

DEPLOYMENT GUIDE

# Fortinet UBiqube Integration

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- Overview** .....3
  - Fortinet Security Fabric.....3
  - Third-Party Partners .....3
  - Orchestration Fabric Partner Ecosystem—UBiqube.....3
  - Importance of Secure, Single-Pane Orchestration .....3
  - When Should This be Used?.....3
- How Does This Integration Work? .....3
- Deployment Overview .....4
- Deployment Prerequisites .....4
- Conclusion** .....5
  - Deploy OVA.....5
  - Networking .....6
  - Boot-up and Configuration .....7
  - Configuring MSA.....8
  - FortiGate/FortiHypervisor Preparation .....8
- Summary** .....8

## Overview

### Fortinet Security Fabric

To be successful in today's world, organizations require a secure network that can keep up with today's performance needs. To deliver this reality, it is essential to not only have a network capable of the above but one that also facilitates immediate response in a highly automated fashion across a broad attack surface.

In this field, Fortinet stands alone as the only security solution company to provide worldclass coverage from the data center to the endpoint and from IoT devices to cloud deployments. It also secures applications including email and web and also provides a secure first line of access to the network. What truly makes Fortinet stand out is the Cooperative Security Fabric, which is knit together between these security solutions to provide superlative coverage that no point solution could ever dream of providing.

With Fortinet's Security Fabric Partner Program, Fortinet's Fabric Partners are now able to use Deep API Level Integrations to connect to Fortinet's Security Fabric and bring superior value to their customer networks and deployments.

### Third-Party Partners

Fortinet has partnered with an array of third-party partners who have brought the value of their subject matter expertise and the know-how of their individual domains to add value to Fortinet's Security Fabric. Fortinet has integrated with various partners and continues to work on adding more partners each day. For a complete list of Fortinet Security Fabric Partners, please check on FUSE or reach out to your Fortinet Representative.

### Orchestration Fabric Partner Ecosystem—UBiqube

Known to always put customers first, Fortinet's Fabric Integration story with UBIqube originated from customer feedback and requests to use UBIqube's MSA Platform to orchestrate various Fortinet products and appliances.

To have a successful security ecosystem deployed across a company's network infrastructure, it is essential to have a simple yet effective orchestration mechanism, along with the ability to manage both Fortinet infrastructure and various other Fortinet partner products.

Organizations throughout the world see this as a wonderful benefit. They value the flexibility to orchestrate the entire ecosystem with a single pane of glass. Much like Fortinet, UBIqube's roots lie deep in the service provider market. Their product is designed to work very well for the 3-Tier Access methodology, which is both popular and preferred for service providers across the board.

### Importance of Secure, Single-Pane Orchestration

In today's world, every company needs to walk the tightrope while keeping their costs low and providing top-notch security to prevent breaches and data loss, which can cost them millions of dollars, not to mention the loss of reputation with their customers.

Using a single-pane-of-glass orchestration solution goes a long way towards plugging holes, which tends to occur when different network products are configured using different interfaces and different constructs. Additionally, these orchestration platforms greatly simplify the learning curve and the maintenance model for the entire network.

### When Should This Be Used?

This integration is ideal for customers who have or are looking for FortiGates, FortiHypervisors, and other similar products and are looking to orchestrate them centrally for simplified deployment and management. Moreover, there are various customers who presently use UBIqube and Fortinet appliances in different parts of their network and are looking to consolidate.

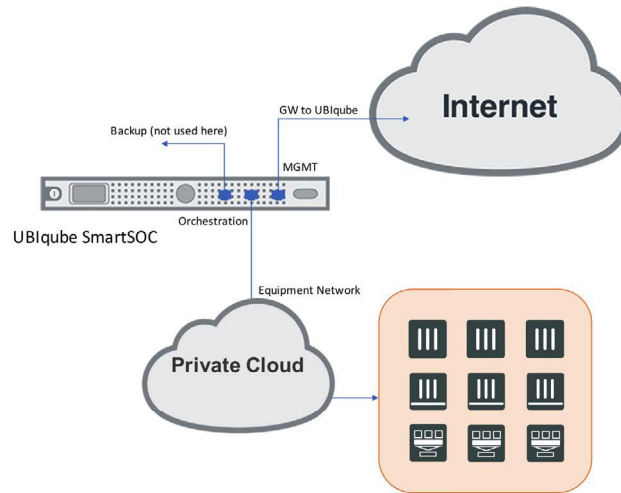
### How Does This Integration Work?

The integration involves deployment of a 3-Tier Orchestration model followed by deploying Managing Fortinet Devices and Device groups using this orchestration ecosystem.



The orchestration system uses Fortinet APIs and RESTfully configures and manages the Fortinet products in the system. In addition, the recently added FortiHypervisor support allows configuration and management of FortiHypervisors including deploying and managing VNFs deployed to the FHV.

## Deployment Overview



In this configuration, there are two considerations:

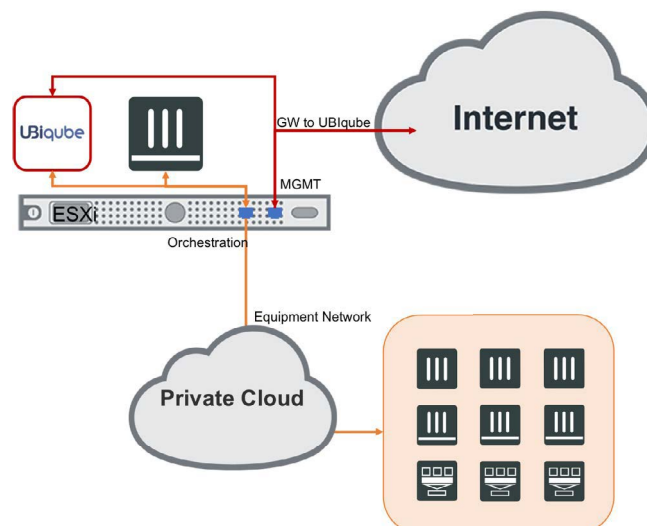
1. UManagement: This is the connection that is used for management, and it is used to talk back to UBiqube.
2. Orchestration: This is usually the private subnet where the devices to be managed are reached.

The internal network means the devices being managed are directly routable from the UBiqube device. It is essential that the orchestrator is directly able to reach the relevant ports on the Fortinet device to ensure proper operation.

For this purpose, there can be some deployments where the Fortinet devices are behind a NAT and therefore not manageable by the UBiqube. It is important to note that this is a single-pane-of-glass management option but doesn't necessarily provide zero-touch deployment for this exact reason.

Devices being managed can be either appliances or VMs.

## Deployment Prerequisites



ESXi running the following:

1. UBiQube MSA—In this deployment guide, we use an ESXi to deploy the UBiQube MSA.
2. FortiGate VM—A test deployment FortiGate VM can be deployed onto the same ESXi if needed or a different one depending on the use case.
3. FortiHypervisor—Alternatively, it is possible to use a FortiHypervisor as the target for orchestration.

How to obtain an eval...

- [tmg@fortinet.com](mailto:tmg@fortinet.com)
- <http://www.ubiqubesolutions.com/>

## Deployment Steps

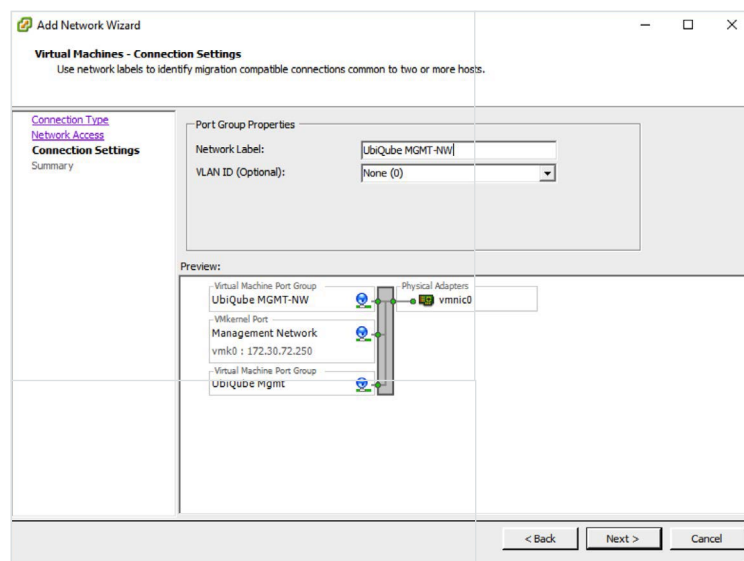
### Create Networks

1. Create networks.

Create two networks on the ESXi.

Eg: Create a Management Network.

1. Go to Host > Configuration > Networking Select Add Networking.
2. Select the vSwitch.
3. If relevant, select the VMNIC associated with VM Port Group.



Similarly create an Internal Network.

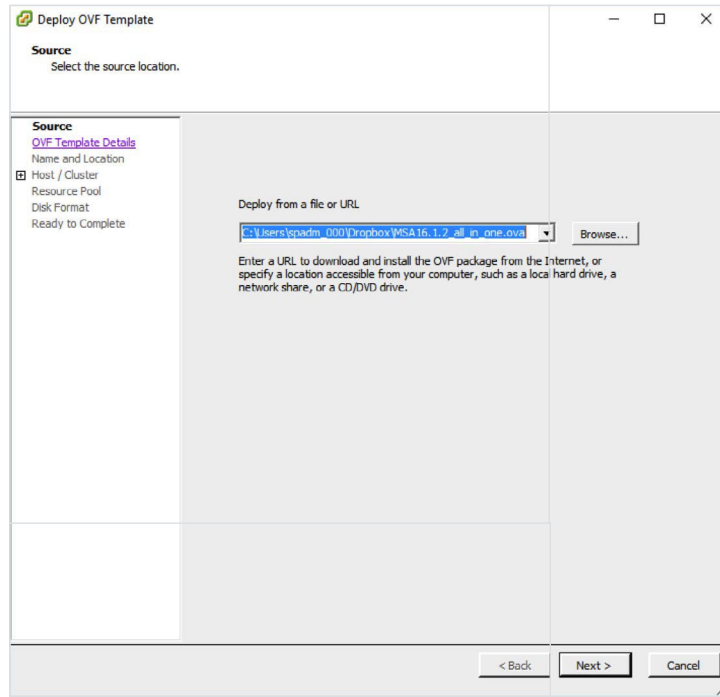
2. Configure the second network for orchestration. This network may or may not need a physical NIC based on whether it needs to be accessible externally, or if all managed VMs are on the same ESX Host.

### Create Networks

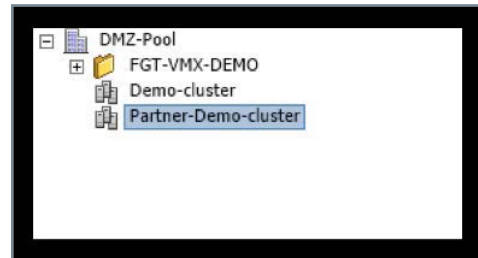
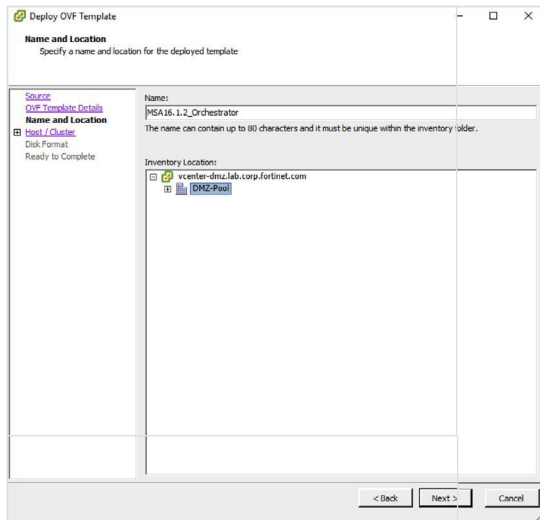
On the ESXi Select File > Deploy OVF Template.

Follow the steps in the wizard:

1. Select the OVA file.
2. Enter the name and select the host for this particular deployment.
3. Additionally, specify details including Data Store needed for this deployment.



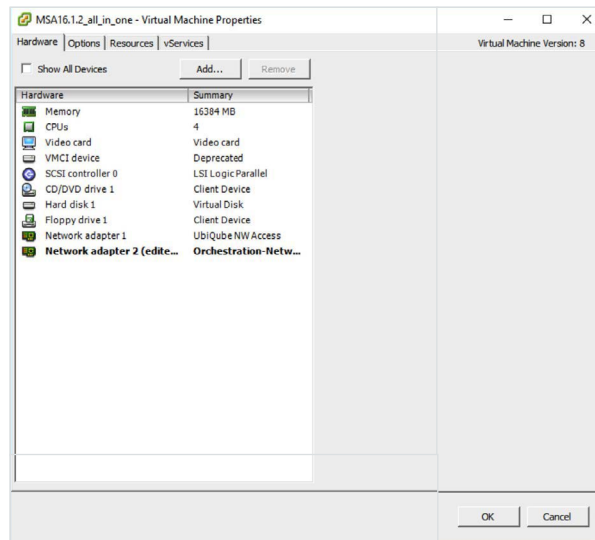
## Networking



Once the OVF is deployed successfully, right click, select Edit Settings, and associate the relevant network interfaces created in the previous steps.

The MSAActivator deploys with 50 Gb disk, but you may want to extend this to allow more flexibility later.

## Boot-Up and Configuration



Sometimes interfaces eth0 and eth1 are not visible. You have to edit the interface configuration file:

```
[root@SNOC]#cd /etc/sysconfig/network-scripts
[root@SNOC network-scripts]#vi ifcfg-eth0
```

Remove reference to UUID and HWADDR the file should be like:

```
DEVICE="eth0"
BOOTPROTO="none"
IPV6INIT="yes"
IPV6_AUTOCONF="yes"
NM_CONTROLLED="yes"
ONBOOT="yes"
TYPE="Ethernet"
IPADDR=10.31.1.14
NETMASK=255.255.255.0
GATEWAY=10.31.1.254
```

Follow the same steps for eth1 and then activate the interfaces as follows:

```
[root@SNOC network-scripts]# ifup ifcfg-eth0
[root@SNOC network-scripts]# ifup ifcfg-eth1
```

If you see an error, try the following:

```
[root@SNOC]# echo "" > /etc/udev/rules.d/70-persistent-net.rules
[root@SNOC]#reboot
```

### Configuring MSA

1. Once the reboot is complete, you should see the MSActivator services starting messages in the console.
2. Connect as root to the MSActivator.
3. Configure the network interface as follows to allow access to the Orchestration Network, for example.
4. Configure eth0 with an address from your network:  
and try to access <http://IPADDRESS:3577/config.xml>

The default ID Password will be in your deployment guide obtained from UBiQube.

```
[root@POC ~]# ifconfig eth0 172.10.15.123
[root@POC ~]# route add -net 10.0.0.0/12 gw 172.10.15.103
```

## Configuring MSA

The MSA Configuration page is as follows. Fill in the form with relevant information for your demo environment.

Fulfill WebConf page

**Company General Information's**

Company Name: \_\_\_\_\_

Company address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_

Company country: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Company Web Site URL: \_\_\_\_\_

IT service name: \_\_\_\_\_

Manager Password: \_\_\_\_\_

**Basic Configuration**

Hostname: \_\_\_\_\_

Domain Name: \_\_\_\_\_

DNS Forwarder IP: \_\_\_\_\_

**Equipments management interface parameters**

IP: \_\_\_\_\_

Mask: \_\_\_\_\_

Default GW: \_\_\_\_\_

Additional routes: \_\_\_\_\_

**Maintenance interface parameters**

IP: \_\_\_\_\_

Mask: \_\_\_\_\_

Additional routes: \_\_\_\_\_

**Backup interface parameters (tick 'no backup' here - backup will be covered by another chapter).**

**Mails parameters**

Support e-mail: \_\_\_\_\_

SMTP Server IP: \_\_\_\_\_

SMTP Server FQDN: \_\_\_\_\_

**Advanced Features**

NTP Servers List: \_\_\_\_\_

SNMP Supervisor: \_\_\_\_\_

On saving, once again select the option to reboot the system. This process takes awhile. In the meanwhile, prepare your FortiGate/FortiHypervisor.

## FortiGate/FortiHypervisor Preparation

As mentioned earlier in the document, it is essential that the FortiGate/FortiHypervisor have some minimum configurations. This includes the following:

1. Management Interface config
2. SSH, Ping, HTTP/HTTPS enabled on the management interface.

## Summary

This document covers how to bring up a demo setup involving a single FortiGate VM and UBiqube MSA. We will be updating this document periodically to include further use cases.

- FortiHypervisor deployment using UBiqube.

Please visit <https://www.youtube.com/watch?v=9TCsReYuHB8> for a demo video of FortiHypervisor Orchestration using UBiqube

How to get help:

- [tmg@fortinet.com](mailto:tmg@fortinet.com)
- <http://www.ubiqubesolutions.com/>