

1. Record Nr.	UNINA9910965338703321
Autore	Guthrie Forbes
Titolo	VMware vSphere design // Forbes Guthrie, Scott Lowe
Pubbl/distr/stampa	Indianapolis, Ind., : Sybex, c2013
ISBN	9781118493946 111849394X 9781299314757 1299314759 9781118538234 1118538234
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (600 p.)
Altri autori (Persone)	LoweScott
Disciplina	005.4469
Soggetti	Operating systems (Computers) Virtual computer systems Web services
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Cover -- Title Page -- Copyright -- Contents -- Chapter 1 An Introduction to Designing VMware Environments -- What Is Design? -- The Facets of vSphere Design -- The Technical Facet -- The Organizational Facet -- The Operational Facet -- The Principles of Design -- Availability -- Manageability -- Performance -- Recoverability -- Security -- The Process of Design -- Gathering and Defining Functional Requirements -- Assessing the Environment -- Performing a Gap Analysis -- Assembling the Design -- Documenting the Design -- Performing the Implementation -- Summary -- Chapter 2 The ESXi Hypervisor -- Evolution of the vSphere Hypervisor -- The ESXi Concept -- ESXi Design -- ESXi Components -- ESXi Agents -- ESXi System Image -- ESXi Customized Images -- ESXi Disk Layout -- Tardisks and Ramdisks -- ESXi Deployment -- Hardware Requirements -- ESXi Flavors: Installable, Embedded, and Stateless -- Auto Deploy Infrastructure -- Comparing Deployments Options -- Upgrading ESXi -- Migrating from ESX -- Testing -- Deployment -- Management -- Postinstallation Design Options -- Management Tools Overview --

Host-Management Tools -- Centralized Management Tools --
Hardware Monitoring -- Logging -- Summary -- Chapter 3 The
Management Layer -- Reviewing the Components of the Management
Layer -- VMware vCenter Server -- vSphere Client and vSphere Web
Client -- vSphere Update Manager -- Management Applications --
Examining Key Management Layer Design Decisions -- Virtual or
Physical vCenter Server? -- vCenter Server on Windows or vCenter
Server Appliance? -- Local or Remote Database Server? -- Which
Operating System for vCenter Server? -- Creating the Management
Layer Design -- Availability -- Manageability -- Performance --
Recoverability -- Security -- Summary -- Chapter 4 Server Hardware --
Hardware Considerations -- Factors in Selecting Hardware --
Computing Needs.
Server Constraints -- Differentiating among Vendors -- Server
Components -- CPU -- RAM -- NUMA -- Motherboard -- Storage --
Network -- PCI -- Preparing the Server -- Configuring the BIOS --
Other Hardware Settings -- Burn-in -- Preproduction Checks -- Scale-
Up vs. Scale-Out -- Advantages of Scaling Up -- Advantages of Scaling
Out -- Scaling Is a Matter of Perspective -- Risk Assessment --
Choosing the Right Size -- CPU to Memory Design Ratio -- Sizing the
Hosts -- Blade Servers vs. Rack Servers -- Blade Servers -- Rack
Servers -- Form-Factor Conclusions -- Alternative Hardware
Approaches -- Cloud Computing -- Converged Hardware -- Summary
-- Chapter 5 Designing Your Network -- Examining Key Network
Components -- Physical Connectivity -- Network Traffic Types --
Software Components -- Exploring Factors Influencing the Network
Design -- Physical Switch Support -- vSwitches and Distributed
vSwitches -- IP-Based Storage -- 10Gb Ethernet -- I/O Virtualization
-- SR-IOV and DirectPath I/O -- Server Architecture -- Crafting the
Network Design -- Availability -- Manageability -- Performance --
Recoverability -- Security -- Design Scenarios -- Two NICs -- Four
NICs -- Six NICs -- Eight NICs -- Looking to the Future -- Summary --
Chapter 6 Storage -- Dimensions of Storage Design -- Storage Design
Factors -- Storage Efficiency -- vSphere Storage Features -- Designing
for Capacity -- RAID Options -- Estimating Capacity Requirements --
VMFS Capacity Limits -- Large or Small Datastores? -- Thin
Provisioning -- Data Deduplication -- Array Compression -- Downside
of Saving Space -- Designing for Performance -- Measuring Storage
Performance -- How to Calculate a Disk's IOPS -- What Can Affect a
Storage Array's IOPS? -- Measuring Your Existing IOPS Usage -- Local
Storage vs. Shared Storage -- Local Storage -- What about Local Shared
Storage? -- Shared Storage.
Choosing a Protocol -- Fibre Channel -- iSCSI -- NFS -- Protocol
Choice -- Multipathing -- SAN Multipathing -- NAS Multipathing --
vSphere Storage Features -- vSphere Storage APIs -- Performance and
Capacity -- Storage Management -- Summary -- Chapter 7 Virtual
Machines -- Components of a Virtual Machine -- Base Virtual Machine
Hardware -- Hardware Versions -- Virtual Machine Maximums --
Hardware Choices -- Removing or Disabling Unused Hardware --
Virtual Machine Options -- SDRS Rules -- vApp Options -- vServices --
Naming Virtual Machines -- VMware Tools -- Notes, Custom
Attributes, and Tagging -- Sizing Virtual Machines -- Virtual Machine
CPU Design -- Cores per Socket -- CPU Hot Plug -- Resources --
Additional CPU Settings -- Virtual Machine Memory Design --
Resources -- Additional Memory Settings -- Virtual Machine Storage
Design -- Disks -- Disk Types -- Disk Shares and IOPS Limits -- Disk
Modes -- SCSI Controllers -- RDMs -- Storage vMotion -- Cross-Host
vMotion -- VM Storage Profile -- Virtual Machine Network Design --

vNIC Drivers -- MAC Addresses -- VLAN Tagging -- Guest Software --
Selecting an OS -- Guest OS and Application Licensing -- Disk
Alignment -- Defragmentation -- Optimizing the Guest for the
Hypervisor -- Clones, Templates, and vApps -- Clones -- Templates
-- Preparing a Template -- Virtual Appliances -- OVF Standard --
vApps -- Virtual Machine Availability -- vSphere VM Availability --
Third-Party VM Clustering -- Microsoft Application Clustering --
vCenter Infrastructure Navigator -- Summary -- Chapter 8 Datacenter
Design -- vSphere Inventory Structure -- Inventory Root -- Folders --
Datacenters -- Clusters -- Resource Pools -- Hosts -- Virtual Machines
-- Templates -- Storage -- Networks -- Why and How to Structure --
Clusters -- EVC -- Swapfile Policy -- Cluster Sizing -- Resource Pools
-- Resource Pool Settings.
Admission Control -- Distributed Resource Scheduling -- Load
Balancing -- Affinity Rules -- Distributed Power Management -- High
Availability and Clustering -- High Availability -- Fault Tolerance --
Summary -- Chapter 9 Designing with Security in Mind -- Why Is
Security Important? -- Separation of Duties -- Risk Scenario -- Risk
Mitigation -- vCenter Server Permissions -- Risk Scenario -- Risk
Mitigation -- Security in vCenter Linked Mode -- Risk Scenario -- Risk
Mitigation -- Command-Line Access to ESXi Hosts -- Risk Scenario --
Risk Mitigation -- Managing Network Access -- Risk Scenario -- Risk
Mitigation -- The DMZ -- Risk Scenario -- Risk Mitigation -- Firewalls
in the Virtual Infrastructure -- The Problem -- The Solution -- Change
Management -- Risk Scenario -- Risk Mitigation -- Protecting the VMs
-- Risk Scenario -- Risk Mitigation -- Protecting the Data -- Risk
Scenario -- Risk Mitigation -- Cloud Computing -- Risk Scenario --
Risk Mitigation -- Auditing and Compliance -- The Problem -- The
Solution -- Summary -- Chapter 10 Monitoring and Capacity Planning
-- Nothing Is Static -- Building Monitoring into the Design --
Determining the Tools to Use -- Selecting the Items to Monitor --
Selecting Thresholds -- Taking Action on Thresholds -- Alerting the
Operators -- Incorporating Capacity Planning in the Design -- Planning
before Virtualization -- Planning during Virtualization -- Summary --
Chapter 11 Bringing a vSphere Design Together -- Sample Design --
Business Overview for XYZ Widgets -- Hypervisor Design -- vSphere
Management Layer -- Server Hardware -- Networking Configuration --
Shared Storage Configuration -- VM Design -- VMware Datacenter
Design -- Security Architecture -- Monitoring and Capacity Planning --
Examining the Design -- Hypervisor Design -- vSphere Management
Layer -- Server Hardware -- Networking Configuration.
Shared Storage Configuration -- VM Design -- VMware Datacenter
Design -- Security Architecture -- Monitoring and Capacity Planning --
Summary -- Chapter 12 vCloud Design -- Differences Between Cloud
and Server Virtualization -- Role of vCloud Director in Cloud
Architecture -- vCloud Director Use Cases -- Use Case #1 -- Use Case
#2 -- Use Case #3 -- Use Case #4 -- Components of the vCloud
Management Stack -- vCloud Cell and NFS Design Considerations --
Management vs. Consumable Resources -- Database Concepts --
vCenter Design -- vCloud Management: Physical Design -- The
Physical Side of Provider Virtual Datacenters -- The Logical Side of
Provider Virtual Datacenters -- Network Pool Decisions -- External
Networks -- Designing Organizations, Catalogs, and Policies --
Correlating Organizational Networks to Design -- End Users and vApp
Networking -- Designing Organization Virtual Datacenters -- Multiple
Sites -- Backup and Disaster Recovery -- Summary -- Index.

vSphere solutions in your company, this unique book provides keen insight and solutions.
