1. Record Nr. UNINA9910825491103321

Autore	Liebowitz Matt
Titolo	VMware vSphere performance : designing CPU, memory, storage, and networking for performance-intensive workloads / / Matt Liebowitz, Christopher Kusek, Rynardt Spies ; acquisitions editor, Mariann Barsolo ; development editor, Alexa Murphy ; technical editor, Jason Boche
Pubbl/distr/stampa	Indianapolis, Indiana : , : Sybex, , 2014 ©2014
ISBN	1-118-23558-4 1-118-22182-6
Descrizione fisica	1 online resource (266 p.)
Disciplina	005.43
Soggetti	Virtual computer systems
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 Performance Design; Starting Simple; Determine Parameters; Architect for the Application; Assess Physical Performance; Start with Defaults; Establishing a Baseline; Baseline CPU Infrastructure; Memory; Network; Storage; Architecting for the Application; Considering Licensing Requirements; Integrating Virtual Machines; Virtual Machine Scalability; vMotion; Distributed Resource Scheduler; High Availability; Understanding Design Considerations; Choosing a Server; Summary; Chapter 2 Building Your Toolbox; Capacity Planning Tools VMware Capacity PlannerMicrosoft Assessment and Planning Toolkit; Using Capacity Planning Tools; Ongoing Capacity Management; Performance Analysis Tools; esxtop; vscsiStats; Performance Benchmarking Tools; VMmark; vBenchmark; Performance Simulation Tools; CPU/Memory; Storage; Network; Summary; Chapter 3 The Test Lab; Why Build a Test Lab?; Test Changes before Applying in Production; Test New Applications and Patches; Re-Create Production Problems; Simulate Performance Problems for Troubleshooting; Benchmark New Hardware; Learn about Virtualization; Strategies for a Successful Test Lab Build a Realistic Environment Building the Lab; Use Proper Tools for

Measurement; How to Build Your Lab; Test Objective; Lab Summary; Provisioning the Lab; Defining the Workload and Configuration of IOmeter; Lab Postmortem; Summary; Chapter 4 CPU; Getting to Know the Basics of CPU Virtualization; Understanding CPU Protected Mode in the x86 Architecture; Defining the Types of CPU Virtualization; Distinguishing between Physical CPUs and Virtual CPUs; Understanding vCPU States; Introducing the ESXi CPU Scheduler; Understanding the Proportional Share-Based Algorithm
Understanding CPU Co-SchedulingThe CPU Scheduler Cell; Understanding CPU Topology-Aware Load Balancing; Multicore-Aware Load Balancing; Sizing CPU for Virtual Machines; Considerations for vSMP; Considerations for NUMA and vNUMA; Hot Plug of CPU Resources; Understanding CPU Resource Management; Understanding CPU Reservations; Understanding CPU Limits; Configuring CPU Reservations and Limits; Understanding Resource Pools; Troubleshooting CPU Performance Problems; Using esxtop to Diagnose CPU Performance Issues; High CPU Ready Time; High ESXi Host CPU Utilization; High Guest CPU Utilization
Summary Chapter 5 Memory; Getting to Know ESXi Memory Management; Memory Virtualization; Memory Management in ESXi; Hardware-Assisted MMU Virtualization; Reclaiming Memory from VMs; Transparent Page Sharing; Ballooning; Memory Compression; Hypervisor Swapping; Host SSD Cache Swapping; Host Memory Reclamation; Idle Page Reclamation; Managing Virtual Machine Memory Allocation; Working Set Size; Proportional Share-Based Algorithm; Sizing Memory for Virtual Machines; Memory Overhead; Memory Overcommitment; Troubleshooting Memory Performance Problems Using esxtop to Diagnose Memory Performance Issues

Sommario/riassunto

Covering the latest VMware vSphere software, an essential book aimed at solving vSphere performance problems before they happen VMware vSphere is the industry's most widely deployed virtualization solution. However, if you improperly deploy vSphere, performance problems occur. Aimed at VMware administrators and engineers and written by a team of VMware experts, this resource provides guidance on common CPU, memory, storage, and network-related problems. Plus, step-by-step instructions walk you through techniques for solving problems and shed light on possible causes behind the