

A case study of using a Xen-based system in Pioneer Corporation.

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Case Study Overview

- Customer:Pioneer Corporation
 - Migrate from Linux & Windows Server System
 - Already used VMware ESX Server
- Build a long term infrastructure
 - Xen/SUSE Linux Enterprise Server
 - Based on Open Source products, like Linux, Apache, PHP, MySQL

Topics

- Hardware:HP Blade Server and Storage
- Why Novell SLES10?
- Manage with “Hinemos”, Integrated Management Software
- VM Backup using storage snapshot

Hardware

- Sizing Goal:50VM
- Blade Server(HP BL460c)
 - Total 11 Blades
 - CPU:8Core(4Core x 2Processor)
 - Memory:14GB (2GB/VM)
- FC Storage(HP EVA4100)
 - Total Capacity:8TB
 - Snapshot Function
- Tape Library(LTO-3/FC connect)

Why Novell SLES10?

- Already used SLES9/SLES10
- License for Virtualization
- PV driver for Windows(VM Dirver Pack)
- Xen fully supported

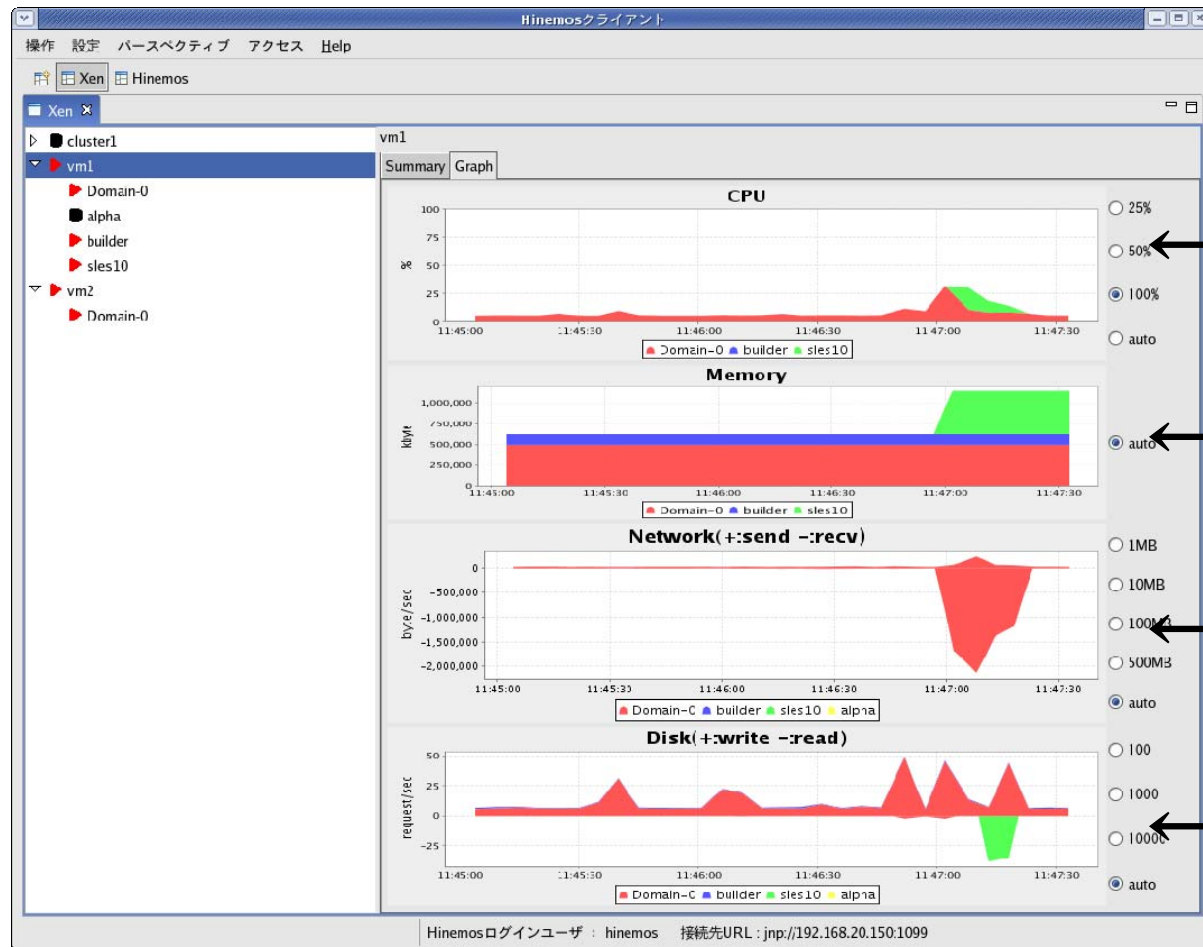
What is Hinemos?

- Integrated System Management Software
 - Developed by NTT DATA Corporation
 - Open Source as GPL
- Status Watch, Job Management, Performance Mangement, etc...
 - SNMP, Syslog
- Client/Server/Agent Architecture
 - Server:JBoss+PostgreSQL+OpenLDAP
 - Client:EclipseRCP
 - Agent:Java

Customizing Hinemos for Xen

- Manage Guest OS & Services
 - “Xen-remote” agent works on Domain 0
 - Xen-remote gets VM/Devices information
 - Xen-remote runs xm command to control VMs
- Added Function
 - VM Power On/Off, Live Migration
 - Workload Monitoring/Logging(CPU/Memory/Network/Block Device)
 - Remote Console(VNC)

Hinemos Workload Monitor



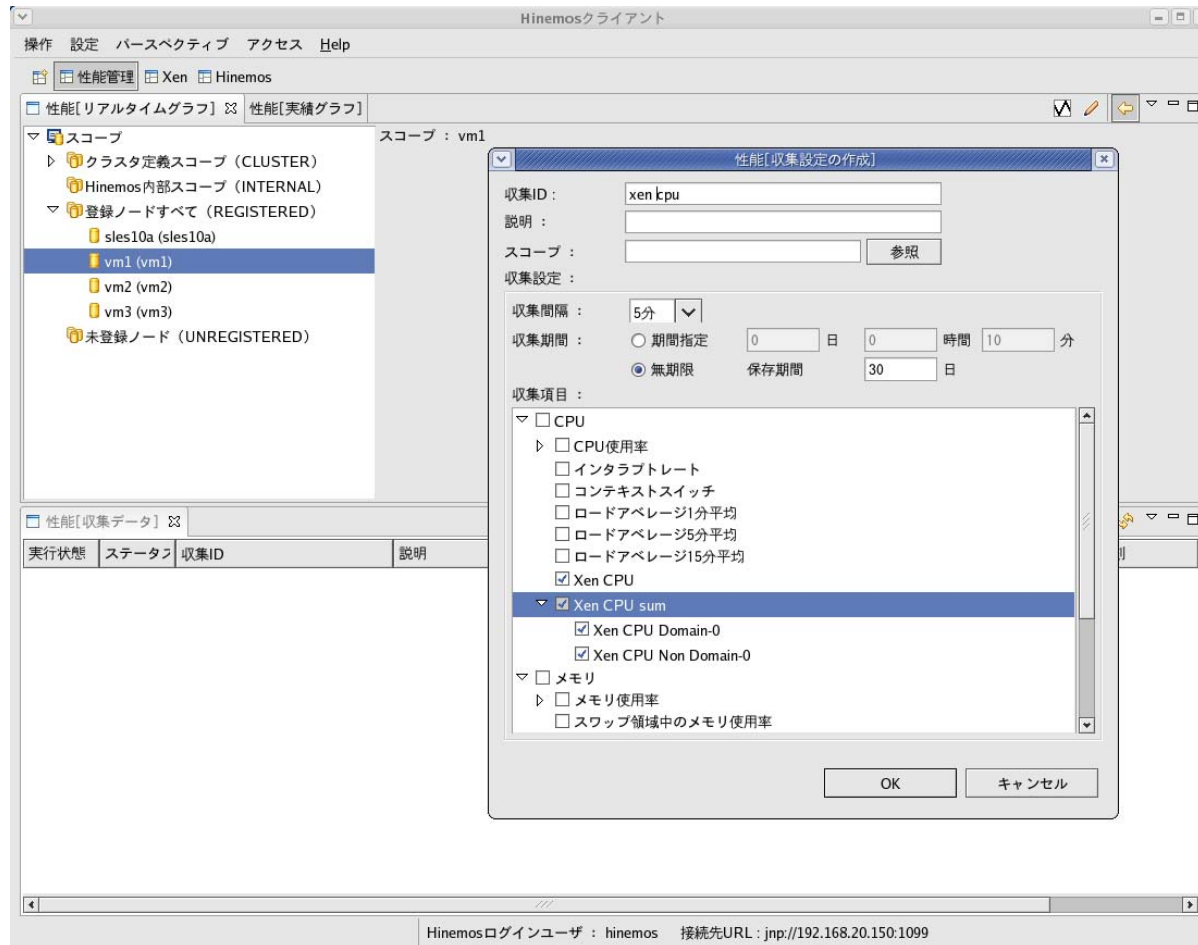
CPU

Memory

Network

Block Device

Hinemos Workload Logging



VMs Backup using storage snapshot

- Backup without shutdown VMs
- Using storage snapshot function
 1. Make snapshot
 2. Mount snapshot from backup server
 3. Backup snapshot data to Tape Library
- Backup jobs managed by “Hinemos”

Issues

- Which API is better?
 - Current:our own agent on Domain 0, manage thru libxc & proc file system
 - XenAPI?
 - libvirt?