



Release Notes

FortiADC 8.0.0



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FortiADC 8.0.0 Release Notes

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Change Log

Date	Change Description
May 16, 2025	FortiADC 8.0.0 Release Notes initial release.

Introduction

This *Release Notes* covers the new features, enhancements, known issues, and resolved issues of FortiADC™ version 8.0.0, Build 0019.

To upgrade to FortiADC 8.0.0, see [Upgrade notes](#).

FortiADC provides load balancing, both locally and globally, and application delivery control. For more information, visit: <https://docs.fortinet.com/product/fortiadc>.

What's new

FortiADC 8.0.0 introduces enhancements and new features across various modules including Web Application Firewall, Server Load Balance, Global Load Balance, and more.

More detailed information is available in the [New Features Guide](#).

Application Access Manager

FortiADC's **Application Access Gateway (AAG)** enables secure, agentless access to internal applications through a unified web portal. By removing the need for client-side agents, AAG streamlines the access process, offering a simplified, scalable solution for organizations looking to deliver secure application access to remote users.

With AAG, users can access multiple applications, such as RDP, VDI, and SSH, without requiring any additional client-side installations. It also ensures full security compliance with multiple authentication methods such as **Local User**, **LDAP**, **RADIUS**, **Azure EntraID**, and **SAML**.

Key Features:

- **Centralized Access Portal:** All internal applications are accessible from a single interface, reducing complexity and improving the user experience.
- **Authentication Integration:** AAG integrates with existing identity management systems such as **LDAP**, **RADIUS**, **Azure EntraID**, and **SAML**, ensuring seamless and secure authentication for users.
- **Granular Access Policies:** Administrators can define detailed access control rules, specifying which users or groups can access specific applications based on factors like location, time, or device type.
- **Dynamic LDAP Attributes:** Leverage Dynamic LDAP Attributes to enforce more granular access control based on user attributes.
- **RDP Native Proxy:** Allowing secure access to RDP-based applications without requiring additional client-side configurations.

For more details, see:

[New Application Access Manager Module](#)

[Unified Access Policy for Application Access Control](#)

[Agentless Application Gateway \(AAG\)](#)

Web Application Firewall

WAF Adaptive Learning 2.0

WAF Adaptive Learning 2.0 enhances the original engine with expanded module coverage, exception-aware tuning, and improved operational control. It introduces support for new protection types, including Credential Stuffing Defense, CSRF Protection, HTTP Protocol Constraints, and SQL/XSS Injection Detection.

Administrators can now bind exception policies directly to learned recommendations, export model data and recommendations in PDF format, and control when to activate the 30-day trial license for evaluation. These improvements enable more accurate policy tuning and better alignment with production workflows.

For more details, see: [WAF Adaptive Learning 2.0](#)

System

Feature Visibility

You can now selectively control the visibility of configurable features in the GUI via **System > Feature Visibility** or through the CLI. This allows administrators to streamline the interface by hiding features that are unused, inactive, or not relevant to the current deployment.

For more details, see: [Feature Visibility](#)

Enhancement to WAF Signature Telemetry Reporting to FortiGuard

FortiADC 8.0.0 enhances its threat telemetry capabilities by adding support for uploading **Web Attack Signature** statistics to FortiGuard. This builds on the existing telemetry framework introduced in 7.6.1, which previously supported only IPS and Antivirus (AV) threat data.

For more details, see: [Enhancement to WAF Signature Telemetry Reporting to FortiGuard](#)

Server Load Balance

Support Proxy Protocol for L4 TCP

FortiADC now supports Proxy Protocol v1 and v2 in Layer 4 TCP server load balancing (SLB) deployments. This enhancement allows client connection metadata—such as source IP address and port—to be preserved across NAT boundaries and forwarded to backend servers. Proxy Protocol insertion ensures that real servers can accurately log or respond to the original client source, even in NAT or multi-hop environments.

For more details, see: [Support Proxy Protocol for L4 TCP](#)

Clear Session and Persistence Table for HTTP/S Virtual Servers

FortiADC extends session and persistence clearing functionality to Layer 7 virtual servers (VS), including those that handle HTTP, HTTPS, TCPS, and RDP traffic. Prior to this enhancement, the CLI command sets, `diagnose server-load-balance session` and `diagnose server-load-balance persistence`, supported clearing operations only for Layer 4 (TCP/UDP) virtual servers. This update extends both command sets to support Layer 7 virtual servers by introducing the `l7-http` keyword, which targets httpproxy-managed session and persistence tables.

For more details, see: [Clear Session and Persistence Table for HTTP/S Virtual Servers](#)

Support Multi-Process Mode for Up to 64 Processes per Virtual Server

FortiADC now supports up to 64 processes per virtual server in multi-process mode, significantly increasing the previous limit of 15. This enhancement is designed to improve performance and scalability on high-core

platforms by allowing better distribution of traffic handling across CPU cores.

For more details, see: [Support Multi-Process Mode for Up to 64 Processes per Virtual Server](#)

Scripting Support for Persistence Functions in HTTP Data Events

FortiADC now supports calling persistence-related scripting functions—`HTTP:persist()` and `HTTP:lookup_tbl()`—within HTTP data phase events. This enhancement allows scripting-based persistence decisions to be made using values extracted from HTTP payloads, such as session tokens embedded in POST request bodies.

For more details, see: [Scripting Support for Persistence Functions in HTTP Data Events](#)

RFC 7919 Compliance Support for TLS 1.3 in SSL Profiles

FortiADC now supports the **RFC 7919 Comply** option when **TLS 1.3** is selected in the allowed SSL versions of **Client SSL Profiles** and **Real Server SSL Profiles**. This enhancement resolves a previous limitation where enabling RFC 7919 compliance would result in a configuration error if SSLv3 or TLS 1.3 was also selected.

For more details, see: [RFC 7919 Compliance Support for TLS 1.3 in SSL Profiles](#)

Network Security

Source IP Exception Support for Networking DoS Protections

FortiADC 8.0.0 introduces a new DoS **Exceptions** configuration feature that enables source IP-based exclusion in Networking-type DoS protection profiles. This enhancement allows administrators to define trusted IPv4 addresses that should bypass specific DoS inspection mechanisms. This feature only supports IPv4 TCP traffic.

For more details, see: [Source IP Exception Support for Networking DoS Protections](#)

GUI

Updated Navigation Menu Structure

FortiADC 8.0.0 reorganizes the GUI navigation layout to improve usability and align feature groupings with functional domains. Key configuration areas—including user authentication modules and DoS protection settings—have been relocated under new parent menus to reflect their expanded scope and associated feature enhancements.

For more details, see: [Updated Navigation Menu Structure](#)

Platform

TPM & Encrypted Data Store Support

FortiADC now supports Trusted Platform Module (TPM) chips on select hardware platforms, enhancing the security of cryptographic key storage. TPM secures passwords and cryptographic keys by storing and

authenticating them using AES-128-CBC encryption. This reduces the risk of tampering and data interception, ensuring private data is securely protected and tied to the hardware device.

For more details, see: [TPM & Encrypted Data Store Support](#)

Enhanced Azure HA Support with FortiFlex Licensing for Up to 8 Nodes

FortiADC8.0.0 introduces support for high availability (HA) deployments of up to eight nodes in Microsoft Azure using FortiFlex licensing. This enhancement removes the previous two-node limitation in Azure HA template deployments and enables greater scalability and flexibility for large-scale cloud deployments.

For more details, see: [Enhanced Azure HA Support with FortiFlex Licensing for Up to 8 Nodes](#)

Troubleshooting

Enhanced Hardware Diagnostics in CLI

FortiADC expands its system diagnostics by introducing two new subcommands under the diagnose hardware CLI command: `harddisk` and `logdisk`. These enhancements integrate SMART-based health monitoring and reporting for both hard disks and log disks, enabling administrators to identify disk-related issues directly from the CLI.

For more details, see: [Enhanced Hardware Diagnostics in CLI](#)

Hardware, VM, cloud platform, and browser support

This section lists the hardware models, hypervisor versions, cloud platforms, and web browsers supported by FortiADC 8.0.0. All supported platforms are 64-bit version of the system.

Supported Hardware:

- FortiADC 300D
- FortiADC 100F
- FortiADC 120F
- FortiADC 200F
- FortiADC 220F
- FortiADC 300F
- FortiADC 320F
- FortiADC 400F
- FortiADC 420F
- FortiADC 1000F
- FortiADC 1200F
- FortiADC 2000F
- FortiADC 2200F
- FortiADC 4000F
- FortiADC 4200F
- FortiADC 5000F

For more information on the supported hardware models, see FortiADC's [Hardware Documents](#).

Supported hypervisor versions:

VM environment	Tested Versions
VMware	ESXi 3.5, 4.x, 5.0, 5.1, 5.5, 6.0, 6.5, 6.7, 7.0, 8.0
Microsoft Hyper-V	Windows Server 2012 R2, 2016 and 2019
KVM	Linux version 3.19.0 qemu-img v2.0.0, qemu-img v2.2
Citrix Xen	XenServer 6.5.0
Xen Project Hypervisor	4.4.2, 4.5
OpenStack	Pike, Octavia 2023.2
Nutanix	AHV
Proxmox VE	6.4

Supported cloud platforms:

- AWS (Amazon Web Services)
- Microsoft Azure
- GCP (Google Cloud Platform)
- OCI (Oracle Cloud Infrastructure)
- Alibaba Cloud
- IBM Cloud

For more information on the supported cloud platforms, see the FortiADC [Private Cloud](#) and [Public Cloud](#) documents.

Supported web browsers:

- Mozilla Firefox version 109
- Google Chrome version 110

We strongly recommend you set either of the Web browsers as your default Web browser when working with FortiADC. You may also use other (versions of the) browsers, but you may encounter certain issues with FortiADC's Web GUI.

Resolved issues

The following issues have been resolved in FortiADC 8.0.0 release. For inquiries about particular bugs, please contact [Fortinet Customer Service & Support](#).

Bug ID	Description
1151892	Adaptive Learning related crash when processing HTTP2 requests.
1145394	Configured DNS settings are overridden by default nameserver in AWS.
1131903	FortiADC returns <MISSING> in the SNMP response for sysinfo queries, resulting in incomplete system information retrieval.
1127125	IPv6 fragments from real server (RS) responses are reassembled at the virtual server (VS) but are not re-fragmented when forwarded to the client, causing transmission failure due to MTU checks. This creates a directional inconsistency, as fragmentation is not supported on the VS-to-client path.
1122454	Certificates are incorrectly deleted from the Local Certificate group when ACME encounters group members with missing or invalid IDs.
1120679	Oracle health check stops working due to a memory leak caused by unfreed lists and buffers after pthread_kill, leading to resource exhaustion over time.
1120666	After upgrading from 7.4.x to 7.6.1, the GUI incorrectly displays the hardware license status as "Unknown support (Expires: Unknown)", despite valid licensing.
1120243	FortiADC 1200F reports incorrect traffic and packet counter values in SNMP and CLI due to improper interface name handling, leading to discrepancies in monitoring data.
1119257	HA fails to establish between FortiADC nodes on firmware version 7.4.7 B0378 due to heartbeat message decoding errors, preventing synchronization between FortiADC-1 and FortiADC-2 KVM nodes.
1117823	The "Timeout UDP Session" field is incorrectly shown in the GUI when Stateless mode is enabled for a UDP Application Profile.
1116520	HTTP/2 requests to a specific URL result in timeouts, whereas HTTP/1.1 works without issue. This is due to delays in data transmission caused by HTTP/2 waiting for window updates. Internal adjustments to httpproxy's send-state flags were made to improve alignment with HTTP/2 flow control, reducing the likelihood of transmission stalls due to insufficient window size.
1116460	Memory issue due to unfreed LDAP structures before each check, leading to incremental memory usage increase and process termination.
1115210	Remote LDAP authentication fails when accessing via ConsolePort, as the

Bug ID	Description
	admin_auth function is not triggered during login.
1112914	FortiADC attempts to connect to 8.8.8.8 on port 53 when the DNS is configured to 0.0.0.0, despite the DNS setting being invalid.
1112580	The ssl_client utility in BusyBox does not function correctly for real server health checks due to missing system entropy. This prevents successful SSL handshakes during checks.
1106109	Connected route not displaying in HA-VRRP due to insufficient rtmnd receiving buffer size configuration.
1103348	FortiADC AntiVirus does not block the EICAR file during upload (HTTP PUT), but can block it during download (HTTP GET) due to lack of support for scanning HTTP PUT traffic.
1096464	FortiADC's SSH server public key length is insufficient. The recommended minimum RSA public key length is 2048 bits or greater.
1093020	REST-API allows token brute-force attacks and does not log failed login attempts, leading to potential security vulnerabilities.
1091639	Local certificate import fails when the passphrase for the private key contains a backslash (\), which is not handled properly.
1091469	Health check status is not properly updated on the secondary device after an HA failover. When the secondary device is promoted to primary, the status in the logical topology is not reflected correctly, leading to a lack of visibility on service availability and no alerts for service changes.

Known issues

This section lists known issues in version FortiADC8.0.0, but may not be a complete list. For inquiries about particular bugs, please contact [Fortinet Customer Service & Support](#).

Bug ID	Description
1150240	FortiADC configuration synchronization fails when a certificate file name exceeds the allowable length, leading to errors during sync due to filename handling limitations.
1179304	The GUI incorrectly displays the Real Server Pool option when configuring a Layer 7 virtual server with content routing enabled. In this mode, the field should not be configurable, as a real server pool cannot be directly assigned. Configuration through CLI is unaffected. A fix will be implemented in the next release.

Image checksums

To verify the integrity of the firmware file, use a checksum tool and compute the firmware file's MD5 checksum. Compare it with the checksum indicated by Fortinet. If the checksums match, the file is intact.

MD5 checksums for Fortinet software and firmware releases are available from [Fortinet Customer Service & Support](#). After logging in to the web site, near the bottom of the page, click the Firmware Image Checksums button. (The button appears only if one or more of your devices has a current support contract.) In the File Name field, enter the firmware image file name including its extension, then click Get Checksum Code.

Customer Service & Support image checksum tool

The screenshot shows the Fortinet Customer Service & Support portal. At the top, there is a navigation bar with a 'Home' link and a welcome message for 'Samuel Liu'. Below this is a 'Customer Support Bulletin' section with three items listed, each with a 'More' button. The main content area is divided into several sections: 'Asset' with 'Register/Renew' and 'Manage Products' options; 'Assistance' with 'Create a Ticket', 'View Active Tickets', 'Contact Support', 'Manage Tickets', and 'Technical Web Chat'; 'Quick Links' with 'Firmware Images' (highlighted with a red box), 'VM Images Download', 'Service Updates', 'Product Life Cycle', 'Fortinet Service Terms & Conditions', 'Guidelines, Policies & Documents', and 'Help Documents'; and 'Resources' with 'Customer Support Bulletin', 'Knowledge Base', 'Fortinet Video Library', 'Fortinet Document Library', 'Discussion Forums', and 'Training & Certification'.

Upgrade notes

This section includes upgrade information about FortiADC 8.0.0.

Supported upgrade paths

To upgrade to FortiADC 8.0.0, you must proceed incrementally through each major version branch until you reach the target version. This ensures compatibility and system stability.

For example, to upgrade from **7.4.2** to **8.0.0**, follow this path:

7.4.2 → 7.4.x → **7.6.2** → 7.6.x → 8.0.0

(Where "x" refers to the latest patch version in the branch.)

Important: Disk Expansion Requirement in 7.6.2

If you are upgrading from **7.6.1 or earlier** and intend to upgrade to **8.0.0 or later**, you must first upgrade to **7.6.2**. This is required due to the disk expansion mechanism introduced in FortiADC 7.6.2.

Skipping 7.6.2 may result in system issues or failed upgrades due to incompatible disk layout changes. For details, see [Data Partition Expansion 7.6.2 on page 17](#).

7.6.2 to 8.0.x

Direct upgrade via the web GUI or the Console.

7.4.x to 7.6.0/7.6.1/7.6.2

Direct upgrade via the web GUI or the Console.

7.2.x to 7.4.x

Direct upgrade via the web GUI or the Console.

7.1.x to 7.2.x

Direct upgrade via the web GUI or the Console.

7.0.x to 7.1.x

Direct upgrade via the web GUI or the Console.

6.2.x to 7.0.x

Direct upgrade via the web GUI or the Console.

6.1.x to 6.2.x

Direct upgrade via the web GUI or the Console.

6.0.x to 6.1.x

Direct upgrade via the web GUI or the Console.

5.4.x to 6.0.x

Direct upgrade via the web GUI or the Console.

5.3.x to 5.4.x

Direct upgrade via the web GUI or the Console.

5.2.x to 5.3.x

Direct upgrade via the web GUI or the Console.



For more information on upgrading from versions earlier than 5.2.x, please see the Upgrade Instructions document for that version.

Data Partition Expansion (7.6.2)

In FortiADC 8.0.0, the data partition size is expanded to support larger firmware images and new feature implementations. The existing 200MB partition on most platforms has been a limiting factor for future enhancements. This update increases the partition size to the maximum allowable capacity based on the system's hardware, ensuring compatibility with upcoming releases.

This expansion applies only to hardware appliances and private cloud instances. Public cloud images will maintain the current partition size.

Key Enhancements

Benefit	Details
Increased Storage Capacity	Expands the data partition from 200MB to the maximum available space on supported hardware and private cloud platforms, allowing

Benefit	Details
	more room for firmware images, logs, and feature enhancements.
Seamless Future Upgrades	Eliminates storage-related upgrade failures, ensuring smooth transitions to newer firmware versions.
Enhanced System Longevity	Prevents storage limitations from restricting feature adoption, extending the platform's scalability and maintainability.

Upgrade Considerations and Limitations

Expanding the data partition in FortiADC 7.6.2 introduces specific upgrade requirements and operational impacts. Administrators must follow a structured upgrade path to ensure a smooth transition while considering potential limitations.

Mandatory Upgrade Path

Upgrading beyond 7.6.2 (such as 7.6.3) requires installing 7.6.2 first. This ensures that the partition expansion is completed before applying a newer firmware version. Any attempt to upgrade directly to a post-7.6.2 release without first installing 7.6.2 will be blocked.

Longer Upgrade Duration

Because the upgrade includes a partition resizing process, the total upgrade time is longer than a typical firmware update. The duration depends on the platform and storage configuration, so administrators should plan accordingly to minimize downtime.

Irreversible Partition Change

Once the partition is expanded in 7.6.2, it cannot be reverted by downgrading to a previous firmware version. The partition remains in its expanded state even if an earlier release is installed. Before upgrading, ensure that your environment is compatible with 7.6.2 and later versions.

HA Cluster Upgrade Best Practices

For HA (High Availability) clusters, follow these guidelines to prevent service disruption:

- Do not toggle HA mode during the upgrade, as this can lead to downtime for all nodes in the process.
- Upgrade each node individually, rather than upgrading all nodes at once, to minimize potential issues.
- For Active-Passive (A-P) clusters, start by upgrading the secondary node. Once the secondary node is fully operational, proceed to upgrade the primary node to ensure continued availability.

Verifying Successful Data Partition Expansion

After performing an upgrade to FortiADC version 7.6.2 or later, the data partition will be expanded to provide increased storage capacity. To verify that the expansion has been successfully applied, you can use the following CLI command:

diagnose hardware get sysinfo partition

This command returns detailed information on the system’s storage partitions, including the size of the data partition. By comparing the partition size values before and after the upgrade, you can confirm that the partition has been expanded as expected.

Example output comparison:

Platform	Before Upgrade to 7.6.2	After Upgrade to 7.6.2
Hardware (1200F)	<pre>FortiADC-1200F # diagnose hardware get sysinfo partition Disk /dev/sda: 240.0 GB, 240057409536 bytes 1 heads, 63 sectors/track, 7442256 cylinders Units = cylinders of 63 * 512 = 32256 bytes Device Boot Start End Blocks Id System /dev/sdal * 2 7442256 234431032+ 83 Linux Partition 1 does not end on cylinder boundary Disk /dev/sdb: 2013 MB, 2013265920 bytes 1 heads, 62 sectors/track, 63421 cylinders Units = cylinders of 62 * 512 = 31744 bytes Device Boot Start End Blocks Id System /dev/sdb1 * 197 6649 200000 83 Linux Partition 1 does not end on cylinder boundary /dev/sdb2 6649 13100 200000 83 Linux Partition 2 does not end on cylinder boundary /dev/sdb3 13100 45358 1000000 83 Linux Partition 3 does not end on cylinder boundary</pre>	<pre>FortiADC-1200F # diagnose hardware get sysinfo partition Disk /dev/sda: 240.0 GB, 240057409536 bytes 1 heads, 63 sectors/track, 7442256 cylinders Units = cylinders of 63 * 512 = 32256 bytes Device Boot Start End Blocks Id System /dev/sdal * 2 7442256 234431032+ 83 Linux Partition 1 does not end on cylinder boundary Disk /dev/sdb: 2013 MB, 2013265920 bytes 1 heads, 62 sectors/track, 63421 cylinders Units = cylinders of 62 * 512 = 31744 bytes Device Boot Start End Blocks Id System /dev/sdb1 * 197 13100 400000 83 Linux Partition 1 does not end on cylinder boundary /dev/sdb2 6649 13100 400000 83 Linux Partition 2 does not end on cylinder boundary /dev/sdb3 13100 58262 1000000 83 Linux Partition 3 does not end on cylinder boundary</pre>
Virtual Machine	<pre>FortiADC-VM # diagnose hardware get sysinfo partition Disk /dev/sda: 2147 MB, 2147483648 bytes 1 heads, 63 sectors/track, 66576 cylinders Units = cylinders of 63 * 512 = 32256 bytes Device Boot Start End Blocks Id System /dev/sdal * 194 6543 200000 83 Linux Partition 1 does not end on cylinder boundary /dev/sda2 6543 12892 200000 83 Linux Partition 2 does not end on cylinder boundary /dev/sda3 12892 25591 400000 83 Linux Partition 3 does not end on cylinder boundary Disk /dev/sdb: 32.2 GB, 32212254720 bytes 1 heads, 63 sectors/track, 998643 cylinders Units = cylinders of 63 * 512 = 32256 bytes Device Boot Start End Blocks Id System /dev/sdb1 * 2 998644 31457248+ 83 Linux Partition 1 does not end on cylinder boundary</pre>	<pre>FortiADC-VM # diagnose hardware get sysinfo partition Disk /dev/sda: 2147 MB, 2147483648 bytes 1 heads, 63 sectors/track, 66576 cylinders Units = cylinders of 63 * 512 = 32256 bytes Device Boot Start End Blocks Id System /dev/sdal * 194 22416 700000 83 Linux Partition 1 does not end on cylinder boundary /dev/sda2 22416 44638 700000 83 Linux Partition 2 does not end on cylinder boundary /dev/sda3 44639 57337 400000 83 Linux Partition 3 does not end on cylinder boundary Disk /dev/sdb: 32.2 GB, 32212254720 bytes 1 heads, 63 sectors/track, 998643 cylinders Units = cylinders of 63 * 512 = 32256 bytes Device Boot Start End Blocks Id System /dev/sdb1 * 2 998644 31457248+ 83 Linux Partition 1 does not end on cylinder boundary</pre>

Upgrading a stand-alone appliance

The following figure shows the user interface for managing firmware (either upgrades or downgrades).

Firmware can be loaded on two disk partitions: the active partition and the alternate partition. The upgrade procedure:

- Updates the firmware on the inactive partition and then makes it the active partition.
- Copies the firmware on the active partition, upgrades it, and installs it in place of the configuration on the inactive partition.

For example, if partition 1 is active, and you perform the upgrade procedure:

- Partition 2 is upgraded and becomes the active partition; partition 1 becomes the alternate partition.
- The configuration on partition 1 remains in place; it is copied, upgraded, and installed in place of the configuration on partition 2.

This is designed to preserve the working system state in the event the upgrade fails or is aborted.

Firmware			
Partition	Active	Last Upgrade	Firmware Version
1	Enable	Thu Jul 7 05:15:02 2022	FA-VMX-7.00.01-FW-build0022
2	Disable	Mon Jun 6 14:12:21 2022	FA-VMX-6.01.04-FW-build0140

[Boot Alternate Firmware](#)

Before you begin:

- You must have super user permission (user admin) to upgrade firmware.
- Download the firmware file from the Fortinet Customer Service & Support website: <https://support.fortinet.com/>
- Back up your configuration before beginning this procedure. Reverting to an earlier firmware version could reset settings that are not compatible with the new firmware.
- You upgrade the alternate partition. Decide which partition you want to upgrade. If necessary, click **Boot Alternate Firmware** to change the active/alternate partitions.

To update the firmware:

1. Go to **System > Settings**.
2. Click the **Maintenance** tab.
3. Scroll to the **Firmware** section.
4. Click **Upgrade Firmware** to locate and select the firmware file.
5. Click  to upload the firmware and reboot.
The system replaces the firmware on the alternate partition and reboots. The alternate (upgraded) partition becomes the active, and the active becomes the alternate.
6. Clear the cache of your web browser and restart it to ensure that it reloads the web UI and correctly displays all interface changes.

Upgrading an HA cluster

The upgrade page includes an option to upgrade the firmware on all nodes in an HA cluster from the primary node.

The following chain of events occur when you use this option:

1. The primary node pushes the firmware image to the member nodes.
2. The primary node notifies the member nodes of the upgrade, and takes on their user traffic during the upgrade.
3. The upgrade command is run on the member nodes, the systems are rebooted, and the member nodes send the primary node an acknowledgment that the upgrade has been completed.
4. The upgrade command is run on the primary node, and it reboots. While the primary node is rebooting, a member node assumes the primary node status, and traffic fails over from the former primary node to the new primary node.

After the upgrade process is completed, the system determines whether the original node becomes the primary node, according to the HA Override settings:

- If Override is enabled, the cluster considers the Device Priority setting. Both nodes usually make a second failover in order to resume their original roles.
- If Override is disabled, the cluster considers the uptime first. The original primary node will have a smaller uptime due to the order of reboots during the firmware upgrade. Therefore, it will not resume its active role. Instead, the node with the greatest uptime will remain the new primary node. A second failover will not occur.

Before you begin, do the following:

1. Make sure that you have super user permission (user admin) on the appliance whose firmware you want to upgrade.
2. Download the firmware file from the Fortinet Customer Service & Support website:
<https://support.fortinet.com/>
3. Back up your configuration before beginning this procedure. Reverting to an earlier version of the firmware could reset the settings that are not compatible with the new firmware.
4. Verify that the cluster node members are powered on and available on all of the network interfaces that you have configured. (Note: If required ports are not available, HA port monitoring could inadvertently trigger an additional failover, resulting in traffic interruption during the firmware update.)

To update the firmware for an HA cluster:

1. Log into the web UI of the *primary* node as the admin administrator.
2. Go to **System > Settings**.
3. Click the **Maintenance** tab.
4. Scroll to the **Upgrade Firmware** button.
5. Click **Choose File** to locate and select the file.
6. Enable the **HA Cluster Upgrade**.
7. Click  to upload the firmware and start the upgrade process.

After the new firmware has been installed, the system reboots.



When you update software, you are also updating the web UI. To ensure the web UI displays the updated pages correctly:

- Clear your browser cache.
- Refresh the page.

In most environments, press Ctrl+F5 to force the browser to get a new copy of the content from the web application. See the Wikipedia article on browser caching issues for a summary of tips for many environments:

https://en.wikipedia.org/wiki/Wikipedia:Bypass_your_cache.

Special notes and suggestions

7.2.3

- The real server auto-populate feature is currently supported only in FortiADC version 7.2.3. Upgrading from version 7.2.3 to 7.4.0/7.4.1 will cause auto-populated real server related configuration loss, and may cause other unexpected behavior.
Support for real server auto-population will be extended to later versions in the next release.

7.0.2/7.1.x

- After upgrading to 7.0.2/7.1.x, in Virtual Machine HA environments where both nodes have been installed with certificate embedded licenses you must reinstall those licenses. As some backend certificate files would have been synchronized and overwritten by the HA Peer (due to an existing bug), the certificate file would not be recoverable. Reinstalling the certificate embedded licenses is required to ensure they would work properly where they are needed, such as in ZTNA or FortiSandbox Cloud.

7.0.0

- When deploying the new GSLB based on FortiADC 7.0.0, the verify-CA function will be enabled by default.

6.2.2

- To use the SRIOV feature, users must deploy a new VM.

6.2.0

- In version 6.2.0, the default mode of QAT SSL has been changed to polling.

6.1.4

- Before downgrading from 6.1.4, ensure the new L7 TCP or L7 UDP application profiles are deleted or changed to a profile type that is supported in the downgrade version. Otherwise, this will cause the cmdb to crash.

5.2.0-5.2.4/5.3.0-5.3.1

- The backup configuration file in versions 5.2.0-5.2.4/5.3.0-5.3.1 containing the certificate configuration might not be restored properly (causing the configuration to be lost). After upgrading, please discard the old 5.2.x/5.3.x configuration file and back up the configuration file in the upgraded version again.



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