VMware Virtualization Deploy Service

AT A GLANCE
Together, VMware vSphere® enable you to aggregate server resources into logical pools that can be allocated on demand. The VMware Virtualization Deploy Service helps you to optimize infrastructure agility, availability, and security by quickly deploying server virtualization. The result is a comprehensive VMware vSphere® virtual infrastructure based on validated reference designs, deployed in a production environment

KEY BENEFITS
- Reduce CapEx and OpEx by consolidating infrastructure without sacrificing performance
- Limit unplanned downtime and eliminate planned downtime for server maintenance
- Respond quickly to changing business needs without loss of security or control
- Deliver zero-touch infrastructure with built-in availability, scalability, and performance guarantees
- Leverage existing IT assets alongside next-generation IT services

Overview
The VMware Virtualization Deploy Service provides a comprehensive deployment of virtual infrastructure based on a VMware standard architecture and validation of the service using the capabilities provided by VMware vSphere®. This project includes the following modules:

**ESXi Host Deploy**: Deployment of the VMware ESXi™ hosts to support the virtualization solution according to a VMware standard architecture that is implemented and validated in the Customer environment.

**vCenter Infrastructure Deploy**: Deployment of the Platform Services Controller and VMware vCenter Server® infrastructure for the virtualization solution according to a VMware standard architecture that is implemented and validated in the Customer environment.

**vSphere Network Infrastructure Deploy**: Deployment of the core network configuration for the virtualization solution according to a VMware standard architecture that is implemented and validated in the Customer environment.

**vSphere Storage Infrastructure Deploy**: Deployment of the storage infrastructure for the virtualization solution according to a VMware standard architecture that is implemented and validated in the Customer environment.

**High Availability Deploy**: Deployment of the VMware vSphere High Availability (HA) feature for the virtualization solution according to a VMware standard architecture that is implemented and validated in the Customer environment.

**Dynamic Resourcing Deploy**: Deployment of the out-of-the-box Dynamic Resourcing technologies including VMware vSphere vMotion®, VMware vSphere Distributed Resource Scheduler™ (DRS), and VMware vSphere Distributed Power Management™ (DPM) for the virtualization solution according to a VMware standard architecture that is implemented and validated in the Customer environment.

**Virtual Machine Deploy**: Deployment of the virtual machine configurations for the virtualization solution according to a VMware standard architecture that is implemented and validated in the Customer environment.

High-level Activities
- **Implement**: Deployment and validation of technology components.
- **Knowledge Transfer**: Knowledge transfer of the design, deployment and operations procedures.

This project relates to the following VMware products:
- VMware vSphere
**SERVICE CAPABILITIES**

- This service contributes to the full development of the following capabilities for Virtual Infrastructure:
- Virtualization of Compute, Storage and Network Assets

**Project Scope**

The scope of the service includes the following.

**ESXi Host Deploy**

<table>
<thead>
<tr>
<th>SPECIFICATION</th>
<th>PARAMETERS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESXi hosts deployed</td>
<td>Up to thirty-two (32)</td>
<td>ESXi hosts deployed and configured.</td>
</tr>
</tbody>
</table>

**vCenter Infrastructure Deploy**

<table>
<thead>
<tr>
<th>SPECIFICATION</th>
<th>PARAMETERS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical sites deployed</td>
<td>Up to one (1)</td>
<td>Physical data center locations deployed and configured.</td>
</tr>
<tr>
<td>Non-High Availability Platform Services Controller appliances deployed</td>
<td>Up to two (2)</td>
<td>Platform Service Controller appliances deployed and configured with no Platform Services Controller high availability.</td>
</tr>
<tr>
<td>vCenter server appliance instances deployed</td>
<td>Up to two (2)</td>
<td>vCenter server appliance instances deployed and configured.</td>
</tr>
<tr>
<td>vSphere Operational Enablement Activities</td>
<td></td>
<td>Additional activities performed in conjunction with this module include:</td>
</tr>
<tr>
<td>vSphere Update Manager Workshop</td>
<td>Up to one (1)</td>
<td>Demonstration of how to use vSphere Update Manager to update ESXi hosts with patches.</td>
</tr>
</tbody>
</table>

**vSphere Network Infrastructure Deploy**

<table>
<thead>
<tr>
<th>SPECIFICATION</th>
<th>PARAMETERS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>vSphere distributed switches</td>
<td>Up to two (2)</td>
<td>vSphere distributed switches created and configured.</td>
</tr>
<tr>
<td>Network port groups</td>
<td>Up to six (6)</td>
<td>Network port groups created and configured.</td>
</tr>
<tr>
<td>VMkernel network adapters</td>
<td>Up to two (2)</td>
<td>VMkernel network adapters and IP Addresses needed per host.</td>
</tr>
<tr>
<td>Network I/O Control enablement</td>
<td>Up to two (2)</td>
<td>Distributed switches to have VMware vSphere Network I/O Control enabled.</td>
</tr>
</tbody>
</table>

**vSphere Storage Infrastructure Deploy**

<table>
<thead>
<tr>
<th>SPECIFICATION</th>
<th>PARAMETERS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFS Storage Configured</td>
<td>Up to thirty-two (32)</td>
<td>ESXi hosts configured for NFS storage.</td>
</tr>
</tbody>
</table>
## High Availability Deploy

<table>
<thead>
<tr>
<th>SPECIFICATION</th>
<th>PARAMETERS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>vSphere HA clusters</td>
<td>Up to two (2)</td>
<td>vSphere High Availability enabled clusters configured.</td>
</tr>
<tr>
<td><strong>vSphere Operational Enablement Activities</strong></td>
<td></td>
<td>Additional activities performed in conjunction with this module include:</td>
</tr>
<tr>
<td>High Availability Failover Workshop</td>
<td>Up to one (1)</td>
<td>Demonstration of vSphere HA failover in the environment.</td>
</tr>
</tbody>
</table>

## Dynamic Resourcing Deploy

<table>
<thead>
<tr>
<th>SPECIFICATION</th>
<th>PARAMETERS</th>
<th>DESCRIPTION</th>
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</thead>
<tbody>
<tr>
<td>vMotion enabled hosts</td>
<td>Up to thirty-two (32)</td>
<td>vMotion enabled hosts configured.</td>
</tr>
<tr>
<td>vSphere DRS clusters</td>
<td>Up to two (2)</td>
<td>DRS enabled clusters configured.</td>
</tr>
<tr>
<td><strong>vSphere Operational Enablement Activities</strong></td>
<td></td>
<td>Additional activities performed in conjunction with this module include:</td>
</tr>
<tr>
<td>vMotion Workshop</td>
<td>Up to one (1)</td>
<td>Demonstration of the vSphere vMotion capabilities of the environment.</td>
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## Virtual Machine Deploy

<table>
<thead>
<tr>
<th>SPECIFICATION</th>
<th>PARAMETERS</th>
<th>DESCRIPTION</th>
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</thead>
<tbody>
<tr>
<td>Virtual Machine Configurations</td>
<td>Up to four (4)</td>
<td>Virtual machine configurations deployed with no operating system installed that map to small, medium, large, and extra-large sizing for virtual machines.</td>
</tr>
<tr>
<td><strong>vSphere Operational Enablement Activities</strong></td>
<td></td>
<td>Additional activities performed in conjunction with this module include:</td>
</tr>
<tr>
<td>Virtual Machine Creation and VMware Tools Workshop</td>
<td>Up to one (1)</td>
<td>Demonstration of VM creation and discussion about VMware Tools.</td>
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</tbody>
</table>

## Out of Scope

### General
- Installation and configuration of custom or third-party applications and operating systems on deployed virtual machines.
- Operating system administration including the operating system itself or any operating system features or components.
VMware Virtualization Deploy Service

- Management of change to virtual machines, operating systems, custom or third-party applications, databases, and administration of general network changes within Customer control.
- Remediation work associated with any problems resulting from the content, completeness, accuracy, and consistency of any data, materials, or information supplied by Customer.
- Installation or configuration of VMware products not included in the scope of this document.
- Installation and configuration of third-party software or other technical services that are not applicable to VMware components.
- Installation and configuration of Customer-signed certificates.
- Configuration of VMware products used for the service other than those implemented for the mutually agreed to use cases.
- Customer solution training other than the defined knowledge transfer session.

ESXi Host Deploy
- Planning or designing a custom virtualization solution.
- Documenting or performing any migration activities (such as physical to virtual or virtual to virtual migration).
- Business continuity / disaster recovery design and deployment beyond the core capabilities of vSphere.
- Capacity analysis for physical servers.

vCenter Infrastructure Deploy
- Planning or designing a custom virtualization solution.
- Documenting or performing any migration activities (such as physical to virtual or virtual to virtual migration).
- Business continuity / disaster recovery design and deployment beyond the core capabilities of vSphere.
- Capacity analysis for physical servers.

vSphere Network Infrastructure Deploy
- Planning or designing a custom network infrastructure solution.
- Documenting or performing any migration activities between networks.
- Business continuity / disaster recovery design and deployment beyond the core capabilities of vSphere.
- VMware NSX design.

vSphere Storage Infrastructure Deploy
- Planning or designing a custom storage infrastructure solution.
- Documenting or performing any migration activities between storage arrays.
- Configuration of Physical Storage Arrays outside of ESXi configuration. Storage Vendor needs to be contacted for configuration specific details.
- Business continuity / disaster recovery design and deployment beyond the core capabilities of vSphere.
High Availability Deploy
• Planning or designing a customized High Availability solution.
• Configuring external systems (such as networking and storage) to support vSphere HA.

Dynamic Resourcing Deploy
• Planning or designing a custom dynamic resourcing design.
• Configuring external systems (such as networking and storage) to support the vSphere vMotion, vSphere DRS, or vSphere DPM features.

Virtual Machine Deploy
• Planning or designing a custom virtual machine design.
• Configuring external systems (such as networking and storage) to support the virtual machine configuration.
• Installation of operating systems to example virtual machines.

Estimated Schedule
VMware estimates that the duration of this project will not exceed 2 weeks. VMware consulting services will operate according to a schedule agreed to by both parties. Typically, consulting services are performed during normal business hours and workdays (weekdays and non-holidays).

<table>
<thead>
<tr>
<th>ACTIVITIES / WEEK</th>
<th>1</th>
<th>2</th>
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<tbody>
<tr>
<td>Phase 1: Initiate</td>
<td></td>
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<tr>
<td>Phase 2: Plan</td>
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<tr>
<td>Phase 3.1: Execute: Implement</td>
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<td>Phase 3.2: Execute: Knowledge Transfer</td>
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<tr>
<td>Phase 4: Close</td>
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Project Activities
Phase 1: Initiate
The VMware Project Manager hosts one (1) project initiation call with key Customer and VMware stakeholders.

Topics to be discussed include the following:
• Project business drivers, scope, and objectives.
• Project deadlines, estimated timelines, scheduling, and logistics.
• Identification of key Customer team members with whom VMware will work with to accomplish the tasks defined in this SOW.
• Participating team members are confirmed and contact details are exchanged to schedule the project kickoff meeting.

Deliverables
• One (1) project initiation call
Phase 2: Plan
VMware leads one (1) project kickoff meeting with Customer project sponsors and stakeholders to review expectations about the purpose of the engagement, the delivery approach, and timelines.

The objectives of the meeting are as follows:

- Introducing the VMware team, roles, and responsibilities.
- Describing the project goals, phases and key dates.
- Agreeing on communication and reporting processes and creating a communications plan.
- Validating the project expectations and clarifying roles and responsibilities.
- Confirming prerequisites are met as detailed in the solution checklist for specified solutions.
- Presenting the solution overview for specified solutions including expected project results and deliverables.

The VMware Project Manager and the Customer Project Manager collaborate to develop the project plan.

Deliverables
- Virtual Infrastructure solution Checklist
- Virtual Infrastructure Solution Overview presentation
- Communications plan
- One (1) project kickoff meeting
- Project plan

Phase 3: Execute
The key activities for this phase are organized in the following sub-phases:

- Implement
- Knowledge transfer

Phase 3.1: Implement
VMware implements the solution according to the VMware solution specification. VMware does the following:

- Implements the specified solutions as detailed in the specification workbooks.
- Verifies the implementation and documents the results in the verification workbooks for the specified solutions.

Deliverables
- Virtual Infrastructure solution specification workbook
- Virtual Infrastructure solution verification workbook

Phase 3.2: Knowledge Transfer
VMware conducts knowledge transfer sessions covering the design, implementation, and operations procedures relating to the scope of this project.

VMware does the following:

- Conducts up to eleven (11) hours of knowledge transfer sessions for appropriate Customer representatives.
- Provides an adoption guide document(s) containing operational guidance for the specified solutions.
Note: For the avoidance of doubt, the Knowledge transfers herein do not comprise VMware product training or certification courses as offered by the VMware Education unit – (http://mylearn.vmware.com/mgrreg/index.cfm).

**Deliverables**
- Up to eleven (11) hours of knowledge transfer sessions
- Virtual Infrastructure adoption guide document
- Virtual Infrastructure knowledge transfer workshop presentation

**Phase 4: Close**
The VMware Project Manager conducts one (1) closure meeting with Customer covering project status, next steps and how to engage further with VMware.

**Deliverables**
- Engagement summary presentation
- One (1) Closure meeting

**Service Checklist**
Customer is responsible for executing all items discussed in the Service checklist prior to arrival of VMware Consultants on site.

The participation of the following Customer stakeholders is required for the service to be performed:
- VMware operations team leads.
- Storage team leads.
- Enterprise Architect.
- Infrastructure Architect.
- Network Architecture team leads.

The following prerequisites are required to enable VMware to perform this service:
- Number of hosts required. Defined minimum: 8.
- Number of hosts per cluster. Defined minimum: 4
- DNS must be configured and tested for forward, reverse, short and long name resolution.
- Active Directory required.
- Number of IP addresses required. Defined minimum 2 per host.
- NTP must be setup and time verified to be correct.
- Number of VLANS configured. Defined minimum: 2 (Management, and vMotion).
- Hardware must be verified against the VMware compatibility guide.
- Shared Storage must be provisioned. Defined minimum: 1
- Static IP addressing required.
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For detailed product specifications and system requirements, refer to the documentation.

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