

VI3.Blueprint Requirements Specification

Introduction

The Requirement Specification document lists the needs of the stakeholders and is used to drive design decisions and check that the solution is fit for purpose (ie. meets the needs of the stakeholders).

The requirements are divided into technical and service requirements and used in all of the workshops in the Designing stage to refine and improve the requirements and the design decisions and documents.

Intended Audience

VMware Certified Professionals (VCP), IT Architects/Designers and Project Management Professionals (PMP or Prince2)

Outline

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 - What constitutes a Service Requirement
 - Table of Service Requirements
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- Workshops
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VI3.Blueprint Requirements Specification

Requirements come from the [VI3.Blueprint Business Case](#), the [VI3.Blueprint Project Charter](#) and the [VI3.Blueprint Project Charter](#) efforts, plus specifications learned in the [VI3.Blueprint Proof of Concept](#) need to be managed as they might be ruled out of scope, or changed in some way.

Having a document that states the requirements, and their specification, provides an objective, open view of what the project is supposed to achieved and through a process of change control, everyone understands how the requirements impact the project and vice versa.

Inputs to the Requirements Specification

The starting requirements come from the [VI3.Blueprint Business Case](#) and the [VI3.Blueprint Project Charter](#). This exercise expands those to specify what they mean in terms that can be delivered by the project.

The requirements from the Business Case are taken from the Objectives section, or they can be taken from the Project Charter's Business Needs section. The list of requirements from these two documents is:

Requirement	Specification
Complete PoC	Build a proof of concept to prove the VMware technology in our environment
Collect Physical Capacity Data	Run a Capacity Planner process to fix the holes in our monitoring data and provide detailed server statistics over a four week period to allow us to identify candidates for virtualization
P2V Migration	Build and test the physical-to-virtual migration process to prove that it works in our environment
Design Fit for Purpose	Ensure the design is fit-for-purpose, in that it captures industry best practice and is NOT over- or under-engineered
250 Virtual Machines	Ensure that the VI3 deployment has the capacity for 250 of our servers, as shown by the Capacity Planner data
Operational Procedures	Prove that there are robust operational procedures in place for our IT Ops staff before go-live, including integration with our CMDB, our change management process, and that adequate fault isolation and root cause analysis procedures are in place.

Dashboard	Provide a read-only dashboard and reporting for access by anyone in the organization to provide live status and news about the new platform.
Knowledge Space	Provide an internal knowledge management space about the new platform.
VM-awareness	Create awareness for all internal employees about the new platform.
Training	Provide adequate training for IT staff to design, deploy and manage VI3.
Live in 180 days	Be a live platform running around 100 virtual machines from P2V and a 100 from new projects.

An additional input to Requirements Specification is a result of the findings of the [VI3.Blueprint Proof of Concept](#). The PoC is like a scientific experiment, where hypothesis (e.g. this feature works) are tested (e.g. does this feature work?). The observations and findings in the PoC are a way to test early requirements (e.g. restricting remote SSH logon to ESX Host) and firming up the specifications (e.g. modify /etc/ssh/sshd_config to restrict remote SSH logon).

The total list of requirements should be refined through the workshops as part of the Designing stage. It is important to refine these before (are the requirements, relevant to this workshop, complete?) and after a workshop (update the requirements and specifications with workshop findings). So with the workshop list in your hand - go through the requirements to refine and add any requirements relevant to each workshop.

The workshops are divided into Technical and Service workshops, so the requirements are similarly divided though there is obviously close coupling between the two areas through things like tools (e.g. ESX Host design is a technical activity but reporting on capacity of that ESX Host is a service activity).

How the requirements are managed

Starting with the original requirements from the [VI3.Blueprint Business Case](#) and the [VI3.Blueprint Project Charter](#), the requirements are written into the Requirements Specification doc which is then owned by the Project Manager and placed under change control.

Any changes to the Requirements Specification document must adhere to the RACI Diagram specification in the [VI3.Blueprint Project Charter](#). For any changes, ensure that the correct approval is obtained, consultation is sought, and communication is made to keep people informed - all as per the RACI Diagram.

Technical Requirements

What constitutes a Technical Requirement

Technical Requirements focus on the hardware and software assets and configurations in the solution, and they are refined in the Technical Workshops in the Designing stage.

Technical requirements are usually driven by:

- industry best practice (e.g. four pNICs per ESX host)
- corporate standards (e.g. VM vNIC can only connect to Internal network)

*How should a Requirement be Specified?

Each requirement maps to either a Technical or Service workshop and needs to be satisfied with a design decision.

To work out if that design decision will satisfy the requirement, we need some quality criteria to test against. An example is:

Requirement	Specification
ESX Network Best Practice	Minimum four pNICs per host

For this requirement, the design must specify four physical NICs for each host.

Table of Technical Requirements

Workshop	Requirement	Specification
VI3 Design	ESX Hardware Supported	<ul style="list-style-type: none"> • Hardware available is (vendor type) - is this supported?
VI3 Design	ESX Network Best Practice	<ul style="list-style-type: none"> • Minimum four pNICs for best practice
VI3 Design	ESX Logging Best Practice	<ul style="list-style-type: none"> • Export syslogs to remote syslog server

VI3 Design	ESX Access Best Practice	<ul style="list-style-type: none"> • Disable remote root login over SSH or any other mean
VI3 Design	ESX Security Best Practice	<ul style="list-style-type: none"> • Custom security banner
VI3 Design	VirtualCenter Access Best Practice	<ul style="list-style-type: none"> • No remote VC client, only RDP access to VC, run vclient local to vCenter
VI3 Design	VirtualCenter Database	<ul style="list-style-type: none"> • Use Microsoft SQLServer, remote shared DB managed by DBA team
VI3 Design	VirtualMachine Network	<ul style="list-style-type: none"> • Only one vNIC to internal network.
VI3 Design	VirtualMachine Management	<ul style="list-style-type: none"> • Manage VM via vCenter and all OS management via RDP / standard tools
Network Design	Redundant NICs	<ul style="list-style-type: none"> • Each ESX host needs redundant paths for Internal network via separate access-layer switches
Network Design	Spanning Tree Protocol	<ul style="list-style-type: none"> • Disabled on access-layer switches, by using portfast
Storage Design	Redundant HBAs	<ul style="list-style-type: none"> • Each ESX host needs redundant paths to fabric
Storage Design	LUN size	<ul style="list-style-type: none"> • ESX LUNs will be 500GB, formatted with VMFS3 and alert > 450GB used.

Storage Design	Fabric Zoning	<ul style="list-style-type: none"> Single initiator, single zone - ie. one zone per host, containing 2 HBAs + LUNs
Migration Collection	<ul style="list-style-type: none"> Collect accurate, recent data on server inventory and capacity usage 	

Training	Official Training	Identify and schedule classroom training for technical staff
Training	Unofficial Training	Identify and schedule brownbag/own-time training for technical staff

MORE TO ADD AS THIS DOCUMENT IS COLLABORATED ON

Service Requirements

What constitutes a Service Requirement

Service Requirements focus on the process between the technology and the end-user in the solution, and they are refined in the Service Workshops in the Designing stage.

An example of a Service Requirement is a Capacity Management "Alert on VMs that consistently use less than 10% CPU" for VM Recycling.

*How should a Requirement be Specified?

Each requirement maps to either a Technical or Service workshop and needs to be satisfied with a design decision.

To work out if that design decision will satisfy the requirement, we need some quality criteria to test against. An example is:

Requirement	Specification	
Security Design	Access Control	Only IT Ops SSH access to ESX Server

Training	Official Training	Identify and Schedule training from VMware
Training	Unofficial Training	Identify and Schedule brownbag/own-time training for service delivery staff

For this requirement, the design must specify how ESX SSH access will be restricted to IT Ops.

Table of Service Requirements

Workshop	Requirement	Specification
Security Design	Access Control	Only IT Ops SSH access to ESX Server
Release Design	Patching	Use VMware Update Manager
Change Design	vMotion classification	vMotion does not require a change ticket
SLM Design	Service Catalogue	VM templates published in catalogue
Operations Design	Standard Operating Procedures	Add SOPs to IT Ops Knowledge Base and link to VI3 events
Event Management Design	Aggregate Events	Connect VI3 events to central alert aggregator
BCDR Design	Resilience	Use redundant components and HA to increase resilience
Configuration Management Design	CI Map	Product CI Map for CMDB team
Chargeback Design	New low cost unit	Introduce new unit of cost for VM
Capacity Design	Recycle VM	Track idle VMs and mark them for archive / moving to high-density host

Incident & Problem Design	Fault Isolation	Define fault isolation procedure for training + knowledge base
Design Document	Standard	Use corporate IT Design standards

MORE TO ADD THROUGH COLLABORATION

Resources

- This document on the web @ [VI3.Blueprint Requirements Specification](#)
- [VI3.Blueprint Business Case](#)
- [VI3.Blueprint Project Charter](#)
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Reviewers

- Reviewers, Add VIOPS profile for reviewers

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- Standard text

Attachments