SD-WAN Orchestrator MEA - Release Notes

Version 6.4.1 r1

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Change Log

Date	Change Description
2020-06-29	Initial release of 6.4.1 r1.
2020-07-02	Added 645929 and 645721 to Known Issues on page 18.
2020-07-03	Removed FMG-3900E and FMG-4000E and added FMG-VM64-AWSOnDemand to Supported FortiManager host models on page 5.
2020-07-06	Removed FortiGate-60F, FortiGate-100F, and FortiGate-101F from Supported FortiGate models on page 13.

SD-WAN Orchestrator MEA 6.4.1 r1 Release

This document provides information about SD-WAN Orchestrator MEA version 6.4.1 r1 build 0311. 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
- 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 r1 management extension application and minimum system requirements, see the FortiManager 6.4.1 Release Notes.

What's new

This section identifies new features and enhancements available with SD-WAN Orchestrator MEA 6.4.1 r1.

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

Support for FortiManager and FortiOS 6.4.1

SD-WAN Orchestrator MEA supports the latest SD-WAN changes available in FortiManager 6.4.1 and FortiOS 6.4.1.

SD-WAN Orchestrator MEA 6.4.1 r1 requires FortiManager 6.4.1.

Enhancements

- Business rules deployed to FortiGate now include the Device Name
- Default IKE version of VPN is now IKEv2
- Set sla-fail-log-period and sla-pass-log-period to internet service health check
- Unique name for FortiSwitch VLANs and FortiAP SSIDs
- Download a CVS template when importing devices

Support for more AP profiles and SSID settings

AP profiles now support:

- TX Power Control

SSID settings now support:

- Client Limit
- Broadcast SSID
- Block Intro-SSID Traffic
- Quarantine Host

Optimization of internal mechanisms to improve system performance

- Optimize dynamic synchronization by improving the GROUP_ALL mechanism
- Optimize FSW/AP page to show VLANs and SSIDs
- Optimize the dropdown list when adding or updating business rules
- Optimize the usage of FortiManager API to update dynamic interfaces
- Optimize FortiManager API calls when synchronizing configurations or generating diffs
- Combine or reduce FortiManager API requests when configuring FortiSwitchs and APs

Option to set/edit password on device setting page

In the *Device > General* pane, add a *Password* option when adding or editing a device:

- AUTO: Controller randomly generates admin passwords for FortiGates.
- MANUAL: Customer manually sets password.
- NO CHANGE: Don't change FortiGate original password.

Optimization in logs and debug files

More information is now included in logs and exported debug files.

You can also export SD-WAN Orchestrator MEA logs as TXT and CSV files.

Optimization in monitoring

The following monitoring functions have been optimized:

- Add link status or statistics between Hubs on the *Dashboard* pane
- Drag the device icon without clicking the *Set location* button first
- Add a search filter to locate specific devices in the *Configuration > Device List*
- Optimize the *Monitor > SLA > Application Region* popup view by adding a link to jump to the *Monitor > Device > SLA* for a specific device
- Add search filters by device name or sort by device Device name/Packet Loss/Latency/Jitter in Monitor SLA>App Quality Region popup view

- Add search filters by underlay name, peer device, status, and quality level for *Monitor > Device > Overlay Links*
- Add time range indication in the *Monitor > Devices* pane
- Optimize monitor performance when monitor time range is big

Special Notices

This section highlights some of the operational changes that administrators should be aware of in SD-WAN Orchestrator MEA 6.4.1 r1.

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.

AP profiles

When you cannot re-assign or change AP profiles as described in 0644640 and 0644875 in the *Known Issues* section of the release notes, use the following workaround.

Workaround:

1. In SD-WAN Orchestrator MEA, edit the profile and toggle off *Switch/AP Configuration*, and install the configuration to the device.
   SD-WAN Orchestrator MEA synchronizes the configuration to FortiGate with a default AP profile in which SSID is empty.

2. In FortiManager, install the policy package changes to the device, and ensure that the status is *Synchronized*.

3. In SD-WAN Orchestrator MEA, open the AP profile for editing to find the name of the profile in FortiManager (for example, *swnc-1*), and then click *Cancel* to close the profile without saving any changes.

4. In *FortiManager > AP Manager*, open the profile for editing, and change every radio mode from *access point* to *disabled*.

5. In SD-WAN Orchestrator MEA, edit the profile and toggle on *Switch/AP Configuration*, and wait for SD-WAN Orchestrator MEA to discover and bind the AP.

6. In *FortiManager > AP Manager*, open the profile for editing, and change every radio mode from *disabled* to *access point*

7. In SD-WAN Orchestrator MEA, click the *sync* button.

Upgrade Information

Upgrade of SD-WAN Orchestrator MEA 6.4.0 to 6.4.1 r1 is supported. SD-WAN Orchestrator MEA is automatically upgraded to 6.4.1 r1 after you upgrade the host FortiManager to 6.4.1.

> SD-WAN Orchestrator MEA 6.4.1 r1 requires FortiManager 6.4.1 or later, and you must be in a 6.4 ADOM to access SD-WAN Orchestrator MEA.

Although upgrade to SD-WAN Orchestrator MEA 6.4.1 r1 is supported, a new deployment of SD-WAN Orchestrator MEA 6.4.1 r1 is recommended.

This section covers the following upgrade scenarios:

Upgrading from FortiManager, SD-WAN Orchestrator MEA, and FortiOS 6.4.0 to 6.4.1

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

- FortiManager 6.4.0 with ADOMs enabled.
- SD-WAN Orchestrator MEA 6.4.0
- FortiGates running FortiOS 6.4.0

In FortiManager, a 6.4 ADOM contains the FortiGates.

To upgrade SD-WAN Orchestrator MEA:

1. Upgrade FortiManager to 6.4.1.
   After FortiManager reboots, SD-WAN Orchestrator MEA is automatically upgraded to 6.4.1.
2. In FortiManager, upgrade FortiOS from 6.4.0 to 6.4.1.
   a. Go to *Device Manager > Firmware*.
      The *Upgrade Available* column displays 6.4.1.
   b. Select the FortiGates, and click *Upgrade*.
      When the firmware upgrade completes, click *Close*.
3. Initiate the creation of normalized interfaces and new policy blocks by going to *Management Extensions > SD-WAN Orchestrator MEA*.
   In FortiManager, you can view the new policy blocks by going to *Policy & Objects > Policy Packages*, and expanding the *Policy Blocks* tree menu. The following policy blocks are created:
   - SDWAN_Overlay_PB_EDGE
   - SDWAN_Overlay_PB_HUB

You can view normalized interfaces by going to *Policy & Objects > Object Configuration > Normalized Interface*. The following normalized interfaces with per-platform mappings are created:

- overlay_edge2hub
- overlay_hub2edge
- overlay_hub2hub
- underlay
- sdwan_loopback

The interfaces are used by the automatically-generated policy blocks or by other custom policies.

4. In FortiManager, append new policy blocks to policy packages used by hub and spoke devices.

   a. Go to *Policy & Objects > Policy Packages*.

   b. In the tree menu, select the policy package for the hub device, and from the *Policy Block* menu, select *Append Policy Block*.
   The *Insert Policy Block* dialog box appears.

   c. From the list, select the policy block for hub devices, and click *OK*.

   d. Repeat this procedure for edge devices, if necessary.

   e. Delete from the policy package the policy block named *SDWAN_Overlay_PB* that was created in 6.4.0.

   f. Add other policies if necessary.

5. In SD-WAN Orchestrator MEA, install all configurations.

   a. Go to *Management Extensions > SD-WAN Orchestrator MEA*.

   b. Go to *Configuration > Device*, and click the *Install all configuration* button.

6. In FortiManager, install policy packages to hub and edge devices.

7. Check the configuration on FortiGate for the following changes:

   - SD-WAN configuration is migrated to `config system sdwan`.
   - New SD-WAN zones are created, and member interfaces have been added to corresponding zones.
   - Business rules remain unchanged, and SLA is up.
   - Firewall policies have been updated.

Upgrading from FortiManager and SD-WAN Orchestrator MEA 6.4.0 and FortiOS 6.2.x to 6.4.1

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

- FortiManager 6.4.0 with ADOMs enabled.
- SD-WAN Orchestrator MEA 6.4.0
- FortiGates running FortiOS 6.2.x

In FortiManager, a 6.2 ADOM contains the FortiGates.

To upgrade SD-WAN Orchestrator MEA:

1. Upgrade FortiManager to 6.4.1.
   After FortiManager reboots, SD-WAN Orchestrator MEA is automatically upgraded to 6.4.1 r1.

2. In FortiManager, upgrade FortiOS from 6.2.x to 6.4.1.

    a. Go to *Device Manager > Firmware*.

       The *Upgrade Available* column displays 6.4.1.

    b. Select the FortiGates, and click *Upgrade*.

       When the firmware upgrade completes, click *Close*.

3. In FortiManager, upgrade the ADOM from version 6.2 to 6.4.

Product Integration and Support

This section lists SD-WAN Orchestrator MEA 6.4.1 r1 support of other Fortinet products. It contains the following topics:

Supported FortiManager and FortiOS versions

This section identifies SD-WAN Orchestrator MEA 6.4.1 r1 product integration and support information:

FortiManager	• 6.4.1
FortiOS	• 6.4.1

Supported FortiGate models

SD-WAN Orchestrator MEA supports the following FortiGate models:

Model	Firmware Version
FortiGate: FortiGate-60E, FortiGate-61E, FortiGate-60E-POE, 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-3000D, FortiGate-3100D, FortiGate-3200D, FortiGate-3800D; **FortiGate-VM:** Same support as FortiManager 6.4.1. See the FortiManager 6.4.1 Release Notes on the Document Library.	6.4

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

SD-WAN Orchestrator MEA 6.4.1 r1 Release Notes
Fortinet Technologies Inc.

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Resolved Issues

The following issues have been fixed in 6.4.1 r1. For inquires about a particular bug, please contact Customer Service & Support.

Bug ID	Description
592819	[Project_6.4.0] IP Pool disordered in Global Routing table.
599725	[Project_6.4.0] When dragging a device to move its position, the icon often moves back to its original position.
600436	[Project_6.4.0] Set WAN port type for MPLS and Private Line to enabled, and no underlay information is displayed in single device monitor.
601534	[Project_6.4.0] Path down does not trigger log.
604355	[Project_6.4.0] Sometimes path lines disappear especially when synchronizing configurations.
606420	[Project_6.4.0] Dynamic sync is sometimes not triggered.
614296	[Project_6.4.0_Stress env] The page gets stuck when the region device is expanded in stress environment.
618438	[Project_6.4.0] Unknown reason causes Internal Server Error.
618894	[Project_6.4.0](FortiAP) Unable to add AP profile on hardswitch interface.
619673	[Project_6.4.0] Unable to add FortiGate device by serial number.
620184	[Project_6.4.0] ADOM 6.4 should remove profile for 30E/50E/51E/52E.
621599	[Project_6.4.0] After FortiGate is added to SD-WAN Orchestrator MEA, there is a chance to be offline.
622605	[Project_6.4.0] Synchronization conflict occurs when an SDWAN member is used by an SDWAN rule, but the interface is set to disabled on profile.
622606	[Project_6.4.0] Synchronization failed, if device has static ports with enabled DHCP server, but control what changes them to DHCP or PPoE mode.
622688	[Project_6.4.0] Set tunnel IP failed as *Subnets overlap between 'port1-E' with primary IP of 'port3-E'*.
623440	[Project_6.4.0] When click SD-WAN Orchestrator MEA GUI *Maintenance > Upgrade > Check for updates*, sometimes it logs out and skips to FortiManager main page.
623679	[Project_6.4.0] Conflict held while synchronizing FortiGate 80D. Set `switch-controller-feature` none [invalid value].
623686	[Project_6.4.0_Stress env] Failed to back up configuration in stress environment.
623694	[Project_6.4.0_Stress env] The device will automatically flash in *Topology view > Region view*.

Bug ID	Description
623824	[Project_6.4.0] Synchronization conflict occurs when deleting a device and the device is referred by a custom internet service on other device.
624115	[Project_6.4.0] Unset IP address on a port will fail if there is a secondary IP on the port.
624553	[Project_6.4.0] SD-WAN Orchestrator MEA installation failed due to FortiManager script deleting IPsec interface failure.
624842	[Project_6.4.0] Synchronization conflict occurs if device already has a VPN tunnel and the VPN interface is referred by firewall policy.
624943	[Project_6.4.0](FortiAP) It is Unable to create an SSID with security mode WPA3_SAE.
624964	[Project_6.4.0](FortiAP) It is unable to delete SSIDs.
625537	[Project_6.4.0] If business rule includes some applications, there will be conflict.
625572	[Project_6.4.0](FortiAP) While binding the wrong AP model profile, the AP is still automatically authorized on FortiGate.
625617	[Project_6.4.0] Specifying a region for "Backhaul to Group" in a business rule, but links to all the regions are added.
625745	[Project_6.4.0] From *Device* page, configure SSID static IP, and it is unable to deploy the IP address to FortiGate.
625748	[Project_6.4.0] Delete the SSID from *Device* page, and it won't synchronize to FortiGate.
625757	[Project_6.4.0] While importing device from csv file, FortiGate VM always fails.
625966	[Project_6.4.0] Change business rule from *SLA=Default_Google Search* to others causes synchronization conflict.
626051	[Project_6.4.0] Business rule cannot see script, if it contains special ISDBs.
626457	[Project_6.4.0](FortiSwitch) While adding more than 1 Switch and AP to SD-WAN Orchestrator MEA, binding of switch template and AP profile will fail.
627570	[Project_6.4.0] Failed to deploy device dynamically: *dynamic deploy(FGT tunnel api)* error.
627600	[Project_6.4.0] After adding unauthorized devices, the setting page won't close.
627972	[Project_6.4.0] Failed to install business rule when selecting some destination address objects.
628235	[Project_6.4.0] When *Device WAN port override* is enabled, Estimated upstream bandwidth and downstream will be restored to 0 Kbps.
628818	[Project_6.4.0](FortiAP) Unable to automatically authorize FortiAP.
629178	[Project_6.4.0](FortiSwitch) It should not allow users to set the same VLAN to both native VLAN and allow VLAN.
629522	[Project_6.4.0] When the page window is reduced, the right-side content of a webpage cannot be seen.
629566	[Project_6.4.0] Delete a device and install configuration. A conflict is triggered as *reason(>*

Bug ID	Description
	delete "DEVICE_6" [used. detail: delete.
629884	[Project_6.4.0](FortiSwitch) While creating a FSW VLAN, it only deploys to FortiManager; it does not deploy to FortiGate.
630341	[Project_6.4.0] While turning off *SW/AP Configuration*, SD-WAN Orchestrator MEA won't unbind SW/AP template.
630818	[Project_6.4.0] Once the configuration is synchronized, FortiGate sometimes goes offline and online again.
631032	[Project_6.4.0] Change profiles for devices in a region for many times, and sometimes a device will be deleted.
631090	[Project_6.4.0] While disabling device LAN override, SSID IP address won't set by profile setting.
631149	[Project_6.4.0] If the auto-generated address or `addrgrp` is referenced in business rule, deleting the device will cause conflict.
631359	[Project_6.4.0] SD-WAN Orchestrator MEA does not work normally in AWS.
631782	`/32` Is not allowed for *IP Address* field in WAN Interfaces.
631991	[Project_6.4.0] When a device is referenced in business rules by other devices, moving it from one ADOM to another will fail.
632153	[Project_6.4.0_Stress env] First online synchronization failed sometimes.
632863	[Project_6.4.0] Dynamic interface update failed.
633793	[Project_6.4.0] Manual password should not allow special characters.
633797	[Project_6.4.0] While adding a device, the profile won't display immediately.
634756	[Project_6.4.0] In *single device > Underlay Link* of port2, click *Drilldown & show overlay* and port1 overlay info is displayed.
634867	[Project_6.4.0] While setting the Password function to *No Change*, the password field changes to read-only and can't be edited.
635507	[Project_6.4.0] While changing FortiGate profile, it should unbind template first.
635544	[Project_6.4.0] Some AP prefixes are not mapping, and AP can't successfully authorize.
635772	If the key of cookies in FMG GUI API changes, then SD-WAN Orchestrator MEA may not start up.
636660	[Project_6.4.0] After enabling fortilink and managed FortiSwitch, changing the profile with default settings will cause conflict.
636758	[Project_6.4.0] While enabling client limit, the maximum client count cannot be set to 4294967295.
637182	[Project_6.4.0] AP profile is unable to be removed in FortiGate 200E.
637224	[Project_6.4.0] (SW/AP) Change *Auto Power Level* to *Auto TX Power* on SW/AP Profile

Bug ID	Description
	GUI.
637239	[Project_6.4.0] Unable to add KVM FortiGate to SD-WAN Orchestrator MEA.
637297	[Project_6.4.0] Several filters do not work well in Business rule view page.
637304	[Project_6.4.0] Create nearly all FortiManager objects in business rule, and dropdown list will fail due to the reference page error.
637629	[Project_6.4.0] (SW/AP) While enabling *Auto TX Power*, the *TX Power High* cannot be less than *TX Power Low*.
637800	[Project_6.4.0] Cannot unselect after the user selects a device filter.
638106	[Project_6.4.0] Script execution misalignment causes conflict.
639004	[Project_6.4.0] The max clients value should not be set over 4294967295.
639017	[Project_6.4.0] While adding multiple FortiSwitch units, the configuration will be out of order.
639347	[Project_6.4.0] Adding FortiGate 60E to SD-WAN Orchestrator MEA will cause conflict.
639390	[Project_6.4.0] Restored FortiManager failed to recover SD-WAN Orchestrator MEA configuration.
639438	[Project_6.4.0] Several filters do not work well in Business rule view page.
639666	[Project_6.4.0] Due to unknown reasons, *Synchronizing* status is always displayed after synchronizing all.

Known Issues

The following issues have been identified in 6.4.1 r1. For inquires about a particular bug or to report a bug, please contact Customer Service & Support.

SD-WAN Orchestrator MEA

Bug ID	Description
0617884	Installation on SD-WAN Orchestrator MEA may cause FortiManager policy package status of *Conflict*. **Workaround:** Install policy package on FortiManager again.
0618409	In 800-device test bed, not all devices are completely synchronized every time.
0629620	Many `src` and `dst` address objects in business rules cannot be edited when using the *Edit* icon.
0632887	Change a profile for region, and the FortiGate will be offline and online.
0637886	Sometimes devices already added to the region can be added again.
0641221	FortiGate-500E does not show up in *Available Devices List*.

FortiManager and FortiOS

Bug ID	Description
0645928/0645929	Install configuration to device usually causes conflict because of ISDB inconsistency between FortiManager and FortiGate. **Workaround:** Install configuration to device for the second time in SD-WAN Orchestrator MEA.
0572485/0632946	Once the name of address object is changed, the address referred to in business rules and firewall policies does not change.
0598603/0598895	Sometimes FG-30E warns conflict as `execute script:Response has no task attribute!`.
0614649/0636981	*Restricted_User* or *Standard_User* can view SD-WAN Orchestrator MEA icon, but cannot enter GUI.
0625980/0625978	Adding FG-300E and FG-600E by *Add Model Device* results in a conflict, and the deployment process gets stuck.

Bug ID	Description
0628750/0630007	When *Service Access* is enabled on FortiManager interface, SD-WAN Orchestrator MEA fails to start up.
0640431/0641740	When changing ISP link of WAN port from *MPLS* to *Internet* or reversely, conflict may occur.
0643825	SLA in IPsec tunnels sometimes fails because SLA probe packets are not sent. **Workaround:** Reboot FortiGate.
645929	During installation, SD-WAN Orchestrator MEA tries to delete internet-service-name, but cannot (static entry). Service name mismatch. Same ISDB ver.

FortiSwitch and FortiAP

Bug ID	Description
0618165/0587742	Changing subnet of hard switch interface will cause a FortiManager and FortiGate conflict.
0645236	A conflict occurs when VLAN on FortiGate is manually created, but SD-WAN Orchestrator MEA does not have this VLAN.
0631226/0632007	If thet *SSID security mode* option is set to *WPA3_SAE*, and then set to *OPEN* or *WPA2_ PERSONAL*, a conflict will occur.
0578622/0586763	Installation fails when creating FortiLink interfaces. **Workaround:** Before connecting FortiSwitch to FortiGate, deploy FortiLink-related configurations.
0644640/0644875	Cannot re-assign or change AP profile of manually selected tunnel SSID. For a workaround, see AP profiles on page 8.
0645309	Change the FortiSwich profile to operate smoothly. For a workaround, see FortiSwitch profiles on page 8.
0645946	Conflict of `delete 'fortivoice.fortilink'` occurs when FortiSwitch is first online. **Workaround:** On SD-WAN Orchestrator MEA, install configuration to FortiGate again. If it still fails, authorize FortiSwitch on FortiManager or FortiGate, and try to install the configuration again.
0645721	While adding a FortiSwitch to SD-WAN Orchestrator MEA, sometimes the switch becomes offline after getting authorized by SD-WAN Orchestrator MEA. **You can use the following workarounds:** • When adding a device to SD-WAN Orchestrator MEA, select a profile in which FortiLink has a port as a member. • On the FortiGate device, disable and then enable FortiLink. • Reboot the FortiGate device.

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