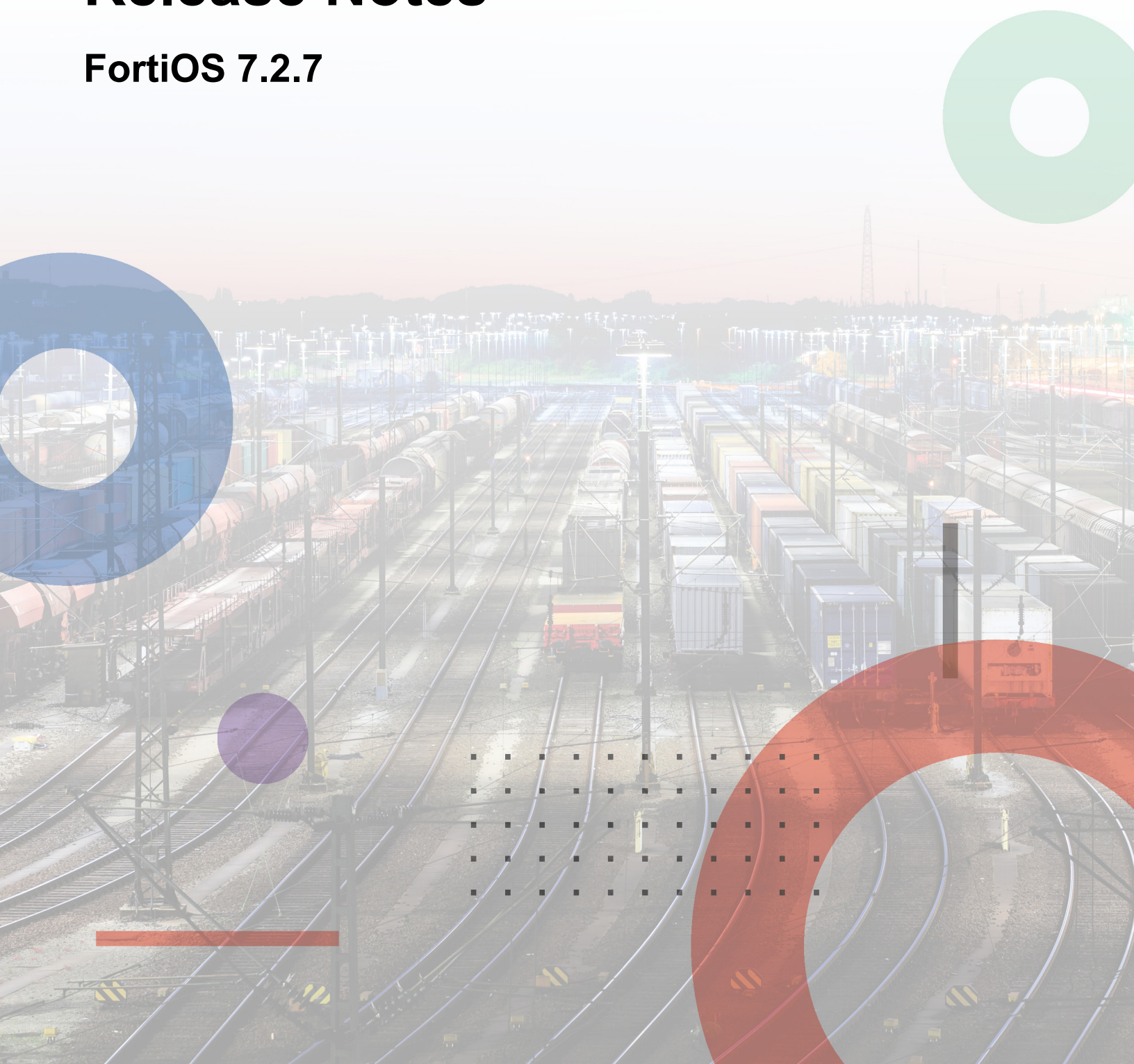
FORTINET

Release Notes

FortiOS 7.2.7



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February 9, 2024
FortiOS 7.2.7 Release Notes
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Change Log

Date	Change Description
2024-02-07	Initial release.
2024-02-08	Added Resolved issues on page 21 and Built-in AV Engine on page 29. Updated Known issues on page 22 and FortiGate models with 2 GB RAM cannot be a Security Fabric root on page 10.
2024-02-09	Updated FortiGate 6000 and 7000 upgrade information on page 15.

Introduction and supported models

This guide provides release information for FortiOS 7.2.7 build 1577.

For FortiOS documentation, see the Fortinet Document Library.

Supported models

FortiOS 7.2.7 supports the following models.

FortiGate	FG-40F, FG-40F-3G4G, FG-60E, FG-60E-DSL, FG-60E-DSLJ, FG-60E-POE, FG-60F, FG-61E, FG-61F, FG-70F, FG-71F, FG-80E, FG-80E-POE, FG-80F, FG-80F-BP, FG-80F-POE, FG-81E, FG-81E-POE, FG-81F, FG-81F-POE, FG-90E, FG-91E, FG-100E, FG-100EF, FG-100F, FG-101E, FG-101F, FG-140E, FG-140E-POE, FG-200E, FG-200F, FG-201E, FG-201F, FG-300E, FG-301E, FG-400E, FG-400E-BP, FG-401E, FG-400F, FG-401F, FG-500E, FG-501E, FG-600E, FG-601E, FG-600F, FG-601F, FG-800D, FG-900D, FG-1000D, FG-1000F, FG-1001F, FG-1100E, FG-1101E, FG-1500D, FG-1500DT, FG-1800F, FG-1801F, FG-2000E, FG-2200E, FG-2201E, FG-2500E, FG-2600F, FG-2601F, FG-3000D, FG-3000F, FG-3001F, FG-3100D, FG-3200D, FG-3200F, FG-3201F, FG-3300E, FG-3301E, FG-3400E, FG-3401E, FG-3500F, FG-3501F, FG-3600E, FG-3601E, FG-3700D, FG-3700F, FG-3701F, FG-3960E, FG-3980E, FG-4200F, FG-4201F, FG-4400F, FG-4401F, FG-4800F, FG-4801F, FG-5001E, FG-5001E1, FG-6000F, FG-7000E, FG-7000F
FortiWiFi	FWF-40F, FWF-40F-3G4G, FWF-60E, FWF-60E-DSL, FWF-60E-DSLJ, FWF-60F, FWF-61E, FWF-61F, FWF-80F-2R, FWF-81F-2R, FWF-81F-2R-POE, FWF-81F-2R-3G4G-POE
FortiGate Rugged	FGR-60F, FGR-60F-3G4G, FGR-70F, FGR-70F-3G4G
FortiFirewall	FFW-3980E, FFW-VM64, FFW-VM64-KVM
FortiGate VM	FG-ARM64-AWS, FG-ARM64-AZURE, FG-ARM64-GCP, FG-ARM64-KVM, FG-ARM64-OCI, FG-VM64, FG-VM64-ALI, FG-VM64-AWS, FG-VM64-AZURE, FG-VM64-GCP, FG-VM64-HV, FG-VM64-IBM, FG-VM64-KVM, FG-VM64-OPC, FG-VM64-RAXONDEMAND, FG-VM64-SVM, FG-VM64-VMX, FG-VM64-XEN
Pay-as-you-go images	FOS-VM64, FOS-VM64-HV, FOS-VM64-KVM, FOS-VM64-XEN

Special branch supported models

The following models are released on a special branch of FortiOS 7.2.7. To confirm that you are running the correct build, run the CLI command `get system status` and check that the `Branch point` field shows 1577.

FFW-1801F	is released on build 6041.

FFW-2600F	is released on build 6041.
FFW-4200F	is released on build 6041.
FFW-4400F	is released on build 6041.
FFW-4401F	is released on build 6041.
FFW-4801F	is released on build 6041.

FortiGate 6000 and 7000 support

FortiOS 7.2.7 supports the following FG-6000F, FG-7000E, and FG-7000F models:

FG-6000F	FG-6300F, FG-6301F, FG-6500F, FG-6501F
FG-7000E	FG-7030E, FG-7040E, FG-7060E
FG-7000F	FG-7081F, FG-7121F

Special notices

IPsec phase 1 interface type cannot be changed after it is configured

In FortiOS 7.2.0 and later, the IPsec phase 1 interface type cannot be changed after it is configured. This is due to the tunnel ID parameter (`tun_id`), which is used to match routes to IPsec tunnels to forward traffic. If the IPsec phase 1 interface type needs to be changed, a new interface must be configured.

IP pools and VIPs are now considered local addresses

In FortiOS 7.2.6 and later, all IP addresses used as IP pools and VIPs are now considered local IP addresses if responding to ARP requests on these external IP addresses is enabled (`set arp-reply enable`, by default). For these cases, the FortiGate is considered a destination for those IP addresses and can receive reply traffic at the application layer.

Previously in FortiOS 7.2.0 to 7.2.5, this was not the case. For details on the history of the behavior changes for IP pools and VIPs, and for issues and their workarounds for the affected FortiOS versions, see Technical Tip: IP pool and virtual IP behavior changes in FortiOS 6.4, 7.0, 7.2, and 7.4.

FortiGate 6000 and 7000 incompatibilities and limitations

See the following links for information about FortiGate 6000 and 7000 limitations and incompatibilities with FortiOS 7.2.7 features.

- FortiGate 6000 incompatibilities and limitations
- FortiGate 7000E incompatibilities and limitations
- FortiGate 7000F incompatibilities and limitations

Hyperscale incompatibilities and limitations

See Hyperscale firewall incompatibilities and limitations in the Hyperscale Firewall Guide for a list of limitations and incompatibilities with FortiOS 7.2.7 features.

Remove support for SHA-1 certificate used for web management interface (GUI)

Starting in FortiOS 7.2.5, users should use the built-in Fortinet_GUI_Server certificate or SHA-256 and higher certificates for the web management interface. For example:

```
config system global
    set admin-server-cert Fortinet_GUI_Server
end
```

SMB drive mapping with ZTNA access proxy

In FortiOS 7.2.5 and later, SMB drive mapping on a Windows PC made through a ZTNA access proxy becomes inaccessible after the PC reboots when access proxy with TCP forwarding is configured as FQDN. When configured with an IP for SMB traffic, same issue is not observed.

One way to solve the issue is to enter the credentials into Windows Credential Manager in the form of `domain\username`.

Another way to solve the issue is to leverage the KDC proxy to issue a TGT (Kerberos) ticket for the remote user. See ZTNA access proxy with KDC to access shared drives for more information. This way, there is no reply in Credential Manager anymore, and the user is authenticated against the DC.

Console error message when FortiGate 40xF boots

In FortiOS 7.2.5 and later, FortiGate 400F and 401F units with BIOS version 06000100 show an error message in the console when booting up.

The message, `Write I2C bus:3 addr:0xe2 reg:0x00 data:0x00 ret:-121.`, is shown in the console, and the FortiGate is unable to get transceiver information.

The issue is fixed in BIOS version 06000101.

FortiGate models with 2 GB RAM cannot be a Security Fabric root

A Security Fabric topology is a tree topology consisting of a FortiGate root device and downstream devices within the mid-tier part of the tree or downstream (leaf) devices at the lowest point of the tree.

As part of improvements to reducing memory usage on FortiGate models with 2 GB RAM, this version of FortiOS no longer allows these models to be the root of the Security Fabric topology or any mid-tier part of the topology. Therefore, FortiGate models with 2 GB RAM can only be a downstream device in a Security Fabric or a standalone device.

The affected models are the FortiGate 40F, 60E, 60F, 80E, and 90E series devices and their variants.

FortiGate models with 2 GB RAM running FortiOS 7.4.2 or later can be used as the Security Fabric root. See FortiGate models with 2 GB RAM can be a Security Fabric root.

To confirm if your FortiGate model has 2 GB RAM, enter `diagnose hardware sysinfo conserve` in the CLI and check that the total RAM value is below 2000 MB (1000 MB = 1 GB).

In the GUI on the *Security Fabric* > *Fabric Connectors* page when editing the *Security Fabric Setup* card, the *Security Fabric role* can only be configured as *Standalone* or *Join Existing Fabric*.

In the CLI, the following error messages are displayed when attempting to configure a FortiGate model with 2 GB RAM as a Security Fabric root:

```
config system csf
    set status enable
end

...

2GB-RAM models cannot be a Security Fabric root.
Please set the upstream.
object set operator error, -39, roll back the setting
Command fail. Return code -39
```

FortiGuard Web Filtering Category v10 update

Fortinet has updated its web filtering categories to v10, which includes two new URL categories for AI chat and cryptocurrency websites. To use the new categories, customers must upgrade their Fortinet products to one of the versions below:

- FortiManager - Fixed in 6.0.12, 6.2.9, 6.4.7, 7.0.2, 7.2.0, 7.4.0.
- FortiOS - Fixed in 7.2.7 and 7.4.1.
- FortiClient - Fixed in Windows 7.2.3, macOS 7.2.3, Linux 7.2.3.
- FortiClient EMS - Fixed in 7.2.1.
- FortiMail - Fixed in 7.0.7, 7.2.5, 7.4.1.
- FortiProxy - Fixed in 7.4.1.

Please read the following CSB for more information to caveats on the usage in FortiManager and FortiOS:
https://support.fortinet.com/Information/Bulletin.aspx

Upgrade information

Supported upgrade path information is available on the Fortinet Customer Service & Support site.

To view supported upgrade path information:

1. Go to https://support.fortinet.com.
2. From the *Download* menu, select *Firmware Images*.
3. Check that *Select Product* is *FortiGate*.
4. Click the *Upgrade Path* tab and select the following:
   - *Current Product*
   - *Current FortiOS Version*
   - *Upgrade To FortiOS Version*
5. Click *Go*.

Fortinet Security Fabric upgrade

FortiOS 7.2.7 greatly increases the interoperability between other Fortinet products. This includes:

FortiAnalyzer	• 7.2.4
FortiManager	• 7.2.4
FortiExtender	• 7.4.0 and later
FortiSwitch OS (FortiLink support)	• 6.4.6 build 0470 or later
FortiAP **FortiAP-S** **FortiAP-U** **FortiAP-W2**	• See Strong cryptographic cipher requirements for FortiAP on page 14
FortiClient* EMS	• 7.0.3 build 0229 or later
FortiClient* Microsoft Windows	• 7.0.3 build 0193 or later
FortiClient* Mac OS X	• 7.0.3 build 0131 or later
FortiClient* Linux	• 7.0.3 build 0137 or later
FortiClient* iOS	• 7.0.2 build 0036 or later
FortiClient* Android	• 7.0.2 build 0031 or later
FortiSandbox	• 2.3.3 and later for post-transfer scanning • 4.2.0 and later for post-transfer and inline scanning

* If you are using FortiClient only for IPsec VPN or SSL VPN, FortiClient version 6.0 and later are supported.

When upgrading your Security Fabric, devices that manage other devices should be upgraded first.

When using FortiClient with FortiAnalyzer, you should upgrade both to their latest versions. The versions between the two products should match. For example, if using FortiAnalyzer 7.2.0, use FortiClient 7.2.0.

Upgrade the firmware of each device in the following order. This maintains network connectivity without the need to use manual steps.

1. FortiAnalyzer
2. FortiManager
3. Managed FortiExtender devices
4. FortiGate devices
5. Managed FortiSwitch devices
6. Managed FortiAP devices
7. FortiClient EMS
8. FortiClient
9. FortiSandbox
10. FortiMail
11. FortiWeb
12. FortiNAC
13. FortiVoice
14. FortiDeceptor
15. FortiNDR
16. FortiTester
17. FortiMonitor
18. FortiPolicy

If Security Fabric is enabled, then all FortiGate devices must be upgraded to 7.2.7. When Security Fabric is enabled in FortiOS 7.2.7, all FortiGate devices must be running FortiOS 7.2.7.

Downgrading to previous firmware versions

Downgrading to previous firmware versions results in configuration loss on all models. Only the following settings are retained:

- operation mode
- interface IP/management IP
- static route table
- DNS settings
- admin user account

- session helpers
- system access profiles

Firmware image checksums

The MD5 checksums for all Fortinet software and firmware releases are available at the Customer Service & Support portal, https://support.fortinet.com. After logging in, go to *Support* > *Firmware Image Checksums* (in the *Downloads* section), enter the image file name including the extension, and click *Get Checksum Code*.

Strong cryptographic cipher requirements for FortiAP

FortiOS 7.0.0 has removed 3DES and SHA1 from the list of strong cryptographic ciphers. To satisfy the cipher requirement, current FortiAP models whose names end with letter E or F should be upgraded to the following firmware versions:

- FortiAP (F models): version 6.4.3 and later
- FortiAP-S and FortiAP-W2 (E models): version 6.2.4, 6.4.1, and later
- FortiAP-U (EV and F models): version 6.0.3 and later
- FortiAP-C (FAP-C24JE): version 5.4.3 and later

If FortiGates running FortiOS 7.0.1 and later need to manage FortiAP models that cannot be upgraded or legacy FortiAP models whose names end with the letters B, C, CR, or D, administrators can allow those FortiAPs' connections with weak cipher encryption by using compatibility mode:

```
config wireless-controller global
    set tunnel-mode compatible
end
```

FortiGate VM VDOM licenses

FortiGate VMs with one VDOM license (S-series, V-series, FortiFlex) have a maximum number or two VDOMs. An administrative type root VDOM and another traffic type VDOM are allowed in 7.2.0 and later. After upgrading to 7.2.0 and later, if the VM previously had split-task VDOMs enabled, two VDOMs are kept (the root VDOM is an administrative type).

VDOM link and policy configuration is lost after upgrading if VDOM and VDOM link have the same name

Affected versions:

- FortiOS 6.4.9 and later
- FortiOS 7.0.6 and later

- FortiOS 7.2.0 and later

When upgrading to one of the affected versions, there is a check within the set `vdom-links` function that rejects `vdom-links` that have the same name as a VDOM. Without the check, the FortiGate will have a kernel panic upon bootup during the upgrade step.

A workaround is to rename the `vdom-links` prior to upgrading, so that they are different from the VDOMs.

FortiGate 6000 and 7000 upgrade information

Upgrade FortiGate 6000 firmware from the management board GUI or CLI. Upgrade FortiGate 7000 firmware from the primary FIM GUI or CLI. The FortiGate 6000 management board and FPCs or the FortiGate 7000 FIMs and FPMs all run the same firmware image. Upgrading the firmware copies the firmware image to all components, which then install the new firmware and restart. A FortiGate 6000 or 7000 firmware upgrade can take a few minutes, the amount of time depending on the hardware and software configuration and whether DP or NP7 processor software is also upgraded.

On a standalone FortiGate 6000 or 7000, or an HA cluster with `uninterruptible-upgrade` disabled, the firmware upgrade interrupts traffic because all components upgrade in one step. These firmware upgrades should be done during a quiet time because traffic can be interrupted for a few minutes during the upgrade process.

Fortinet recommends running a graceful firmware upgrade of a FortiGate 6000 or 7000 FGCP HA cluster by enabling `uninterruptible-upgrade` and `session-pickup`. A graceful firmware upgrade only causes minimal traffic interruption.

Fortinet recommends that you review the services provided by your FortiGate 6000 or 7000 before a firmware upgrade and then again after the upgrade to make sure that these services continue to operate normally. For example, you might want to verify that you can successfully access an important server used by your organization before the upgrade and make sure that you can still reach the server after the upgrade and performance is comparable. You can also take a snapshot of key performance indicators (for example, number of sessions, CPU usage, and memory usage) before the upgrade and verify that you see comparable performance after the upgrade.

To perform a graceful upgrade of your FortiGate 6000 or 7000 to FortiOS 7.2.7:

Graceful upgrade of a FortiGate 6000 or 7000 FGCP HA cluster is not supported when upgrading from FortiOS 7.0.12, 7.0.13, or 7.0.14 to 7.2.7.

Upgrading the firmware of a FortiGate 6000 or 7000 FGCP HA cluster from 7.0.12, 7.0.13, or 7.0.14 to 7.2.7 should be done during a maintenance window, since the firmware upgrade process will disrupt traffic for up to 30 minutes.

Before upgrading the firmware, disable `uninterruptible-upgrade`, then perform a normal firmware upgrade. During the upgrade process the FortiGates in the cluster will not allow traffic until all components (management board and FPCs or FIMs and FPMs) are upgraded and both FortiGates have restarted. This process can take up to 30 minutes.

1. Use the following command to enable `uninterruptible-upgrade` to support HA graceful upgrade:

   ```
   config system ha
       set uninterruptible-upgrade enable
   end
   ```

2. Download the FortiOS 7.2.7 FG-6000F, FG-7000E, or FG-7000F firmware from https://support.fortinet.com.
3. Perform a normal upgrade of your HA cluster using the downloaded firmware image file.
4. When the upgrade is complete, verify that you have installed the correct firmware version.
   For example, check the FortiGate dashboard or use the `get system status` command.
5. Confirm that all components are synchronized and operating normally.
   For example, go to *Monitor* > *Configuration Sync Monitor* to view the status of all components, or use `diagnose sys confsync status` to confirm that all components are synchronized.

IPS-based and voipd-based VoIP profiles

Starting in FortiOS 7.2.5, the new IPS-based VoIP profile allows flow-based SIP to complement SIP ALG while working together. There are now two types of VoIP profiles that can be configured:

```
config voip profile
    edit <name>
        set feature-set {ips | voipd}
    next
end
```

A voipd-based VoIP profile is handled by the voipd daemon using SIP ALG inspection. This is renamed from proxy in previous FortiOS versions.

An ips-based VoIP profile is handled by the IPS daemon using flow-based SIP inspection. This is renamed from flow in previous FortiOS versions.

Both VoIP profile types can be configured at the same time on a firewall policy. For example:

```
config firewall policy
    edit 1
        set voip-profile "voip_sip_alg"
        set ips-voip-filter "voip_sip_ips"
    next
end
```

Where:

- `voip-profile` can select a `voip-profile` with `feature-set voipd`.
- `ips-voip-filter` can select a `voip-profile` with `feature-set ips`.

The VoIP profile selection within a firewall policy is restored to pre-7.0 behavior. The VoIP profile can be selected regardless of the inspection mode used in the firewall policy. The new `ips-voip-filter` setting allows users to select an IPS-based VoIP profile to apply flow-based SIP inspection, which can work concurrently with SIP ALG.

Upon upgrade, the `feature-set` setting of the `voip profile` determines whether the profile applied in the firewall policy is `voip-profile` or `ips-voip-filter`.

Before upgrade	After upgrade
config voip profile edit "ips_voip_filter" set feature-set flow next edit "sip_alg_profile" set feature-set proxy next end config firewall policy edit 1 set voip-profile "ips_voip_filter" next edit 2 set voip-profile "sip_alg_profile" next end	config voip profile edit "ips_voip_filter" set feature-set ips next edit "sip_alg_profile" set feature-set voipd next end config firewall policy edit 1 set ips-voip-filter "ips_voip_ filter" next edit 2 set voip-profile "sip_alg_profile" next end

Upgrade error message

The FortiGate console will print a `Fail to append CC_trailer.ncfg_remove_signature:error in stat` error message after upgrading from 7.2.4 to 7.2.5 or later. Affected platforms include: FFW-3980E, FFW-VM64, and FFW-VM64-KVM. A workaround is to run another upgrade to 7.2.5 or later.

Product integration and support

The following table lists FortiOS 7.2.7 product integration and support information:

Web browsers	• Microsoft Edge 114 • Mozilla Firefox version 113 • Google Chrome version 114 Other browser versions have not been tested, but may fully function. Other web browsers may function correctly, but are not supported by Fortinet.
Explicit web proxy browser	• Microsoft Edge 114 • Mozilla Firefox version 113 • Google Chrome version 114 Other browser versions have not been tested, but may fully function. Other web browsers may function correctly, but are not supported by Fortinet.
FortiController	• 5.2.5 and later Supported models: FCTL-5103B, FCTL-5903C, FCTL-5913C

Fortinet Single Sign-On (FSSO)	• 5.0 build 0312 and later (needed for FSSO agent support OU in group filters)
	  • Windows Server 2022 Standard
	  • Windows Server 2022 Datacenter
	  • Windows Server 2019 Standard
	  • Windows Server 2019 Datacenter
	  • Windows Server 2019 Core
	  • Windows Server 2016 Datacenter
	  • Windows Server 2016 Standard
	  • Windows Server 2016 Core
	  • Windows Server 2012 Standard
	  • Windows Server 2012 R2 Standard
	  • Windows Server 2012 Core
	  • Windows Server 2008 64-bit (requires Microsoft SHA2 support package)
	  • Windows Server 2008 R2 64-bit (requires Microsoft SHA2 support package)
	  • Windows Server 2008 Core (requires Microsoft SHA2 support package)
	  • Novell eDirectory 8.8

AV Engine	• 6.00293
IPS Engine	• 7.00326

Virtualization environments

The following table lists hypervisors and recommended versions.

Hypervisor	Recommended versions
Citrix Hypervisor	• 8.1 Express Edition, Dec 17, 2019
Linux KVM	• Ubuntu 18.0.4 LTS • Red Hat Enterprise Linux release 8.4 • SUSE Linux Enterprise Server 12 SP3 release 12.3
Microsoft Windows Server	• 2012R2 with Hyper-V role
Windows Hyper-V Server	• 2019
Open source XenServer	• Version 3.4.3 • Version 4.1 and later
VMware ESXi	• Versions 6.5, 6.7, 7.0, and 8.0.

Language support

The following table lists language support information.

Language support

Language	GUI
English	✓
Chinese (Simplified)	✓
Chinese (Traditional)	✓
French	✓
Japanese	✓
Korean	✓
Portuguese (Brazil)	✓
Spanish	✓

SSL VPN support

SSL VPN web mode

The following table lists the operating systems and web browsers supported by SSL VPN web mode.

Supported operating systems and web browsers

Operating System	Web Browser
Microsoft Windows 7 SP1 (32-bit & 64-bit)	Mozilla Firefox version 113 Google Chrome version 113
Microsoft Windows 10 (64-bit)	Microsoft Edge Mozilla Firefox version 113 Google Chrome version 113
Ubuntu 20.04 (64-bit)	Mozilla Firefox version 113 Google Chrome version 113
macOS Ventura 13	Apple Safari version 15 Mozilla Firefox version 113 Google Chrome version 113
iOS	Apple Safari Mozilla Firefox Google Chrome
Android	Mozilla Firefox Google Chrome

Other operating systems and web browsers may function correctly, but are not supported by Fortinet.

Resolved issues

The following issues have been fixed in version 7.2.7. To inquire about a particular bug, please contact Customer Service & Support.

Common Vulnerabilities and Exposures

Visit https://fortiguard.com/psirt for more information.

Bug ID	CVE references
959918	FortiOS 7.2.7 is no longer vulnerable to the following CVE Reference: • CVE-2023-38545

Known issues

The following issues have been identified in version 7.2.7. To inquire about a particular bug or report a bug, please contact Customer Service & Support.

Explicit Proxy

Bug ID	Description
865828	The `internet-service6-custom` and `internet-service6-custom-group` options do not work with custom IPv6 addresses.

894557	In some cases, the explicit proxy policy list can take a long time to load due to a delay in retrieving the proxy statistics. This issue does not impact explicit proxy functionality.
	Workaround: restart the WAD process, or update the number of WAD processors.
	`config system global`
	`  set wad-worker-count <integer>`
	`end`

942612	Web proxy forward server does not convert HTTP version to the original version when sending them back to the client.

Firewall

Bug ID	Description
958311	Firewall address list may show incorrect error for an unresolved FQDN address. This is purely a GUI display issue; the FQDN address can be resolved by the FortiGate and traffic can be matched. **Workaround**: run the following command to check if an FQDN address is being resolved properly. `# diagnose test application dnsproxy 7`

FortiGate 6000 and 7000 platforms

Bug ID	Description
781163	*FortiView Sources* page is unable to display historical data from FortiAnalyzer due to *Fail to retrieve FortiView data* error.

Bug ID	Description
790464	Existing ARP entries are removed from all slots when an ARP query of a single slot does not respond.
885205	IPv6 ECMP is not supported for the FG-6000F and FG-7000E platforms. IPv6 ECMP is supported for the FG-7000F platform.
887946	UTM traffic is blocked by an FGSP configuration with asymmetric routing.
906481	The GUI becomes unresponsive, and sometimes may work after rebooting.
907695	The FortiGate 6000 and 7000 platforms do not support IPsec VPN over a loopback interface or an NPU inter-VDOM link interface.
910883	The FortiGate 6000s or 7000s in an FGSP cluster may load balance FTP data sessions to different FPCs or FPMs. This can cause delays while the affected FortiGate 6000 or 7000 re-installs the sessions on the correct FPC or FPM.
937879	FortiGate 7000F chassis with FIM-7941Fs cannot load balance fragmented IPv6 TCP and UDP traffic. Instead, fragmented IPv6 TCP and UDP traffic received by the FIM-7941F interfaces is sent directly to the primary FPM, bypassing the NP7 load balancers. IPv6 ICMP fragmented traffic load balancing works as expected. Load balancing fragmented IPv6 TCP and UDP traffic works as expected in FortiGate 7000F chassis with FIM-7921Fs.

941944	CPU usage data displayed on the FortiGate 6000 GUI is actually CPU usage data for the management board. CPU usage data displayed on the FortiGate 7000 GUI is actually the CPU usage for the primary FIM.
	Use the global `get system performance status` command to display CPU usage and other performance information for all components (on the FortiGate 6000 the management board and all FPCs, or on the FortiGate 7000 the FIMs and FPMs).
	This command also displays global performance information including:
	`Dataplane CPU states: 1%`
	`Dataplane memory states: 21%`
	`Dataplane average sessions: 8720 sessions in 1 minute`
	`Dataplane average session setup rate: 4632 sessions per second in last 1 minute`

946943	On 6K and 7K platforms, the management VDOM GUI should not show the *WiFi & Switch Controller* menu.
948388	On the FortiGate 6000s, missing image update command in the CLI: `execute load-balance update image`.
948750	When EMAC VLAN interfaces are removed spontaneously from the configuration, TCP traffic through their underlying VLAN interface fails.
949175	On the FortiGate 7121F, with FIM2 as the primary FIM, making FIM1 the primary causes NP7 PLE invalidation.
949240	SLBC special ports will not match local-in policy in the management path.
951135	Graceful upgrade of a FortiGate 6000 or 7000 FGCP HA cluster is not supported when upgrading from FortiOS 7.0.12 to 7.2.6.

Bug ID	Description
	Upgrading the firmware of a FortiGate 6000 or 7000 FGCP HA cluster from 7.0.12 to 7.2.6 should be done during a maintenance window, since the firmware upgrade process will disrupt traffic for up to 30 minutes. Before upgrading the firmware, disable `uninterruptible-upgrade`, then perform a normal firmware upgrade. During the upgrade process the FortiGates in the cluster will not allow traffic until all components (management board and FPCs or FIMs and FPMs) are upgraded and both FortiGates have restarted. This process can take up to 30 minutes.
951193	SLBC for FortiOS 7.0 and 7.2 uses different FGCP HA heartbeat formats. Because of the different heartbeat formats, you cannot create an FGCP HA cluster of two FortiGate 6000s or 7000s when one chassis is running FortiOS 7.0.x and the other is running FortiOS 7.2.x. Instead, to form an FGCP HA cluster, both chassis must be running FortiOS 7.0.x or 7.2.x. If two chassis are running different patch releases of FortiOS 7.0 or 7.2 (for example, one chassis is running 7.2.5 and the other 7.2.6), they can form a cluster. When the cluster is formed, FGCP elects one chassis to be the primary chassis. The primary chassis synchronizes its firmware to the secondary chassis. As a result, both chassis will be running the same firmware version. You can also form a cluster if one chassis is running FortiOS 7.2.x and the other is running 7.4.x. For best results, both chassis should be running the same firmware version, although as described above, this is not a requirement.
954881	Image synchronization failure happened after a factory reset on FortiGate 7000E/F .
973407	FIM installed NPU session causes the SSE to get stuck.
978241	FortiGate does not honor worker port partition when SNATing connections using a fixed port range IP pool.

FortiView

Bug ID	Description
941521	On the *FortiView Web Sites* page, the *Category* filter does not work in the Japanese GUI.

GUI

Bug ID	Description
848660	Read-only administrator may encounter a *Maximum number of monitored interfaces reached* error when viewing an interface bandwidth widget for an interface that does not have the monitor bandwidth feature enabled. **Workaround**: super_admin users can enable the monitor bandwidth feature on the interface first, then the widget can work for read-only administrators.

Bug ID	Description
853352	On the *View/Edit Entries* slide-out pane (*Policy & Objects* > *Internet Service Database* dialog), users cannot scroll down to the end if there are over 100000 entries.
934644	When the FortiGate is in conserve mode, node process (GUI management) may not release memory properly causing entry-level devices to stay in conserve mode.
971790	FortiGate models with 2 GB RAM may experience memory usage issues when users access the web GUI, due to a sudden increase in memory consumption in httpsd. **Workaround**: avoid navigating to memory-intensive pages under *Dashboard* with multiple widgets that can cause a spike in memory consumption. Users can create custom dashboards with a single widget to reduce the concurrent load.
974988	FortiGate GUI should display a license expired notification due to an expired FortiManager Cloud license if it still has a valid account level FortiManager Cloud license (function is not affected).

Hyperscale

Bug ID	Description
802182	After successfully changing the VLAN ID of an interface from the CLI, an error message similar to `cmdb_txn_cache_data(query=log.npu-server,leve=1) failed` may appear.
817562	NPD/LPMD cannot differentiate the different VRF's, considers as VRF 0 for all.
843197	Output of `diagnose sys npu-session list/list-full` does not mention policy route information.
853258	Packets drop, and different behavior occurs between devices in an HA pair with ECMP next hop.
872146	The `diagnose sys npu-session list` command shows an incorrect policy ID when traffic is using an intra-zone policy.
920228	NAT46 NPU sessions are lost and traffic drops when a HA failover occurs.
949188	With NAT64 HS policy, ICMP reply packets are dropped by FortiOS.
950582	Traffic not passing across the VDOM link.
958066	Observed TCP sessions timing out with a single hyperscale VDOM configuration after loading image from BIOS.

IPsec VPN

Bug ID	Description
852051	IPsec is not fully offloaded, and IPsec VPN throughput is poor.

Bug ID	Description
916260	The IPsec VPN tunnel list can take more than 10 seconds to load if the FortiGate has large number of tunnels, interfaces, policies, and addresses. This is a GUI display issue and does not impact tunnel operation.

Log & Report

Bug ID	Description

932537	If Security Rating is enabled to run on schedule (every four hours), the FortiGate can unintentionally send local-out traffic to fortianalyzer.forticloud.com during the Security Rating run.
	Workaround: disable on-schedule Security Rating run.
	`config system global`
	`    set security-rating-run-on-schedule disable`
	`end`

960661	FortiAnalyzer report is not available to view for the secondary unit in the HA cluster. **Workaround**: view the report directly in FortiAnalyzer.
965247	FortiGate syslog format in reliable transport mode is not compliant with RFC 6587.

Proxy

Bug ID	Description
790426	An error case occurs in WAD while redirecting the web filter HTTPS sessions.
828917	Unexpected behavior in WAD when there are multiple LDAP servers configured on the FortiGate.
954104	An error case occurs in WAD when WAD gets the external authenticated users from other daemons.

Routing

Bug ID	Description
903444	The `diagnose ip rtcache list` command is no longer supported in the FortiOS 4.19 kernel.

Security Fabric

Bug ID	Description
902344	When there are over 30 downstream FortiGates in the Security Fabric, the root FortiGate's GUI may experience slowness when loading the *Fabric Management* page and prevents the user from upgrading firmware in the GUI. **Workaround**: perform the firmware upgrade in the CLI. To perform the firmware upgrade via the GUI, temporarily disable the Security Fabric on the root FortiGate.

SSL VPN

Bug ID	Description
795381	FortiClient Windows cannot be launched with SSL VPN web portal.
879329	Destination address of SSL VPN firewall policy may be lost after upgrading when `dstaddr` is set to `all` and at least one authentication rule has a portal with split tunneling enabled.
947210	Application sslvpnd `*** code requested backtrace ***` was observed during graceful upgrade.

System

Bug ID	Description
861962	When configuring an 802.3ad aggregate interface with a 1 Gbps speed, the port's LED is off and traffic cannot pass through. Affected platforms: 110xE, 220xE, 330xE, 340xE, and 360xE.
882187	Optimize memory usage caused by the high volume of disk traffic logs.
887940	Status light is not showing on the FortiGate 60F or 100F after a cold and warm reboot.
901621	Setting the interface configuration `inbandwidth` or `outbandwidth` commands stops traffic flow.
931299	When the URL filter requests the FortiGuard (FGD) rating server address using DNS, it will try to get both A (IPv4) and AAAA (IPv6) records.
931299	When the URL filter requests the FortiGuard (FGD) rating server address using DNS, it will try to get both A (IPv4) and AAAA (IPv6) records.
937982	High CPU usage might be observed on entry-level FortiGates if the cache size reaches 10% of the system memory.
947240	FortiGate is not able to resolve ARPs of few hosts due to their ARP replies not reaching the primary FPM.

Bug ID	Description
963600	SolarWinds is unable to negotiate encryption. A `Negotiation failed: no matching host key type found` error message appears in the log.
967171	The `speed 1000auto` setting on ports X1 to X4 disappears after upgrading from 7.2.5 to 7.2.6. Affected platforms: FG-40xF and FG-60xF.

Upgrade

Bug ID	Description
939011	On the FortiGate 6000F, the ALL TP VDOM cannot synchronize because of `switch-controller.auto-config.policy`.

Web Filter

Bug ID	Description
885222	HTTP session is logged as HTTPS in web filter when VIP is used.

WiFi Controller

Bug ID	Description
869106	The layer 3 roaming feature may not work when the wireless controller is running multiple cw_acd processes (when the value of `acd-process-count` is not zero).
869978	CAPWAP tunnel traffic over tunnel SSID is dropped when offloading is enabled.
873273	The *Automatically connect to nearest saved network* option does not work as expected when FWF-60E client-mode local radio loses connection.
903922	Physical and logical topology is slow to load when there are a lot of managed FortiAP (over 50). This issue does not impact FortiAP management and operation.

ZTNA

Bug ID	Description
819987	SMB drive mapping made through a ZTNA access proxy is inaccessible after rebooting.

Built-in AV Engine

AV Engine 6.00295 is released as the built-in AV Engine. Refer to the AV Engine Release Notes for information.

Limitations

Citrix XenServer limitations

The following limitations apply to Citrix XenServer installations:

- XenTools installation is not supported.
- FortiGate-VM can be imported or deployed in only the following three formats:
  - XVA (recommended)
  - VHD
  - OVF
- The XVA format comes pre-configured with default configurations for VM name, virtual CPU, memory, and virtual NIC. Other formats will require manual configuration before the first power on process.

Open source XenServer limitations

When using Linux Ubuntu version 11.10, XenServer version 4.1.0, and libvir version 0.9.2, importing issues may arise when using the QCOW2 format and existing HDA issues.

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