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| Autore | Siron Eric |
| Titolo | Microsoft Hyper-V cluster design / / Eric Siron |
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| ISBN | 1-78217-769-8 |
| Descrizione fisica | 1 online resource (462 p.) |
| Disciplina | 005.4476 |
| Soggetti | System design<br>System design - Data processing |
| Lingua di pubblicazione | Inglese |
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| Nota di contenuto | Cover; Copyright; Credits; About the Author; About the Reviewers; www.PacktPub.com; Table of Contents; Preface; Chapter 1: Hyper-V Cluster Orientation; Terminology; Clustering in a Microsoft environment; Create a project document; Purposes for a Hyper-V Server cluster; High availability; High Availability Printing; Balancing resources; Geographic dispersion; Natural replacement for aging infrastructure; Test, development, and training systems; Cloud hosting; Resource metering; VDI and RemoteFX; Be open to other purposes; Goals for a Hyper-V Server cluster<br>Identify the resources that cannot be virtualizedConsult with application vendors; Involve internal stakeholders; Define phases and timelines; Perform further research; Define success metrics; Measure and predict your workload; Only allow changes during the planning phase; Looking forward to the Design phase; Host computers; Storage; Cluster Shared Volumes; SMB shares; Mixing SMB 3.0 and CSV; Networking; Management; Cluster and Cluster Shared Volumes; Live Migration; Subnetting; Virtual machine traffic; Storage traffic; Physical adapter considerations; Adapter teaming; Active Directory Virtualized domain controllersSupporting software; Management tools; Backup; Training; A sample Hyper-V Cluster planning document; Sample project title - Techstra Hyper-V Cluster Project; Sample project - purposes; Sample project - goals; Review the sample project; Summary; Chapter 2: Cluster Design and Planning; Starting the design |

phase; Planning for existing systems; Deciding how you will virtualize physical systems; Determining requirements for existing systems; Microsoft Assessment and Planning Toolkit; Performance Monitor; General approaches to reading the metrics; Memory measurements
Network measurementsDisk measurements; Processor measurements; Host computer components; Hyper-V Server requirements; CPU; Memory; Host networking; Host storage; Management operating system; Hyper-V Server; Windows Server; Deciding on a management operating system; Networking; Advanced networking hardware; Shared storage; Storage area network devices; Network-attached storage devices; General purpose computers; Shared storage performance characteristics; Designing shared storage; Software licensing; Windows Server and guest virtualization rights; Software Assurance; Client access licenses
Other software licensesHyper-V and cluster-related software planning; Remote software applications; Local software applications; Blade hardware; Physical placement; Security; Domain separation; Hyper-V isolation; Network isolation; Complete the planning phase; Sample project - planning and design; Sample project - hardware; Summary; Chapter 3: Constructing a Hyper-V Server Cluster; Documenting the initial setup phase; Build steps not covered in this book; Auxiliary built-in tools; Acquiring and enabling the GUI tools; Enabling the tools on Windows 8/8.1 from the GUI
Enabling the tools on Windows Server 2012/R2 in the GUI

Sommario/riassunto

This book is written in a friendly and practical style with numerous tutorials centred on common as well as atypical Hyper-V cluster designs. This book also features a sample cluster design throughout to help you learn how to design a Hyper-V in a real-world scenario. Microsoft Hyper-V Cluster Design is perfect for the systems administrator who has a good understanding of Windows Server in an Active Directory domain and is ready to expand into a highly available virtualized environment. It only expects that you will be familiar with basic hypervisor terminology.

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| Autore | Yang Xin-She |
| Titolo | Engineering optimization : an introduction with metaheuristic applications / / Xin-She Yang |
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| ISBN | 9786612707773<br>9781282707771<br>1282707779<br>9780470640425<br>0470640421<br>9780470640418<br>0470640413 |
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| Note generali | Description based upon print version of record. |
| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | Engineering Optimization: An Introduction with Metaheuristic Applications; CONTENTS; List of Figures; Preface; Acknowledgments; Introduction; PART I FOUNDATIONS OF OPTIMIZATION AND ALGORITHMS; 1 A Brief History of Optimization; 1.1 Before 1900; 1.2 Twentieth Century; 1.3 Heuristics and Metaheuristics; Exercises; 2 Engineering Optimization; 2.1 Optimization; 2.2 Type of Optimization; 2.3 Optimization Algorithms; 2.4 Metaheuristics; 2.5 Order Notation; 2.6 Algorithm Complexity; 2.7 No Free Lunch Theorems; Exercises; 3 Mathematical Foundations; 3.1 Upper and Lower Bounds; 3.2 Basic Calculus<br>3.3 Optimality3.3.1 Continuity and Smoothness; 3.3.2 Stationary Points; 3.3.3 Optimality Criteria; 3.4 Vector and Matrix Norms; 3.5 Eigenvalues and Definiteness; 3.5.1 Eigenvalues; 3.5.2 Definiteness; 3.6 Linear and Affine Functions; 3.6.1 Linear Functions; 3.6.2 Affine Functions; 3.6.3 Quadratic Form; 3.7 Gradient and Hessian Matrices; |

3.7.1 Gradient; 3.7.2 Hessian; 3.7.3 Function approximations; 3.7.4 Optimality of multivariate functions; 3.8 Convexity; 3.8.1 Convex Set; 3.8.2 Convex Functions; Exercises; 4 Classic Optimization Methods I; 4.1 Unconstrained Optimization
4.2 Gradient-Based Methods4.2.1 Newton's Method; 4.2.2 Steepest Descent Method; 4.2.3 Line Search; 4.2.4 Conjugate Gradient Method; 4.3 Constrained Optimization; 4.4 Linear Programming; 4.5 Simplex Method; 4.5.1 Basic Procedure; 4.5.2 Augmented Form; 4.6 Nonlinear Optimization; 4.7 Penalty Method; 4.8 Lagrange Multipliers; 4.9 Karush-Kuhn-Tucker Conditions; Exercises; 5 Classic Optimization Methods II; 5.1 BFGS Method; 5.2 Nelder-Mead Method; 5.2.1 A Simplex; 5.2.2 Nelder-Mead Downhill Simplex; 5.3 Trust-Region Method; 5.4 Sequential Quadratic Programming; 5.4.1 Quadratic Programming
5.4.2 Sequential Quadratic ProgrammingExercises; 6 Convex Optimization; 6.1 KKT Conditions; 6.2 Convex Optimization Examples; 6.3 Equality Constrained Optimization; 6.4 Barrier Functions; 6.5 Interior-Point Methods; 6.6 Stochastic and Robust Optimization; Exercises; 7 Calculus of Variations; 7.1 Euler-Lagrange Equation; 7.1.1 Curvature; 7.1.2 Euler-Lagrange Equation; 7.2 Variations with Constraints; 7.3 Variations for Multiple Variables; 7.4 Optimal Control; 7.4.1 Control Problem; 7.4.2 Pontryagin's Principle; 7.4.3 Multiple Controls; 7.4.4 Stochastic Optimal Control; Exercises
8 Random Number Generators8.1 Linear Congruential Algorithms; 8.2 Uniform Distribution; 8.3 Other Distributions; 8.4 Metropolis Algorithms; Exercises; 9 Monte Carlo Methods; 9.1 Estimating ; 9.2 Monte Carlo Integration; 9.3 Importance of Sampling; Exercises; 10 Random Walk and Markov Chain; 10.1 Random Process; 10.2 Random Walk; 10.2.1 ID Random Walk; 10.2.2 Random Walk in Higher Dimensions; 10.3 Levy Flights; 10.4 Markov Chain; 10.5 Markov Chain Monte Carlo; 10.5.1 Metropolis-Hastings Algorithms; 10.5.2 Random Walk; 10.6 Markov Chain and Optimisation; Exercises
PART II METAHEURISTIC ALGORITHMS

Sommario/riassunto

An accessible introduction to metaheuristics and optimization, featuring powerful and modern algorithms for application across engineering and the sciences From engineering and computer science to economics and management science, optimization is a core component for problem solving. Highlighting the latest developments that have evolved in recent years, Engineering Optimization: An Introduction with Metaheuristic Applications outlines popular metaheuristic algorithms and equips readers with the skills needed to apply these techniques to their own optimization problems. With insigh