



AVC Feature History

This chapter addresses the following topic:

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Feature History

The sections below describe highlights of new features and optimizations in recent AVC releases. They do not provide a full feature history of Cisco AVC.

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- [AVC Features in Cisco IOS XE Releases, page B-4.](#)

AVC Features in Cisco IOS Releases

Table B-1 *AVC Feature History for Cisco IOS Releases*

Feature	Description
Cisco IOS 15.5(3)T	
Added support for Cisco 5000 Series routers	Added support for Cisco 5915, 5921, 5930, 5940 routers For more information, see: AVC Supported Platforms, page A-1
Cisco IOS 15.5(2)T	
Configurable export interval in ezPM	Option to specify the cache timeout (exporting interval) in seconds. At this interval, the cached NetFlow records are exported. For more information, see: ezPM Configuration Options, page 4-14
Cisco IOS 15.5(1)T	
Easy Performance Monitor (ezPM) enhancement: <ul style="list-style-type: none"> • Application Performance profile added 	The Application Performance profile is an improved form of the existing Application Experience profile. Application Experience remains available to support legacy configurations, but it is recommended to use the Application Performance profile for new configurations. For more information, see: Application Performance Profile, page 4-8

Feature	Description
Easy Performance Monitor (ezPM) enhancement: <ul style="list-style-type: none"> Improved identification of HTTP traffic 	Due to an improvement in NBAR (class-hierarchy feature), URL and Media traffic monitors can more accurately identify HTTP traffic. For more information, see: Easy Performance Monitor (ezPM), page 4-4
NBAR coarse-grain mode added	NBAR provides two levels of application recognition: fine-grain and coarse-grain. Fine-grain mode provides NBAR's full application recognition capabilities. Coarse-grain mode offers a performance advantage by minimizing deep packet inspection, and can be used in scenarios where the full power of fine-grain classification is not required. For more information, see: NBAR2 Fine-grain and Coarse-grain Modes, page 4-19
Cisco IOS 15.4(3)T	
Easy Performance Monitor (ezPM) enhancements: <ul style="list-style-type: none"> Application Statistics profile added to Easy Performance Monitor Added the cache-type parameter to ezPM configuration 	The Application Statistics profile collects application statistics on all IPv4 and IPv6 traffic. It is a simpler profile than the Application Experience profile introduced in an earlier release. A new cache-type parameter enables specifying the type of cache for a monitor. For more information, see: Easy Performance Monitor (ezPM), page 4-4
Cisco IOS 15.4(1)T	
Convergence of Cisco AVC Architecture Across Platform Types	The convergence of AVC architecture brings together the strongest AVC features from IOS and IOS XE platforms, providing powerful features and greater standardization of configuration tasks across different Cisco platforms. Metrics, such as ART, HTTP, and QoS metrics, that were available in earlier releases can now be configured in the same way as on Cisco IOS XE platforms. Additional metrics are also newly available for Cisco IOS.
Metric Mediation Agent (MMA)	The Metric Mediation Agent (MMA) introduces an enhancement to Cisco AVC infrastructure, enabling addition of stateful and derived parameters with dynamic registration. The MMA provides aggregation of connections, history, and alarms from the route processor. The aggregated data is exported at a lower speed than the data path export. For more information about the MMA, see: Metric Mediation Agent, page 2-9
QoS Metrics	This Cisco AVC release provides new monitors for collecting metrics related to Quality of Service (QoS) policy. Monitors can indicate: <ul style="list-style-type: none"> Packets dropped on an interface, per QoS queue, due to a QoS policy that limits resources available to a specific type of traffic. Class hierarchy (indicating traffic priority) of a reported flow, as determined by the QoS policy map. For more information, see: QoS Metrics: Cisco IOS Platforms, page 4-32

Feature	Description
Easy Performance Monitor (ezPM) Configuration	Easy Performance Monitor “express” method of provisioning monitors. Easy perf-mon provides “profiles” that represent typical deployment scenarios. After a user selects a profile and specifies a small number of parameters, Easy perf-mon provides the remaining provisioning details. This release provides one profile, which includes five different traffic monitors. Future releases will provide additional options. For more information, see: Easy Performance Monitor (ezPM), page 4-4
Customizing attribute values	See Customizing Attribute Values, page 4-30 .
Export Spreading	The export-spreading feature spreads out the export of records from the monitor cache over a time interval, to improve collector performance. For more information, see: NetFlow/IPFIX Flow Monitor, page 4-23
IPv6 Support	The Cisco AVC solution supports both IPv4 and IPv6.

Features Available Prior to Cisco IOS 15.4(1)T

Unified Solution	Unifies the technologies of several reporting/control solutions. AVC technologies include the configuration mechanism, metrics, and reports of such components as TCP performance, and so on.
Media Metrics	For an overview of the metrics collected by Cisco routers, both for Cisco IOS and for Cisco IOS XE, see: Cisco Application Visibility and Control Field Definition Guide for Third-Party Customers
Cisco Performance Agent (MACE) Metrics, including: <ul style="list-style-type: none"> • Application response (ART) • FNF • HTTP • QoS 	For information about using these metrics, see Configuring AVC to Monitor MACE Metrics .
TCP Performance Metrics	AVC includes several TCP performance measurements for traffic performance reporting.
Cisco Prime Infrastructure	The Cisco Prime Infrastructure management and reporting system is an integral part of the Cisco AVC solution and provides extensive management and reporting features, including provisioning the system, storing exported data, and generating reports.

AVC Features in Cisco IOS XE Releases

Table B-2 AVC Feature History for Cisco IOS XE Releases

Feature	Description
Cisco IOS XE 3.15S	
AVC in L2 Transparent mode	<p>A router operating in layer 2 transparent mode (local switching) bridges two interfaces, transparently forwarding packets directly from one interface to the other, without any other routing functionality. AVC can operate on a device configured in this mode, providing full AVC functionality on the bridged traffic.</p> <p>For more information, see: AVC Compatibility with Layer 2 Transparent Mode, page A-3</p>
Configurable export interval in ezPM	<p>Option to specify the cache timeout (exporting interval) in seconds. At this interval, the cached NetFlow records are exported.</p> <p>For more information, see: ezPM Configuration Options, page 4-14</p>
Cisco IOS XE 3.14S	
Easy Performance Monitor (ezPM) enhancement: <ul style="list-style-type: none"> Application Performance profile added 	<p>The Application Performance profile is an improved form of the existing Application Experience profile. Application Experience remains available to support legacy configurations, but it is recommended to use the Application Performance profile for new configurations.</p> <p>For more information, see: Application Performance Profile, page 4-8</p>
Easy Performance Monitor (ezPM) enhancement: <ul style="list-style-type: none"> Improved identification of HTTP traffic 	<p>Due to an improvement in NBAR (class-hierarchy feature), URL and Media traffic monitors can more accurately identify HTTP traffic.</p> <p>For more information, see: Easy Performance Monitor (ezPM), page 4-4</p>
Configuring Multiple Policies on an Interface	<p>Multiple policies can be configured simultaneously on an interface, enabling additional flexibility in metrics collection.</p> <p>For more information, see: Configuring Multiple Policies on an Interface, page 4-17</p>
NBAR coarse-grain mode added	<p>NBAR provides two levels of application recognition: fine-grain and coarse-grain. Fine-grain mode provides NBAR's full application recognition capabilities. Coarse-grain mode offers a performance advantage by minimizing deep packet inspection, and can be used in scenarios where the full power of fine-grain classification is not required.</p> <p>For more information, see: NBAR2 Fine-grain and Coarse-grain Modes, page 4-19</p>

Feature	Description
Cisco IOS XE 3.13S	
Easy Performance Monitor (ezPM) enhancements: <ul style="list-style-type: none"> • Application Statistics profile added to Easy Performance Monitor • Added the cache-type parameter to ezPM configuration 	The Application Statistics profile collects application statistics on all IPv4 and IPv6 traffic. It is a simpler profile than the Application Experience profile introduced in an earlier release. A new cache-type parameter enables specifying the type of cache for a monitor. For more information, see: Easy Performance Monitor (ezPM), page 4-4
Cisco IOS XE 3.12S	
New sampling-rate option added to Easy Performance Monitor configuration.	Added option of entering value of 1 for sampling-rate in Easy Performance Monitor configuration, to disable the sampler feature. For more information, see: Easy Performance Monitor (ezPM), page 4-4
AVC interoperability with GETVPN	AVC interoperability with Group Encrypted Transport VPN (GETVPN). For more information, see AVC Interoperability with Cisco GET VPN, page 2-16 .
Support for virtual template interface	Support for configuring ezPM monitors on virtual template interfaces. For more information, see: Logical Interface and VPN Support in AVC, page A-2
Additional support for FLEXVPN	Added support for hub-to-spoke topologies. For more information, see: Logical Interface and VPN Support in AVC, page A-2
Performance improvements	This release includes optimization changes that improve AVC performance.
NBAR protocol pack hitless upgrade	When updating an NBAR protocol pack or any NBAR configuration, the previous configuration remains active until the new configuration becomes active. This ensures that NBAR continues to classify traffic in the data path.
Cisco IOS XE 3.11S	
New metric added to track information about the interface being monitored	The observation point id metric provides the physical port number of the interface to which the monitor is attached.
Customizing attribute values	See Customizing Attribute Values, page 4-30 .
Interoperability with Cisco GET VPN	See NBAR Interoperability with Cisco GET VPN, page 2-15 .
Cisco IOS XE 3.10S	
Improved Exporting Model	An improved and optimized exporting configuration model includes: <ul style="list-style-type: none"> • Exporting only a single record per packet, reducing duplicate data. • Optimizing monitor assignment. • Filtering low-bandwidth traffic. • Per server reports. The improved exporting model is used as part of the Easy Performance Monitor profile included in this release.

Feature History

Feature	Description
Easy Performance Monitor Configuration	Easy Performance Monitor “express” method of provisioning monitors. Easy perf-mon provides “profiles” that represent typical deployment scenarios. After a user selects a profile and specifies a small number of parameters, Easy perf-mon provides the remaining provisioning details. This release provides one profile, which includes five different traffic monitors. Future releases will provide additional options. For more information, see: Easy Performance Monitor (ezPM), page 4-4
Performance Improvements	This release includes changes, such as an improved exporting model, predefined monitors, and MMA optimization, that improve performance by up to 30%.
Parsing URI Address	This release introduces the ability to parse URI addresses, enabling AVC to report depth 1 of the URI and filter traffic according to that value. For more information, see: HTTP URI, page 4-58
Support for Records with 40 Fields	This release introduces support for configuring records containing 40 fields.
Cisco IOS XE 3.9S	
Enhanced Connection/Transaction Metrics	Beginning with IOS XE release 3.9S, Flexible NetFlow (FNF) monitors can report on individual transactions within a flow. This enables greater resolution for traffic metrics. For more information, see: Connection/Transaction Metrics, page 4-43
QoS Metrics	This Cisco AVC release provides new monitors for collecting metrics related to Quality of Service (QoS) policy. Monitors can indicate: <ul style="list-style-type: none"> • Packets dropped on an interface, per QoS queue, due to a QoS policy that limits resources available to a specific type of traffic. • Class hierarchy (indicating traffic priority) of a reported flow, as determined by the QoS policy map. For more information, see: QoS Metrics: Cisco IOS XE Platforms, page 4-37
Cisco IOS XE 3.8S	
Interoperability with Cisco AppNav	Cisco AppNav is the Wide Area Application Services (WAAS) diversion mechanism. Beginning with IOS XE release 3.8S, AVC provides statistics before and after the AppNav WAAS service controller (AppNav SC), as well as inspecting and reporting application information on optimized traffic.
Unified Solution	Unifies the technologies of several reporting/control solutions. AVC technologies include the configuration mechanism, metrics, and reports of such components as TCP performance, and so on.
Metric Mediation Agent (MMA)	The Metric Mediation Agent (MMA) is a new infrastructure element developed in the IOS XE 3.8 release to manage, correlate, and aggregate metrics from different metric providers. MMA provides the following functions: <ul style="list-style-type: none"> • Controls traffic monitoring and filtering policy. • Correlates data from multiple metric providers (see Metric Providers, page 2-9) into the same record. • Aggregates metrics. • Supports history and alert functions. This requires sending the metrics records to the route processor (RP) before exporting them to the management and reporting tools.

Feature	Description
TCP Performance Metrics	This release adds several TCP performance measurements for traffic performance reporting.
Interoperability with AppNav	AppNav is the Wide Area Application Services (WAAS) diversion mechanism. AVC for IOS XE 3.8 provides statistics before and after the AppNav WAAS service controller (AppNav SC), as well as inspecting and reporting application information on optimized traffic.
Packet Capture	Cisco Embedded Packet Capture (EPC) technology performs packet capture.
Cisco Prime Infrastructure	The Cisco Prime Infrastructure management and reporting system is an integral part of the Cisco AVC solution and provides extensive management and reporting features, including provisioning the system, storing exported data, and generating reports.
IPv6 Support	The Cisco AVC solution supports both IPv4 and IPv6.

