FortiGate-VMX is a specific security solution for VMware environments that provides purpose-built integration for VMware's Software-Defined Data Center (SDDC) — encompassing interoperability with VMware NSX and vSphere. Through direct API integration, FortiGate-VMX has visibility into and can secure virtualized network traffic at the hypervisor level.

Automated deployment and management orchestration are used to secure workloads in dynamic software-defined networks and infrastructure to enable protection and close compliance gaps.

**Proven Success in Virtual Environments**

Fortinet introduced Virtual Domain (VDOM) technology in 2004. Since that time, we have offered virtualized security solutions to service providers and enterprises alike. With the initial release of the FortiGate-VM virtual appliance form factor in 2010, Fortinet paved a path of greater choice and flexibility to customers by providing the ability to deploy our security solutions within existing virtualized and Cloud infrastructure.

Growing from that first successful launch, Fortinet now offers 16+ virtualized security solutions for VMware environments — FortiGate-VMX spearheading that portfolio.

**Highlights**

- Visibility into all vSphere virtual network traffic
- Automated deployment and provisioning of FortiGate-VMX security nodes to new ESXi hosts
- Instant-on real-time protection of new VM workloads
- Session-state retained across live migration events (vMotion)
- Support for multi-tenant environments
- Full Next Generation security functionality solution in one platform Identifies thousands of applications inside network traffic for deep inspection and granular policy enforcement
1. **Register FortiGate-VMX as a security service**
   The registration process uses the NetX (Network Extensible) management plane API to enable bidirectional communication between the FortiGate-VMX Service Manager and NSX Manager.

2. **Auto-deploy of FortiGate-VMX to all ESXi hosts in the cluster**
   The NSX Manager collects the FortiGate-VMX image from the URL specified during registration and installs an instance of FortiGate-VMX on each ESXi host in the cluster.

3. **Connection is established between FortiGate-VMX and the FortiGate-VMX Service Manager**
   FortiGate-VMX initiates a connection to the FortiGate-VMX Service Manager to obtain license information.

4. **Configuration synchronization of FortiGate-VMX**
   The FortiGate-VMX Service Manager verifies FortiGate-VMX status and synchronizes the configuration.

5. **Re-direction rules enabled**
   NSX Network Introspection Service Security Policy rules are enabled to redirect all designated communication flows to FortiGate-VMX for securing of traffic.

6. **Real-time updates of objects**
   NSX Manager sends real-time updates on changes in the virtual environment to the FortiGate-VMX Service Manager.

7. **Policy synchronization to all FortiGate-VMX instances deployed in the ESXi cluster**
   Newly created security policies are pushed to all FortiGate-VMX security nodes. Every FortiGate-VMX deployed in the cluster will have the same set of policies.

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**Virtual Segmentation Function**

Extending Fortinet’s Virtual Domain technology into FortiGate-VMX allows for segmentation of security functions and enablement of multi-tenancy. Mapping NSX Service Profiles to Fortinet VDOMs segregates policies to be enforced for specific traffic flows. This model reduces the added complexity of registering a specific security solution for each tenant hosted in the environment.
FORTINET SECURITY FABRIC

Security Fabric

The industry’s highest-performing cybersecurity platform, powered by FortiOS, with a rich ecosystem designed to span the extended digital attack surface, delivering fully automated, self-healing network security.

- **Broad**: Coordinated detection and enforcement across the entire digital attack surface and lifecycle with converged networking and security across edges, clouds, endpoints and users
- **Integrated**: Integrated and unified security, operation, and performance across different technologies, location, deployment options, and the richest Ecosystem
- **Automated**: Context aware, self-healing network & security posture leveraging cloud-scale and advanced AI to automatically deliver near-real-time, user-to-application coordinated protection across the Fabric

The Fabric empowers organizations of any size to secure and simplify their hybrid infrastructure on the journey to digital innovation.

FortiOS™ Operating System

FortiOS, Fortinet’s leading operating system enable the convergence of high performing networking and security across the Fortinet Security Fabric delivering consistent and context-aware security posture across network endpoint, and clouds. The organically built best of breed capabilities and unified approach allows organizations to run their businesses without compromising performance or protection, supports seamless scalability, and simplifies innovation consumption.

SERVICES

FortiGuard™ Security Services

FortiGuard Labs offers real-time intelligence on the threat landscape, delivering comprehensive security updates across the full range of Fortinet’s solutions. Comprised of security threat researchers, engineers, and forensic specialists, the team collaborates with the world’s leading threat monitoring organizations and other network and security vendors, as well as law enforcement agencies.

FortiCare™ Services

Fortinet is dedicated to helping our customers succeed, and every year FortiCare services help thousands of organizations get the most from their Fortinet Security Fabric solution. We have more than 1,000 experts to help accelerate technology implementation, provide reliable assistance through advanced support, and offer proactive care to maximize security and performance of Fortinet deployments.

The release of FortiOS 7 dramatically expands the Fortinet Security Fabric’s ability to deliver consistent security across hybrid deployment models consisting on appliances, software and As-a-Service with SASE, ZTNA and other emerging cybersecurity solutions.
Visibility

Unlike traditional deployments where the security virtual appliance is required to be in the flow of traffic to enforce policy, FortiGate-VMX can see traffic as it traverses between the virtual switch port and the virtual NIC (vNIC) of the workload VM itself.

Automated Deployment and Provisioning

FortiGate-VMX Service Manager talks directly with VMware’s NSX Manager to communicate information about and register the Fortinet security service. The VMware environment then automates the deployment of FortiGate-VMX Security Nodes to each VMware ESXi host in the designated cluster. Licensing and security policy is also automated between the FortiGate-VMX Service Manager and the FortiGate-VMX Security Nodes.

Object-based Protection

FortiGate-VMX security policy is based on dynamic NSX Security Groups and their associated objects. Any additions or other changes to these Security Groups in the NSX Manager will be automatically associated with the proper FortiGate-VMX security policy without requiring any manual changes in the FortiGate-VMX Service Manager. Policies are enforced independent of broadcast domain or port connection. Policy will also follow the workload VM from host to host during live migration (vMotion) events.

Policy Redirection

Through integration with VMware NSX APIs and NSX Service Composer, custom redirection security policies enable application traffic flow to/from specific VM workload within the designated ESXi cluster(s) to be secured by the FortiGate-VMX security service. No manual configuration of network flows are required.

Real-time Protection

With policies based on NSX dynamic Security Groups, new VM workloads are automatically associated to their proper security policy in real-time upon creation. No more lag-time between creation and enforcement or mistakes commonly associated with communication between data center administrators and security administrators.

Cluster-based Scaling

Because FortiGate-VMX is a security service within the VMware environment, any new hosts added to the secure ESXi cluster will immediately fall under the same security policy. FortiGate-VMX security nodes will automatically deploy to those new ESXi hosts without any manual intervention.

Summary

Using the advanced FortiOS™ operating system, FortiGate appliances effectively neutralize a wide range of security threats facing your software defined datacenter (SDDC). Whether deployed at the edge as a front-line defense (FortiGate hardware appliances), within the virtual infrastructure for inter-zone security and VPN termination at the application (FortiGate-VM) or utilized for inter-VM and advanced hypervisor-based security (FortiGate-VMX), FortiGate appliances protect your infrastructure with some of the most effective security available today.
SPECIFICATIONS

### SOLUTION

<table>
<thead>
<tr>
<th>Product</th>
<th>SKU</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FortiGate-VMX Service Manager</td>
<td>FG-VMX-MGMT</td>
<td>FortiGate-VMX Service Manager for VMware NSX environments.</td>
</tr>
<tr>
<td>FortiGate-VMX Security Node</td>
<td>FG-VMX-1</td>
<td>One (1) FortiGate-VMX instance for VMware NSX environments.</td>
</tr>
</tbody>
</table>

### TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Feature</th>
<th>v5.6.3</th>
<th>v6.0.1+</th>
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</thead>
<tbody>
<tr>
<td>vCPU Support (Minimum / Maximum)</td>
<td>1 / Unlimited</td>
<td>v5.6.3</td>
</tr>
<tr>
<td>Memory Support (Minimum)</td>
<td>2 GB</td>
<td>v5.6.3</td>
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<tr>
<td>Virtual Domains (Default / Maximum)</td>
<td>10 / 250</td>
<td>v6.0.0+</td>
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<tr>
<td>Firewall Policies (VDOM / System)</td>
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### SYSTEM PERFORMANCE

<table>
<thead>
<tr>
<th>Feature</th>
<th>2 vCPU RAM Dependent (No Limit)</th>
<th>4 vCPU RAM Dependent (No Limit)</th>
<th>8 vCPU RAM Dependent (No Limit)</th>
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</thead>
<tbody>
<tr>
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<td>49,000</td>
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<tr>
<td>New Sessions/Second (TCP)</td>
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<tr>
<td>Firewall Throughput (HTTP 1MB)</td>
<td>14.4 Gbps</td>
<td>14.8 Gbps</td>
<td>15.2 Gbps</td>
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<tr>
<td>IPS Throughput (HTTP 1MB)</td>
<td>6.6 Gbps</td>
<td>9.6 Gbps</td>
<td>13.0 Gbps</td>
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<tr>
<td>IPS Throughput (Enterprise Mix)</td>
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<td>4.1 Gbps</td>
<td>6.6 Gbps</td>
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<tr>
<td>Application Control Throughput (HTTP 64KB)</td>
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<td>4.7 Gbps</td>
<td>8.0 Gbps</td>
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<tr>
<td>NGFW Throughput (Enterprise Mix)</td>
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<td>6.0 Gbps</td>
<td></td>
</tr>
<tr>
<td>Threat Protection Throughput (Enterprise Mix)</td>
<td>1.8 Gbps</td>
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<td>5.4 Gbps</td>
</tr>
</tbody>
</table>

For up-to-date compatibility matrix of all components listed above, please visit the Fortinet section of the VMware Compatibility Guide.

FortiGate-VMX maintains a carrying-forward compatibility with the subsequent versions after certification. For example, if FortiGate-VMX 6.0.1 was certified with VMware NSX, 6.0.1+ (such as 6.0.2 and 6.0.3) on the same 6.0 line is supported and works with VMware NSX, unless mentioned otherwise.

Check supported version compatibility of FortiAnalyzer that works with certain FortiGate versions. 'FortiOS' is the operating system used on FortiGate-VMX.

https://docs.fortinet.com/document/fortianalyzer/8.0.0/compatibility-with-fortios

PERFORMANCE REFERENCE

ORDERING INFORMATION

Product                        | SKU          | Description                                      |
--------------------------------|--------------|--------------------------------------------------|
FortiGate-VMX Service Manager  | FG-VMX-MGMT  | FortiGate-VMX Service Manager for VMware NSX environments. |
FortiGate-VMX Security Node    | FG-VMX-1     | One (1) FortiGate-VMX instance for VMware NSX environments. |