SD-WAN Orchestrator MEA - Release Notes

Version 6.4.1 r4

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Change Log

Date	Change Description
2020-11-16	Initial release of 6.4.1 r4.
2020-11-26	Added Licensing on page 5.
2020-12-03	Added 678140 to Known Issues on page 17.
2020-12-07	Added Interface configurations not imported on page 9 to *Special Notices*.

SD-WAN Orchestrator MEA 6.4.1 r4 Release

This document provides information about SD-WAN Orchestrator MEA version 6.4.1 r4 build 0330. SD-WAN Orchestrator MEA management extension application (MEA) is available with some FortiManager models.

This section includes the following topics:

- Supported FortiManager host models on page 5
- Licensing on page 5
- What's new on page 5

Supported FortiManager host models

For a list of FortiManager models that can host SD-WAN Orchestrator MEA 6.4.1 r4 management extension application and minimum system requirements, see the FortiManager 6.4.3 Release Notes.

Licensing

SD-WAN Orchestrator MEA requires the following license:

- 360 FortiGate Protection or SD-WAN Orchestrator Entitlement License

SD-WAN Orchestrator MEA does not include a free license.

What's new

This section identifies new features and enhancements available with SD-WAN Orchestrator MEA 6.4.1 r4.

For information about what's new in FortiManager 6.4, see the FortiManager 6.4 New Features Guide.

FortiGate 40F/40F-3G4G models

SD-WAN Orchestrator MEA now supports the following FortiGate models:

- FortiGate 40F
- FortiGate 40F-3G4G

These FortiGate models support a special WAN interface named *wwan*. After inserting a 3G or 4G SIM card into the slot, the device can connect to the Internet through telecommunication operators.

The *wwan* interface only supports ISP link type of *LTE*. Other settings link a normal WAN interface.

For these FortiGate models, a special wan port named *wwan* is available on the *Device* > *Profile* > *Network* > *WAN* page.

FortiGate 60E-DSL/60E-DLSJ models

SD-WAN Orchestrator MEA now supports the following FortiGate models:

- FortiGate 60E-DSL
- FortiGate 60E-DSLJ

These FortiGate models include a built-in DSL (ADSL/VDSL) modem. The DSL port is recognized as a special WAN interface named *dsl*.

For these FortiGate models, a special WAN port named *dsl* is available in the *Device/Profile* > *Network* > *WAN* page.

FortiWiFi 60E/61E models

SD-WAN Orchestrator MEA now supports the following FortiWiFi models:

- FortiWiFi 60E
- FortiWiFi 61E

These models include a built-in dual-band, dual-stream access point with internal integrated antennas, and provide speedy 802.11ac wireless access.

The settings of built-in WiFi interface are the same as other managed AP settings.

For these FortiWiFi models, a built-in AP template is available in *Profile* > *Network* > *LAN* > *Switch/AP* page.

Aggregate WAN interface

Support to create an aggregate interface for WAN ports. Add an aggregate interface first, and edit it to add interface members.

Aggregate LAN interface was introduced in the SD-WAN Orchestrator MEA 6.4.1.r3 release.

Dual hub devices

Support dual Hub devices in one region to improve system availability and stability. A device can be added to a region as one of the following role types:

- Primary_Hub
- Secondary_Hub
- Edge

Edge devices will establish dialup or site-to-site overlay links with both hubs in the same region, and forward outbound traffic through all these overlay links by auto-generated or custom business rules. Overlay links to the primary hub have higher priority.

The primary and secondary hubs in one region also establish full-mesh, site-to-site overlay links with both hubs in other regions. Traffic between regions can be forwarded through these links, and links between primary hubs have higher priority.

In addition, the primary and secondary hub in the same region establishes site-to-site overlay links with each other. When incoming traffic reaches the primary hub and finds that all links between the hub and the target edge device are down, traffic is forwarded to the secondary hub through these links and a LAN port, when a new option named *Connect to Peer Hub* is configured on both hubs. Then the incoming traffic is forwarded to the target edge device subnet when overlay links between the edge and the secondary hub are available.

FortiGate HA AP mode

FortiGate HA (high availability) provides redundancy of the FortiGate network if devices failover. The FortiGate device with a higher node priority is considered the primary device of the HA cluster.

With this new feature, you can add new model devices as HA clusters, and configure existing devices into HA clusters in AP mode by using the *+ Model Device* or *Import Devices* pages.

Both FortiGate devices must use the same firmware version to be added to the HA cluster.

NAT VIP for VPN connection

This feature supports to establish overlay links between devices, even if both devices are behind a NAT gateway. This feature is useful when FortiGate devices are set up in Cloud platforms, such as AWS, Azure, AliCloud, and so on.

When *Use VIP for VPN connection* is enabled, and a VIP address is configured on a WAN port, IPsec tunnels will be established with the VIP address instead of the intranet IP address.

FortiGate serial number replacement

Sometimes FortiGate devices need replacement. When you replace a FortiGate device, the new FortiGate has a new serial number. FortiManager lets you execute the device serial number replacement and reclaim the FGFM tunnel. After this procedure, the new FortiGate device continues working in both FortiManager and SD-WAN Orchestrator MEA without adding it again.

Underlay SD-WAN member SLA monitor

Integrate new *Secure SD-WAN Monitor* feature from *FortiView*, including *SD-WAN Rules Utilization* and *SD-WAN Underlay Performance Status* diagram to *Monitor > Devices > Overview* page, and adjust some other features in other monitoring pages.

Additional enhancements

SD-WAN Orchestrator MEA 6.4.1 r4 also includes the following additional enhancements:

- Improve performance of retrieving monitoring data from FortiGate
- Improve performance of installing in parallel from multiple ADOMs
- Add custom column for device table and other tables with many attributes
- Make SYNC logs formatted and readable

Special Notices

This section highlights some of the operational changes that administrators should be aware of in SD-WAN Orchestrator MEA 6.4.1 r4.

- FortiSwitch profiles on page 9
- Interface configurations not imported on page 9

FortiSwitch profiles

If SD-WAN Orchestrator MEA prompts an exception when changing the profile of a device as reported in issue 064530, check if the two profiles meet the following conditions:

1. Compare VLANs in interface FortiLink with these two profiles, and check if there are VLANs that own same VLAN ID.
2. Compare VLANs in same interface (except interface FortiLink) with these two profiles, and check if there are VLANs that own same name, but have different VLAN IDs.
3. Compare VLANs in different interfaces (except interface FortiLink) with these two profiles, and check if there are VLANs that own same name.

Workaround:

1. Make sure the device is synchronized, and then enable the *override device LAN* setting.
2. Release resources (for example, IP pool, DHCP server, and so on) used by VLANs (except default, video, voice, rspan, onboarding, quarantine) in interface FortiLink.
3. Release resources used by VLANs that meet condition 2 above, and then delete these VLANs.
4. Release resources used by VLANs that meet condition 3 above, and then delete these VLANs.
5. Disable Switch/AP configuration in *Device LAN setting* page.
6. Wait 5-10 minutes until device's configuration state becomes *Modified*, and then trigger a manual deployment.
7. When device is synchronized, change profile.
8. After changing the profile, disable *override device LAN* setting.

Interface configurations not imported

When adding a FortiGate to SD-WAN Orchestrator MEA, you choose what profile to apply. The profile settings include a *First Online Action* option that specifies how to manage the device configuration when the FortiGate comes online for the first time. When *First Online Action* is set to *RETRIEVE_CONFIG*, configuration settings from FortiGate are retrieved to SD-WAN Orchestrator MEA.

Before you install configuration changes to FortiGate, it is recommended to review the retrieved configuration and confirm what pre-configured settings were retrieved. Then you can adjust settings in the device configuration before clicking the *Sync* button to install configuration changes to FortiGate.

For example, the following conditions must be met for SD-WAN Orchestrator MEA to retrieve and retain pre-configured WAN interfaces on FortiGate:

1. In the SD-WAN Orchestrator MEA profile assigned to FortiGate, the WAN interface must be enabled.
2. In the SD-WAN Orchestrator MEA profile assigned to FortiGate, the mode for the WAN interface must be the same as the mode pre-configured for the WAN interface on FortiGate. For example, both must be set to static.
3. If the WAN mode is static on FortiGate, an SD-WAN member configuration must exist on SD-WAN Orchestrator MEA and reference the WAN port, and the gateway IP must be set for the SD-WAN member.

Every enabled WAN interface in SD-WAN Orchestrator MEA generates an SD-WAN interface member configuration on FortiGate, and the gateway option is required when the mode is static. If gateway information doesn't exist in FortiGate, SD-WAN Orchestrator MEA does not retrieve the interface settings because the settings are considered incomplete and ignored.

Upgrade Information

Upgrade of SD-WAN Orchestrator MEA 6.4.1 r3 to 6.4.1 r4 is supported.

You must be in a 6.4 ADOM to access SD-WAN Orchestrator MEA.

When you upgrade FortiManager from 6.4.2 to 6.4.3, SD-WAN Orchestrator MEA upgrades automatically to 6.4.1 r4. Alternately you can leave FortiManager running 6.4.2 and manually upgrade SD-WAN Orchestrator MEA to 6.4.1 r4.

This section covers the following upgrade scenarios:

- Upgrading SD-WAN Orchestrator MEA automatically on page 11
- Upgrading SD-WAN Orchestrator MEA manually on page 11

Upgrading SD-WAN Orchestrator MEA automatically

In this scenario, you are starting the upgrade with the following items:

- FortiManager 6.4.2
- SD-WAN Orchestrator MEA 6.4.1 r3
- FortiGates running FortiOS 6.4.2

To upgrade SD-WAN Orchestrator MEA:

1. Upgrade FortiManager to 6.4.3.
   After FortiManager reboots, SD-WAN Orchestrator MEA is automatically upgraded to 6.4.1 r4.
2. In FortiManager, upgrade FortiOS from 6.4.2 to 6.4.3.
   a. Go to *Device Manager* > *Firmware*.
      The *Upgrade Available* column displays 6.4.3.
   b. Select the FortiGates, and click *Upgrade*.
      When the firmware upgrade completes, click *Close*.

   FortiManager, SD-WAN Orchestrator MEA, and all FortiGate are upgraded.

Upgrading SD-WAN Orchestrator MEA manually

If you have not yet upgraded FortiManager to 6.4.3, you can upgrade SD-WAN Orchestrator MEA by using the GUI.

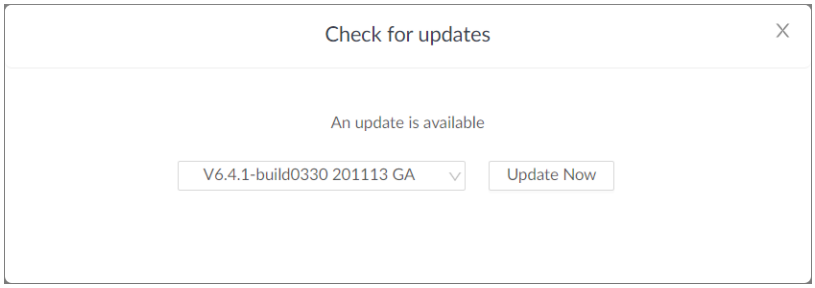
In this scenario, you are starting the upgrade with the following items:

- FortiManager 6.4.2
- SD-WAN Orchestrator MEA 6.4.1 r3

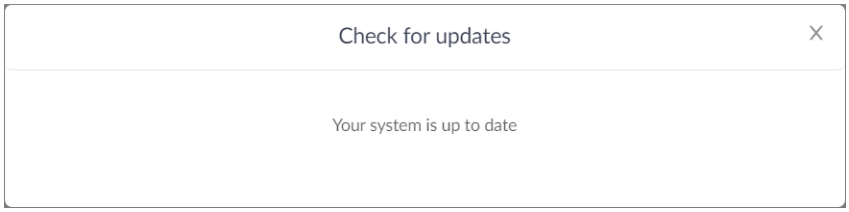
Although you can run SD-WAN Orchestrator MEA 6.4.1 r4 with FortiManager 6.4.2 and FortiOS 6.4.2, it is recommended to use FortiManager 6.4.3 and FortiOS 6.4.3 with SD-WAN Orchestrator MEA 6.4.1 r4.

To upgrade SD-WAN Orchestrator MEA by using the GUI:

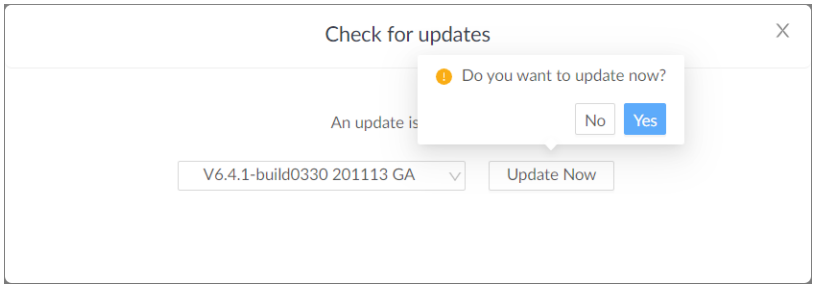
1. If ADOMs are enabled in FortiManager, ensure you are in the root ADOM to access the *Maintenance* tab in SD-WAN Orchestrator MEA.
2. In SD-WAN Orchestrator MEA, go to *Maintenance* > *Upgrade*, and click *Check for updates*.
   When an update is available, the following message is displayed:



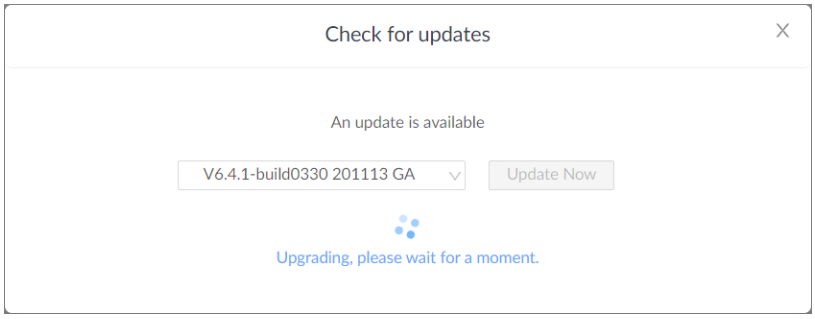
   When SD-WAN Orchestrator MEA is up to date, the following message is displayed, and no upgrade is available:



3. Click *Update Now*.
   A confirmation dialog box is displayed.



4. Click *Yes*.
   SD-WAN Orchestrator MEA proceeds with the upgrade to 6.4.1 r4.



   When the upgrade is complete, the FortiManager GUI is displayed.

5. Click *Management Extensions* > *SD-WAN Orchestrator*.

Product Integration and Support

This section lists SD-WAN Orchestrator MEA 6.4.1 r4 support of other Fortinet products. It contains the following topics:

- Supported FortiManager and FortiOS versions on page 14
- Supported FortiGate models on page 14

Supported FortiManager and FortiOS versions

This section identifies SD-WAN Orchestrator MEA 6.4.1 r4 product integration and support information:

FortiManager	• 6.4.1 - 6.4.3
FortiOS	• 6.4.1 - 6.4.3

Supported FortiGate models

SD-WAN Orchestrator MEA supports the following FortiGate models:

Model	Firmware Version
FortiGate: FortiGate-40F, FortiGate-40F-3G4G, FortiGate-60F, FortiGate-61F, FortiGate-100F, FortiGate-101F, FortiGate-60E, FortiGate-61E, FortiGate-60E-POE, FortiGate 60E-DSL, FortiGate 60E-DSLJ, FortiGate-80E, FortiGate-81E, FortiGate-80E-POE, FortiGate-81E-POE, FortiGate-100E, FortiGate-100EF, FortiGate-101E, FortiGate-140E, FortiGate-140E-POE, FortiGate-200E, FortiGate-201E, FortiGate-300E, FortiGate-301E, FortiGate-400E, FortiGate-401E, FortiGate-500E, FortiGate-501E, FortiGate-600E, FortiGate-601E, FortiGate-1100E, FortiGate-1101E, FortiGate-2000E, FortiGate-2500E, FortiGate-3400E, FortiGate-3401E, FortiGate-3600E, FortiGate-3601E, FortiGate-3960E, FortiGate-3980E, FortiGate-300D, FortiGate-400D, FortiGate-500D, FortiGate-600D, FortiGate-800D, FortiGate-900D, FortiGate-1000D, FortiGate-1200D, FortiGate-1500D, FortiGate-1500DT, FortiGate-2200E, FortiGate-2201E, FortiGate-3000D, FortiGate-3100D, FortiGate-3200D, FortiGate-3300E, FortiGate-3301E, FortiGate-3800D, FortiGate-3980E; **FortiGate-VM:** Same support as FortiManager 6.4.3. See the FortiManager 6.4.3 Release Notes on the Document Library. **FortiWiFi:** FortiWiFi 60E, FortiWiFi 61E	6.4

For a list of FortiManager models that support SD-WAN Orchestrator MEA, see Supported FortiManager host models on page 5.

Resolved Issues

The following issues have been fixed in 6.4.1 r4. For inquires about a particular bug, please contact Customer Service & Support.

Bug ID	Description
644640/ 644875	Cannot re-assign or change AP profile of manually selected tunnel SSID.
662792	B314: SLA health check deleted if destination address filter is not set to *all*.
663255	[Project_6.4.1] Change FortiManager time settings from NTP to Static by manual, and SD-WAN Orchestrator backend displays time incorrectly.
663267	[Project_6.4.1] In business rule, add destination address for "G Suite". Then the device status didn't change.
663667	[Project_6.4.1] Filter by source IP or destination IP does not work.
663670	[Project_6.4.1] When zooming out in the browser, the displayed charts overlap.
664103	[Project_6.4.1] When using FortiManager 6.4.2 to manage FortiOS 6.4.2, the CLI displays FortiOS 6.4.0 CLI after synchronization.
664249	[Project_6.4.1] There is no interface member in device, LAN setting page.
664930	[Project_6.4.1] Protocol DNS is lost when creating an SLA server.
667387	[Project_6.4.1] When LAN includes FortiLink settings, a conflict occurs when disabling LAN override.
668054	[Project_6.4.1] *DNS Server Override* option in WAN settings page does not work.
669234	[SDWAN O Docker] Canceling the default value for device role Interrupts the SD-WAN Orchestrator profile creation.
669336	[Project_6.4.1r4] Profiles of some platform cannot be displayed after creation.
669683	[Project_6.4.1] Some fields in FortiSwitch/AP settings page become dislocated.
669686	[Project_6.4.1] Enabling BGP override and creating intranet IP pool will cause error.
671317	[Project_6.4.1r4] Deployment main process will shut down while running automation.
671386	[Project_6.4.1] With long device names, the device name displayed in *Monitor* > *Topology view* > *Region* tips are not well sorted.
671661	[Project_6.4.0] Add a "PASSWORD" file in CSV template.
673336	[Project_6.4.1_Stress] ADOM root has 100 devices. When all devices go online, the dashboard displays abnormally.

Bug ID	Description
673354	[Project_6.4.1] 500 devices are distributed under 5 ADOMs. When synchronizing all, at most 1 to 2 ADOMs can perform synchronization actions at the same time.
673873	[Project_6.4.0] Install 1000 business rules in stress test environment causes conflict.
676357	[Project_6.4.1] After a custom SLA server is changed for a business rule, it cannot be updated to the SD-WAN rule in FortiGate.

Known Issues

The following issues have been identified in 6.4.1 r4. For inquires about a particular bug or to report a bug, please contact Customer Service & Support.

SD-WAN Orchestrator MEA

Bug ID	Description
641221	FortiGate-500E does not show up in *Available Devices* list.
649447	Address Object and Group names in FortiManager don't match names in SD-WAN Orchestrator.
654540	Memory usage slowly increases. **Workaround**: In the FortiManager CLI, set `sdwancontroller` to `disable` and then `enable`.
656872	When *Load Policy* is *MANUAL* and Manual Path is an MPLS link, business rules fail to be deployed to FortiGates.
663933	Port statuses are incorrect in *SD-WAN Underlay Performance Status* chart.
664675	Exchange the IP address used to connect to peer hub, and a conflict occurs. **Workaround**: Configure a different IP address, and then switch back.
664959	While enabling or disabling short guard-interval setting, it won't sync to FortiManager's AP profile settings.
671382	The CPU usage of JAVA process is very high from time to time when managing 200 FortiGate devices.
673991	When the old configuration contains HA referencing the aggregate interface, the new configuration cannot be overwritten.
674777	Shortcut monitor is empty if FortiGates are in a NAT traversal scenario.
674812	Installation causes conflict after switching from QA to Dev, and then switching back to QA branch.
675112	Shortcut cannot be generated when two edge devices are behind the same NAT gateway.
676632	Changing ISP link from *public* to *private* and *private* to *public* results in a conflict. **Workaround**: Reset the FortiGate to default, join SD-WAN Orchestrator, and install the configuration again.
678140	RETRIEVE_CONFIG doesn't properly import some of existing configurations. **Workaround**: Review the retrieved configuration and adjust the device configuration before installing configurations to FortiGate devices. See also Interface configurations not imported on page 9 .

FortiManager and FortiOS

Bug ID	Description
572485/ 632946	Once the name of address object has changed, the address referred in business rule and firewall policy does not change.
598603/ 598895	Sometimes FortiGate-30E warns conflict as *execute script:Response has no task attribute!*.
628750	When Service Access is enabled on FortiManager interface, ONOS failed to start up.
628750/ 630007	When Service Access is enabled on FortiManager interface, SDWAN Orchestrator fails to start up.
640431	Conflict reported as *system sdwan commit check error* after changing ISP link of all device's port1 from Internet to MPLS.
640431/ 641740	When changing ISP link of WAN port from MPLS to Internet or Internet to MPLS, conflict might occur.
643825	SLA in IPsec tunnels sometimes fails due to not sending out SLA probe packets. **Workaround**: Reboot FortiGate.
662106	Conflict occurs when installing business rules that include internet service group.
668211	If FortiManager task fails the retrieve action, it causes the HA mode to become standalone mode.
669976	The *Device* column is empty on hubs when the traffic is from the subnet behind its edge.
673361	Controller task cannot stop in 57h. This issue is found in 500-FGT test bed.
677397	SD-WAN Orchestrator should be supported when Workspace/Workflow in per-ADOM mode is disabled.

FortiSwitch and FortiAP

Bug ID	Description
578622/ 586763	Installation fails when creating FortiLink interfaces.
618165/ 587742	Changing subnet of hard switch interface will cause FortiManager and FortiGate conflict.
645309	Change the FortiSwitch profile to operate smoothly. For a workaround, see FortiSwitch profiles on page 9.
645946	Conflict reported as *delete 'fortivoice.fortilink* when FortiSwitch first comes online.

Bug ID	Description
	Workaround: Use SD-WAN Orchestrator to install configuration to FortiGate again. If it still fails, authorize FortiSwitch on FortiManager or FortiGate, and try to install configuration again.

Limitations of SD-WAN Orchestrator MEA

SD-WAN Orchestrator MEA currently does not support FortiGate with VDOMs.

SD-WAN Orchestrator MEA is not supported when FortiManager workspace/workflow mode is enabled.