be used on- or off-site. |
| conference-server | Conferencing Server | Conferencing Server establishes communication between SIP users. |
| conferencing | Conferencing | Audio-Video conferencing and collaboration solutions. |
| db-service | DB Service | Data base service. |
| mail-service | Mail Service | Electronic mail services. |
| quic | QUIC | QUIC (pronounced Quick) is a UDP-based protocol developed by Google to accelerate web communications, saving round trip time and protocol overhead incurred by traditional TCP connections. QUIC traffic is always encrypted. |
| telepresence-audio | Telepresence Audio | Telepresence Voice. |

Updated Protocols in NBAR2 Protocol Pack 20.0.0

The tables below indicate the protocol(s) updated in NBAR2 Protocol Pack 20.0.0 (protocols updated since 19.1.0).

The following table lists the protocols updated in NBAR2 Protocol Pack 20.0.0 for Cisco IOS Version 15.5(3)M2 and IOS-XE 3.16.2S Version 15.5(3)S2.

| Protocol | Updates |
|----------------------|--------------------|
| amazon-web-services | Updated signatures |
| cifs | Updated signatures |
| cisco-collaboration | Updated signatures |
| cisco-jabber-control | Updated signatures |
| cisco-phone | Updated signatures |
| cisco-spark | Updated signatures |
| connected-backup | Updated signatures |
| crashplan | Updated signatures |
| google-services | Updated signatures |
| http | Updated signatures |
| icloud | Updated signatures |
| kerberos | Updated signatures |
| ldap | Updated signatures |
| mongo | Updated signatures |
| ms-office-365 | Updated signatures |
| ms-office-web-apps | Updated signatures |
| ms-services | Updated signatures |
| ms-wbt | Updated signatures |
| mysql | Updated signatures |
| ntp | Updated signatures |
| oracle-sqlnet | Updated signatures |
| outlook-web services | Updated signatures |
| perforce | Updated signatures |
| rtcp | Updated signatures |

| Protocol | Updates |
|----------------------|--------------------|
| rtp | Updated signatures |
| rtp-audio | Updated signatures |
| rtp-video | Updated signatures |
| sip | Updated signatures |
| sqlserver | Updated signatures |
| ssl | Updated signatures |
| tcpoverdns | Updated signatures |
| telepresence-control | Updated signatures |
| telepresence-media | Updated signatures |
| tftp | Updated signatures |
| vmware-vsphere | Updated signatures |
| vnc | Updated signatures |
| webex-meeting | Updated signatures |
| wifi-calling | Updated signatures |

The following table lists the protocols updated in NBAR2 Protocol Pack 20.0.0 for Cisco IOS XE Denali 16.3.1 (same as above, plus sip-tls).

| Protocol | Updates |
|----------------------|--------------------|
| amazon-web-services | Updated signatures |
| cifs | Updated signatures |
| cisco-collaboration | Updated signatures |
| cisco-jabber-control | Updated signatures |
| cisco-phone | Updated signatures |
| cisco-spark | Updated signatures |
| connected-backup | Updated signatures |
| crashplan | Updated signatures |

| Protocol | Updates |
|----------------------|--------------------|
| google-services | Updated signatures |
| http | Updated signatures |
| icloud | Updated signatures |
| kerberos | Updated signatures |
| ldap | Updated signatures |
| mongo | Updated signatures |
| ms-office-365 | Updated signatures |
| ms-office-web-apps | Updated signatures |
| ms-services | Updated signatures |
| ms-wbt | Updated signatures |
| mysql | Updated signatures |
| ntp | Updated signatures |
| oracle-sqlnet | Updated signatures |
| outlook-web services | Updated signatures |
| perforce | Updated signatures |
| rtcp | Updated signatures |
| rtp | Updated signatures |
| rtp-audio | Updated signatures |
| rtp-video | Updated signatures |
| sip | Updated signatures |
| sip-tls | Updated signatures |
| sqlserver | Updated signatures |
| ssl | Updated signatures |
| tcpoverdns | Updated signatures |

| Protocol | Updates |
|----------------------|--------------------|
| telepresence-control | Updated signatures |
| telepresence-media | Updated signatures |
| tftp | Updated signatures |
| vmware-vsphere | Updated signatures |
| vnc | Updated signatures |
| webex-meeting | Updated signatures |
| wifi-calling | Updated signatures |

Deprecated Protocols in NBAR2 Protocol Pack 20.0.0

In this release, no protocols have changed status to deprecated.

Caveats in NBAR2 Protocol Pack 20.0.0



Note

If you have an account on Cisco.com, you can view information on select caveats, using the Bug Search Tool (<https://tools.cisco.com/bugsearch/search>).

Caveats Resolved in NBAR2 Protocol Pack 20.0.0

The following tables list the caveats resolved in NBAR2 Protocol Pack 20.0.0 (since 19.1.0):

The following table lists the caveats resolved in NBAR2 Protocol Pack 20.0.0 for Cisco IOS Version 15.5(3)M2 and IOS-XE 3.16.2S Version 15.5(3)S2:

| Resolved Caveat | Description |
|----------------------------|---|
| CSCuz51687 | Missing host for icloud-content.coms |
| CSCuz38621 | NBAR does not classify SIP voice traffic properly |

The following table lists the caveats resolved in NBAR2 Protocol Pack 20.0.0 for Cisco IOS XE Denali 16.3.1:

| Resolved Caveat | Description |
|----------------------------|--------------------------------------|
| CSCuz51687 | Missing host for icloud-content.com. |

| Resolved Caveat | Description |
|----------------------------|--|
| CSCuz38621 | NBAR does not classify SIP voice traffic properly. |

Known Caveats in NBAR2 Protocol Pack 20.0.0

The following table lists the known caveats in NBAR2 Protocol Pack 20.0.0 for Cisco IOS Version 15.5(3)M2 and IOS-XE 3.16.2S Version 15.5(3)S2 (since 20.0.0):

| 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. |

There are no known caveats for NBAR2 Protocol Pack 20.0.0 for Cisco IOS XE Denali 16.3.1.

Downloading NBAR2 Protocol Pack 20.0.0

NBAR2 Protocol Packs are available for download on the Cisco.com software download page (<http://www.cisco.com/cisco/software/navigator.html>). On the download page, specify a platform model to display software available for download. One software option will be **NBAR2 Protocol Packs**.

Example

To display protocol packs available for the Cisco ASR 1001 platform, the navigation path is:

Products > Routers > Service Provider Edge Routers > ASR 1000 Series Aggregation Services Routers > ASR 1001 Router

Special Notes and Limitations

| Protocol Name | Special Note or Limitation | Applicable to NBAR2 Protocol Pack 20.0.0 for Cisco IOS Version 15.5(3)M2 and IOS-XE 3.16.2S Version 15.5(3)S2 | Applicable to NBAR2 Protocol Pack 20.0.0 for Cisco IOS XE Denali 16.3.1 |
|-----------------|---|---|---|
| apple-app-store | Login and a few encrypted sessions are classified as iTunes. | Yes | Yes |
| bittorrent | HTTP traffic generated by the bitcomet bittorrent client might be classified as HTTP. | Yes | Yes |

| Protocol Name | Special Note or Limitation | Applicable to NBAR2 Protocol Pack 20.0.0 for Cisco IOS Version 15.5(3)M2 and IOS-XE 3.16.2S Version 15.5(3)S2 | Applicable to NBAR2 Protocol Pack 20.0.0 for Cisco IOS XE Denali 16.3.1 |
|---------------|--|---|---|
| capwap-data | For capwap-data to be classified correctly, capwap-control must also be enabled. | Yes | Yes |
| 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. | Yes | Yes |
| hulu | Encrypted video streaming generated by hulu may be classified as its underlying protocol rtmpe. | Yes | Yes |
| logmein | Traffic generated by the logmein android app may be classified incorrectly as ssl. | Yes | Yes |
| ms-lync | Login and chat traffic generated by the ms-lync client may be classified incorrectly as ssl. | Yes | No |
| pcanywhere | Traffic generated by pcanywhere for mac may be classified as unknown. | Yes | Yes |
| perfect-dark | Some perfect-dark sessions may be classified as unknown. | Yes | Yes |
| qq-accounts | Login to QQ applications which is not via the internet may not be classified as qq-accounts. | Yes | Yes |
| secondlife | Voice traffic generated by secondlife may be classified incorrectly as ssl. | Yes | No |
| ssl | <p>The Sub Classification (SC) mechanism was modified to include search for wildcard.</p> <p>Note 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> | Yes | Yes |

Additional References

Related Documentation

| Related Topic | Document Title |
|--|--|
| Application Visibility and Control | Cisco Application Visibility and Control User Guide |
| Classifying Network Traffic Using NBAR | Classifying Network Traffic Using NBAR module |
| NBAR Protocol Pack | NBAR Protocol Pack module |
| QoS: NBAR Configuration Guide | QoS: NBAR Configuration Guide, Cisco IOS XE 3S QoS: NBAR Configuration Guide, Cisco IOS XE 16 |
| QoS Command Reference | Quality of Service Solutions Command Reference |

