

Unified System Management

HP Systems Insight Manager

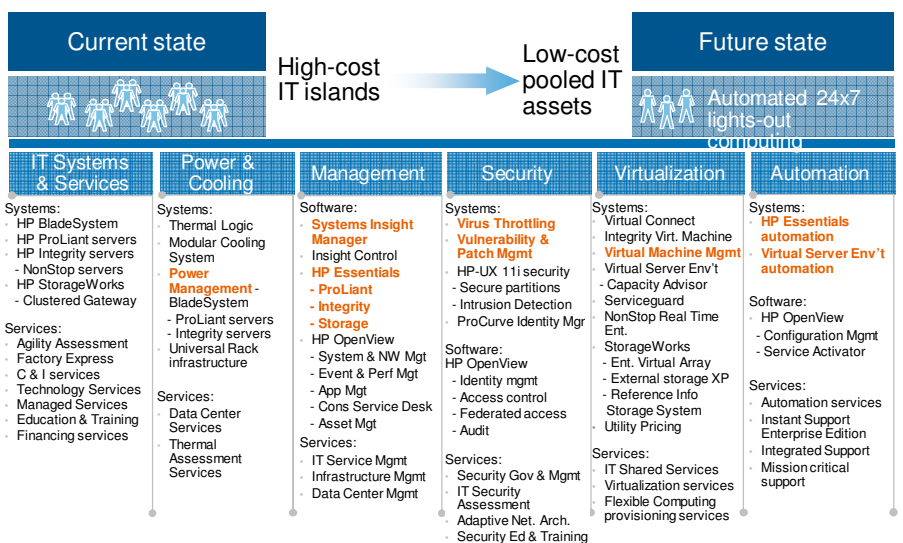
Andreas Wolf
Technical Server Consultant, HP

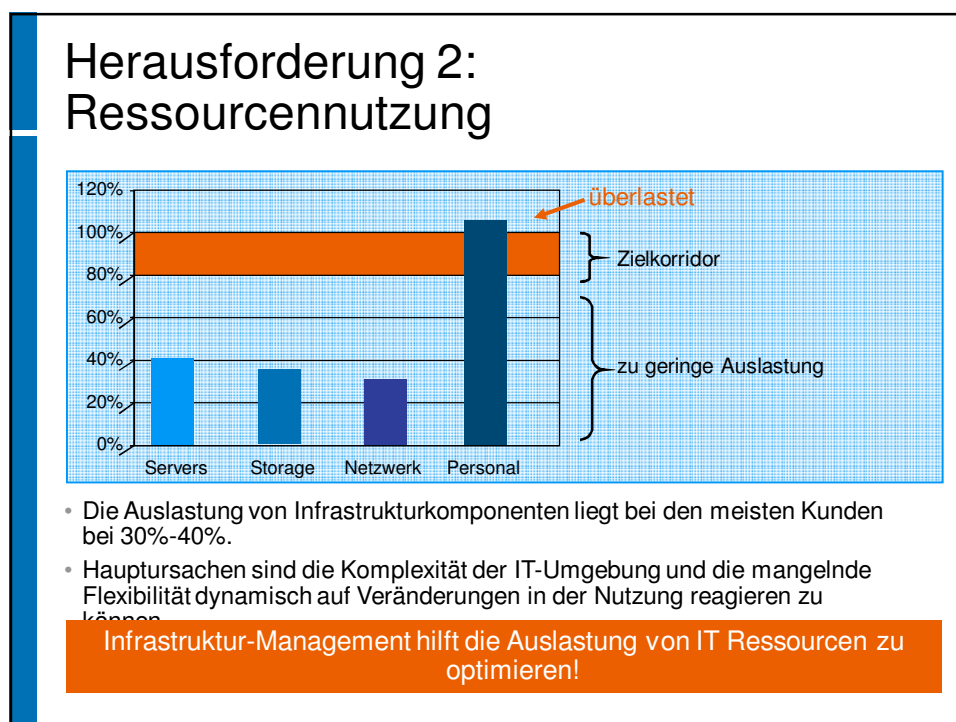
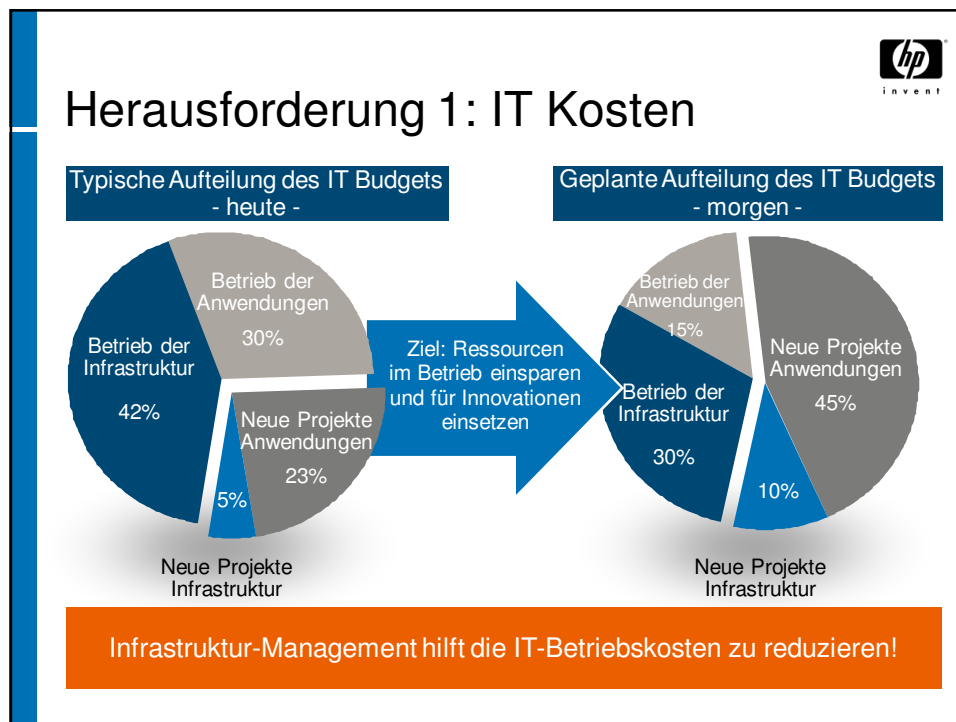


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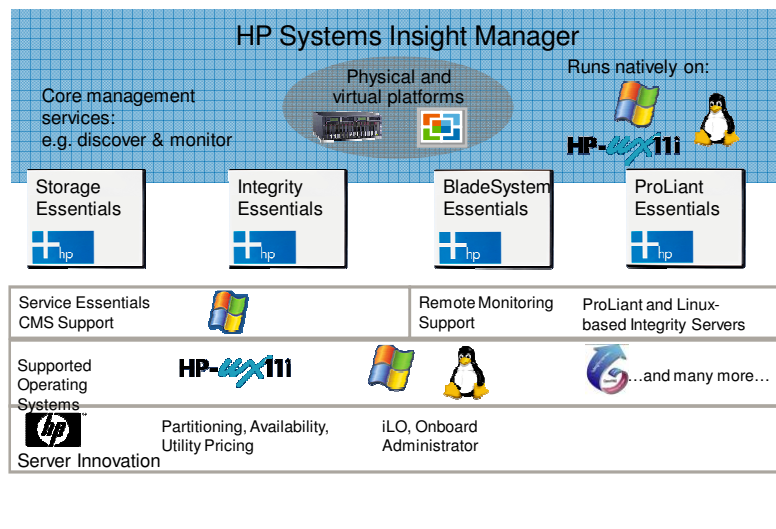
Adaptive Infrastructure

Key enablers

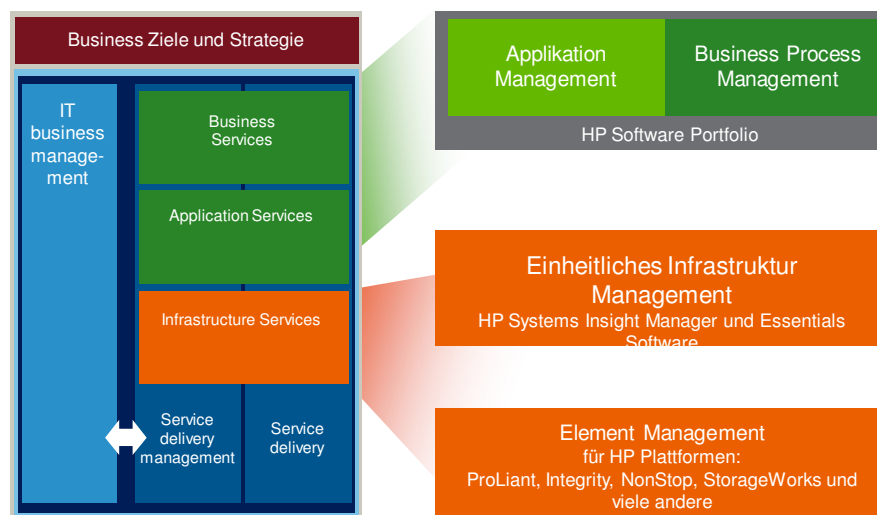




Unified Infrastructure Management



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HP Systems Insight Manager

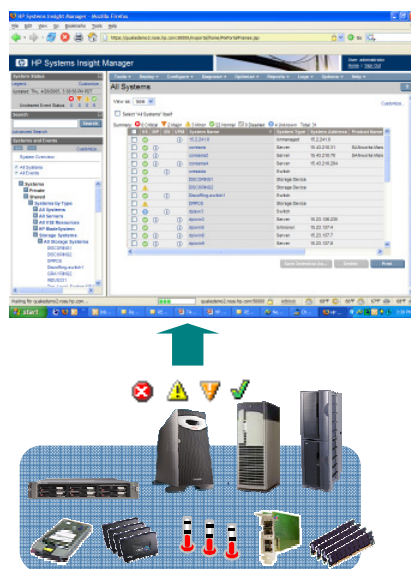
Comprehensive management through core services

- Installs on HP-UX, Windows, and Linux
- Manages all HP server and storage platforms
- Delivers fault, configuration, asset management
- Tool definitions enable remote execution of scripts, batch files, and applications
- Role-based security; OS security integration; SSL, SSH support



HP System Insight Manager Basics

Faults - Monitoring



Monitoring

- Status polling
 - HW (Hardware):
 - Health using Insight agent
 - Connection test via ping or TCPIP
 - SW (Software):
 - System software status using Version Control agent status
- Incoming events (SNMP traps)

Server instrumentation:

- ProLiant servers - (disks, CPU, memory, fans, IO, server environmentals) via SNMP Insight agents
- HP-UX Integrity servers - via SNMP (using EMS) and WBEM

Storage instrumentation

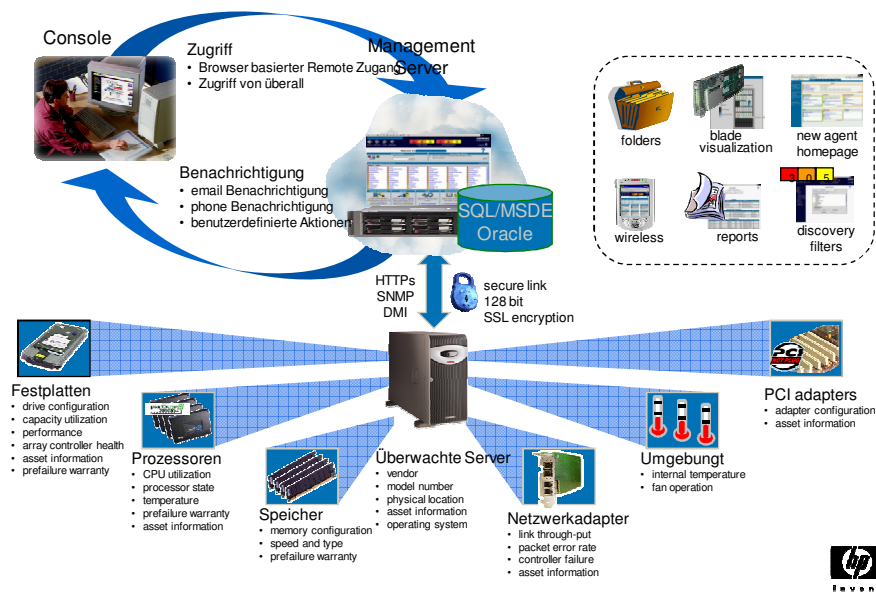
- SAN and NAS device management – via WBEM

ISEE Integration

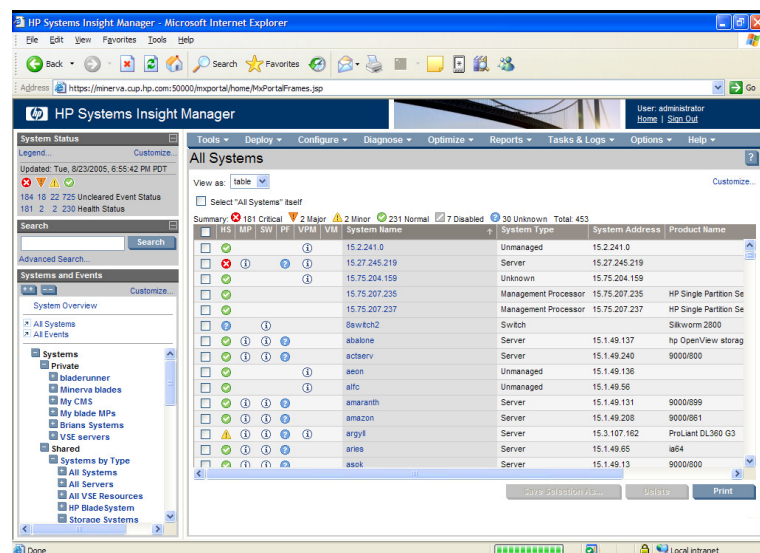
- Monitors services support call status – via SNMP



Systems Insight Manager

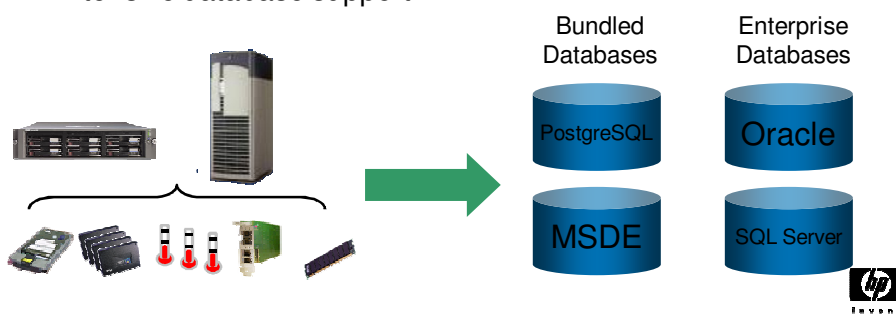


HP Systems Insight Manager 5.1 HP Look and Feel



Inventory collection and reporting

- Save device hardware asset inventory configurations
- Create custom reports of inventory details
- Flexible search simplifies location of specific devices
- Configuration snapshot – single and multi-system comparisons for consistency management and troubleshooting
- Extensive database support



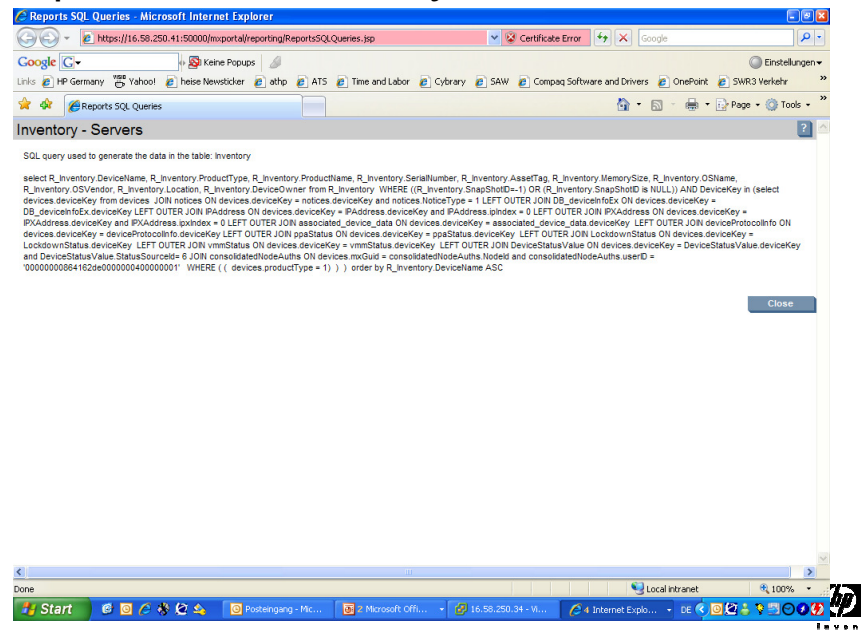
Reports

The screenshot shows the HP Inventory Reports web interface in a Microsoft Internet Explorer browser. The page title is 'Reports Result - Microsoft Internet Explorer'. The URL is <https://16.58.250.41:50000/importal/reporting/ReportsResult.jsp?Inventory++Servers&id=16>. The page displays the 'Inventory - Servers' report.

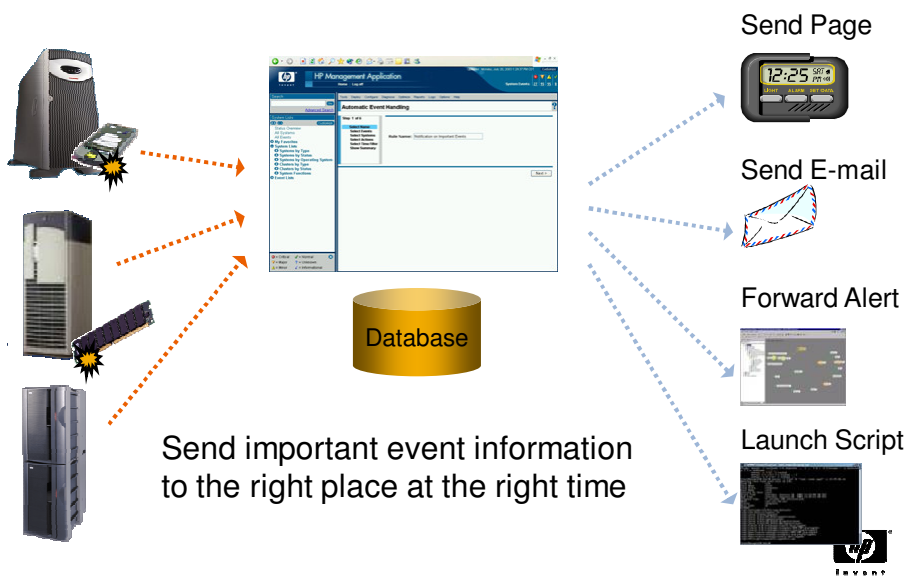
Associated system list: All Servers
Report date and time: Wednesday, October 10, 2006 10:18:59 AM CEST
[Show SQL queries](#)

System Name	Product Type	Product Model	Serial Number	Asset Tag	Memory Size (MB)	Operating System Name
16.58.250.34	Server	ProLiant DL580 G3	0009BRC5ST	4194304	4194304	Linux - VMware ESX Server
16.58.250.41	Server	VMware Virtual Platform	VMware-56 4d 90 1b fe c5 95 72-82 15 59 27 d9 5d 78 0f	No Asset Tag	802248	Microsoft(R) Windows(R) Server 2003, Enter
suotamfs2	Server	ProLiant 6400R	B919CJP20064yyyyy	261664	261664	Microsoft Windows 2000 Server Service Pac

Reports – SQL Query

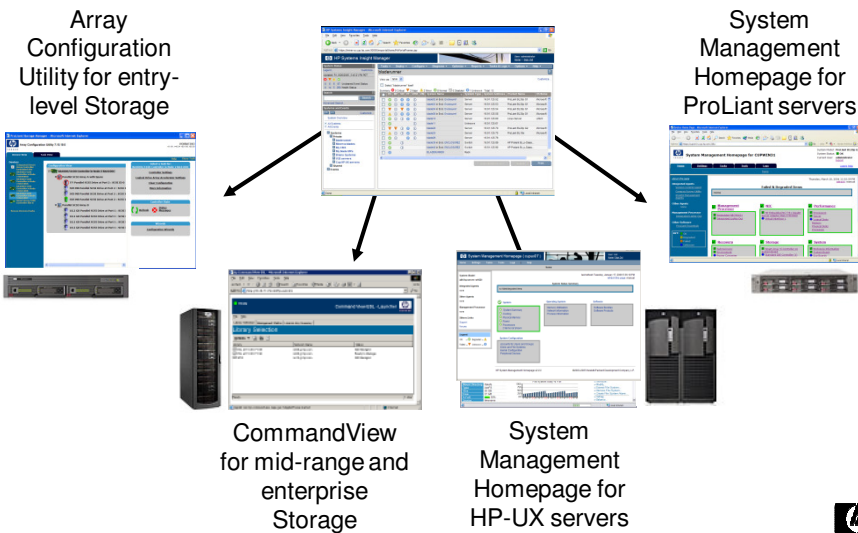


Automated event handling

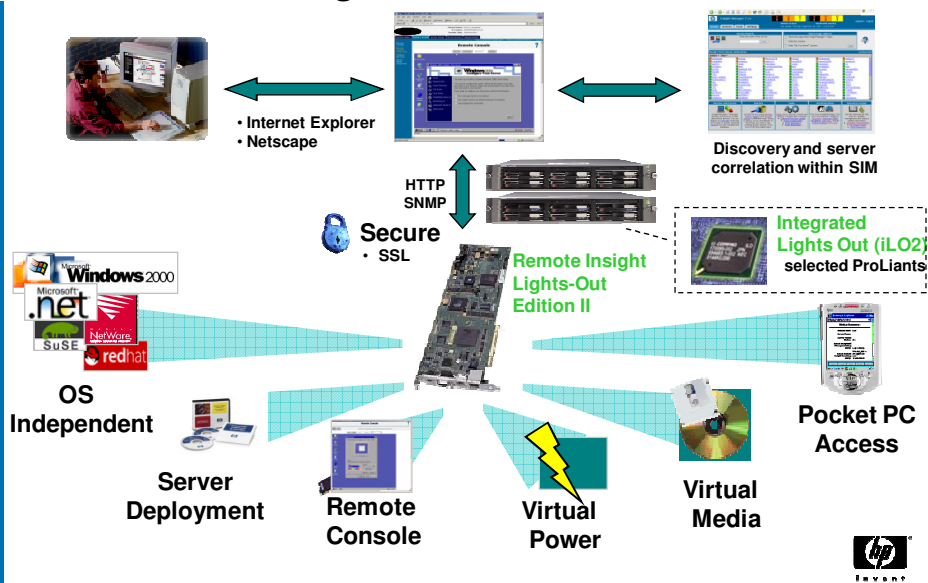


HP SIM – “Follow the Red”

Drill down to device element managers in context



Remote Management & Kontrolle

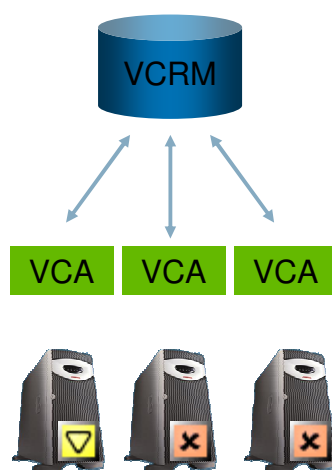


New Flexible iLO 2 Licensing

Introducing **iLO Select Packs** -
upgrade remote control of your
Linux servers

	iLO Advanced	iLO Select NEW	iLO Standard
Virtual KVM & Graphics Console	✓		
Integrated Remote Console	✓		
Terminal Services Pass-through	✓		
Enterprise security • Directory services integration • Two-factor Authentication	✓	✓	
Power Regulator throttling - Std?	✓	✓	
Power Meter reporting	✓	✓	
Virtual Media	✓	✓	
Embedded system health	✓	✓	✓
Remote Serial Console	✓	✓	✓
Virtual power, Unit ID	✓	✓	✓
Event logs, SIM integration	✓	✓	✓

Version Control für ProLiant Server



- Version Control Repository Manager
 - Katalogisiert Komponenten, die von der HP Website geladen wurden
 - Ermöglicht die Erstellung einer kundenspezifischer System Software Baseline
- Version Control Agent
 - Katalogisiert die Software auf dem System
 - Zeigt den Software Status an
- VCRM und VCA arbeiten zusammen, um den Software Status zu erstellen und BIOS, Treiber und Agents zu aktualisieren



Version Control

Version Control Agent

Overall Software Status: ●

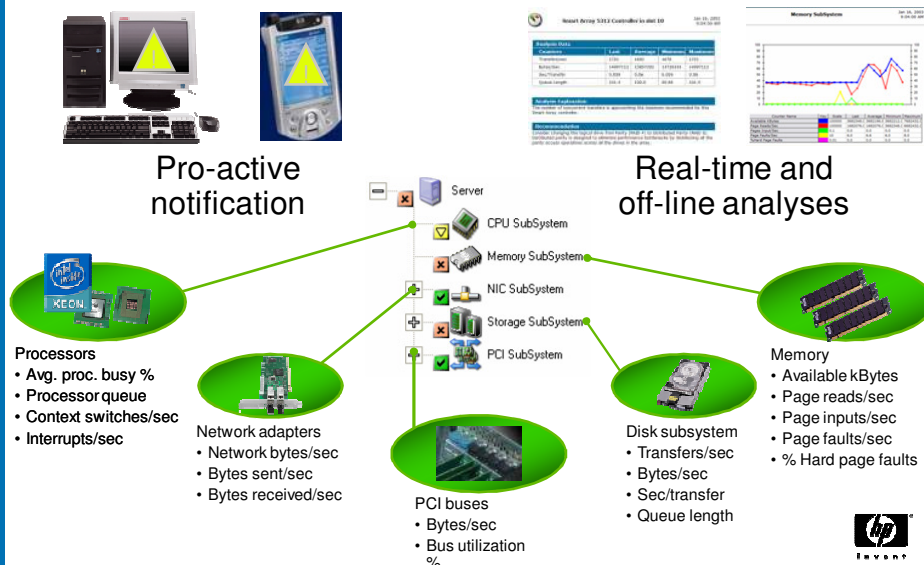
Reference Support Pack: [ProLiant Support Pack for Microsoft Windows 2000 version 7.51A \(English \(US\), Japanese\)](#)

Name	Installed Version	Support Pack Version	Latest Version
HP Insight Management Agents for Windows 2000/Windows Server 2003	7.51.0.0	● 7.51.0.0	● 7.51.0.0
HP ProLiant ATI RAGE IIC Video Controller Driver for Windows 2000/Server 2003	5.0.2195.3249	● 5.0.2195.3249	● 5.0.2195.3249
HP ProLiant 32-Bit SCSI Controller Driver for Windows 2000/Server 2003	5.24.0.0	● 5.24.0.0	● 5.24.0.0
Compaq Array Configuration Utility for Windows 2000	2.90.65.0	● 2.90.65.0	● 2.90.65.0
HP ProLiant Array Configuration Utility for Windows 2000	7.50.23.0	● 7.50.23.0	● 7.50.23.0
HP ProLiant Smart Array-2 Controllers Driver for Windows 2000	5.14.0.0	● 5.14.0.0	● 5.14.0.0
HP ProLiant Advanced System Management Controller Driver for Windows 2000/Server 2003	5.37.0.0	● 5.37.0.0	● 5.37.0.0
HP ProLiant Drive Array Notification for Windows 2000/Server 2003	5.28.0.32	● 5.28.0.32	● 5.28.0.32
HP StorageWorks Fibre Channel Array Notification Driver for Windows 2000/Server 2003	5.32.0.32	● 5.32.0.32	● 5.32.0.32

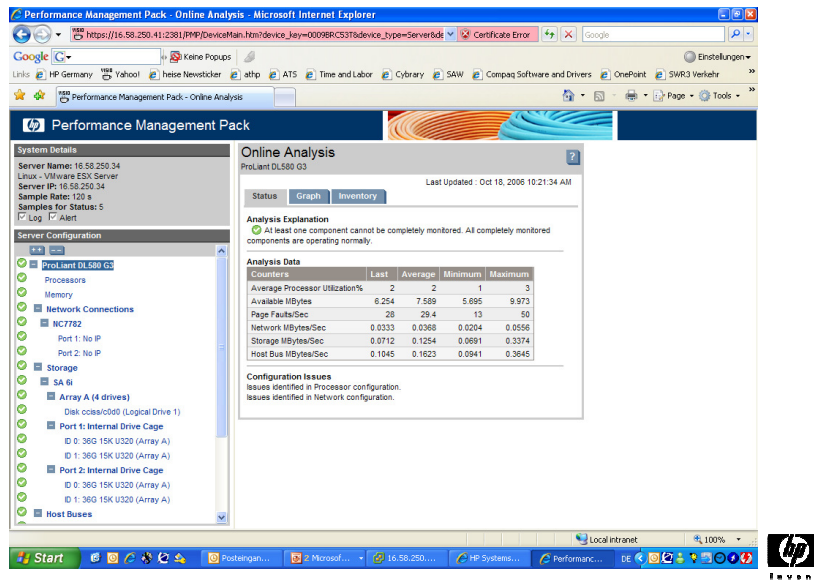
Last Generated: 04.10.2006 18:32:05

Version Control Agent 2.1

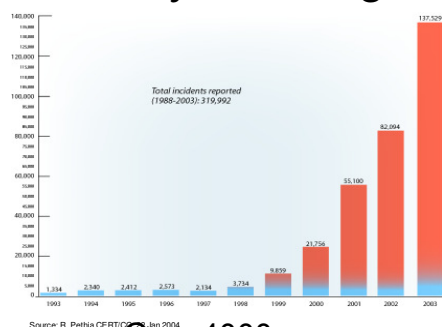
Performance Management der ProLiant Key Server Subsysteme



Performance Management Analyse Seite



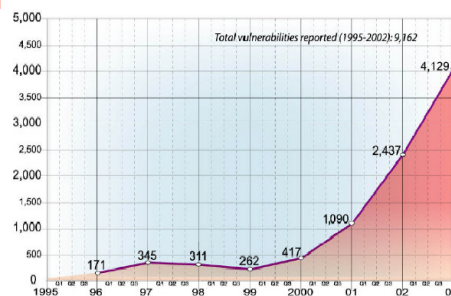
Security – It's a growing threat



Over 137,000 separate incidents reported in 2003

Over 4000 new vulnerabilities reported in 2003

2693 new vulnerabilities reported until Sept 30, 2004



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Comprehensive Security

Protect servers against known and unknown vulnerabilities

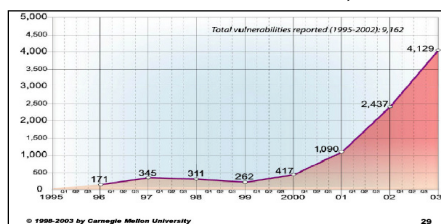
Exclusive

Known vulnerabilities

Vulnerability and Patch Mgmt

- Fix OS configuration exposures
- Apply security patches
- Maintain secure state

Number of known vulnerabilities, 2003



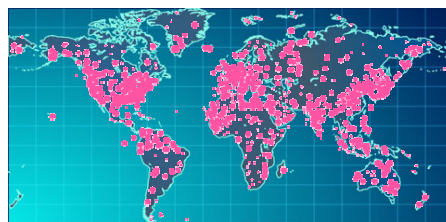
Time between announce of vulnerability and release of exploit is decreasing

Unknown vulnerabilities

Intelligent Networking Pack

- Virus Throttle
- Works with no knowledge of virus
- Protects network infrastructure
- Automatic IT staff notification

Global Infection by Slammer Virus, 2003



05:29 Jan 25 – 0 infected

06:00 Jan 25 – 74855 infected



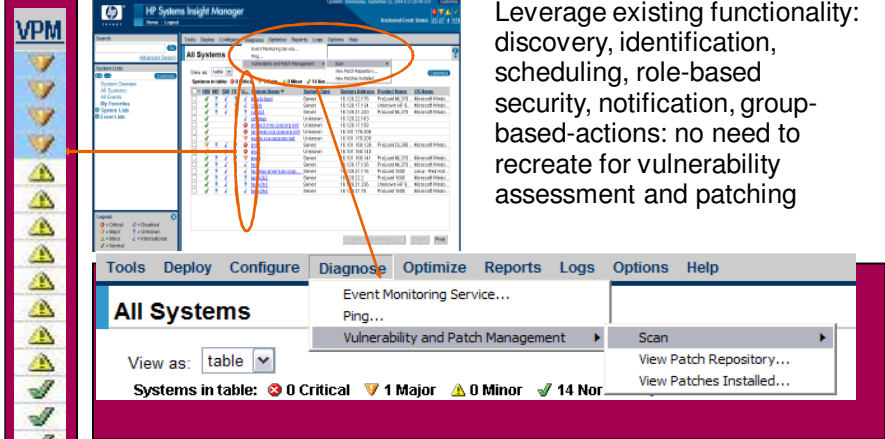
But.....the risk can be reduced dramatically

- Most security exploits are based on known vulnerabilities*
- Most vulnerabilities also have a fix
 - Change OS settings (~30%)
 - Apply patches (~70%)

*CERT: Different reports ranging from 95% to 99%



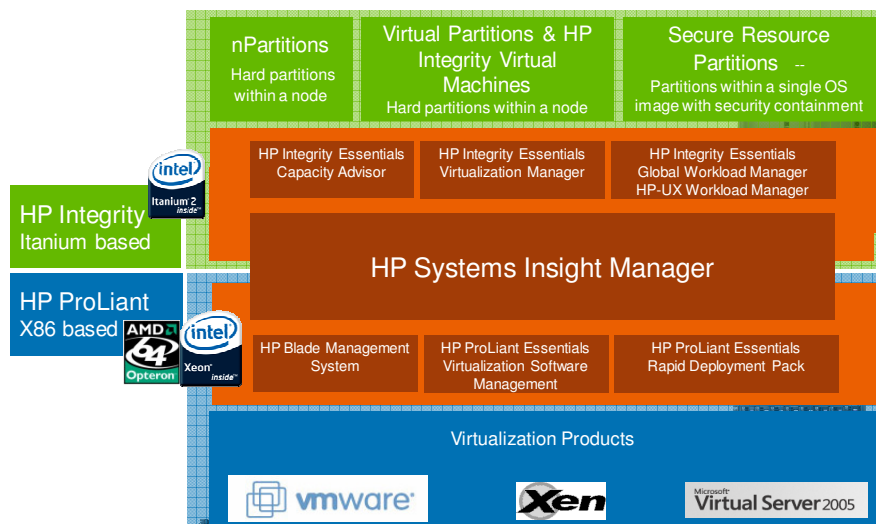
Integrated into Systems Insight Manager



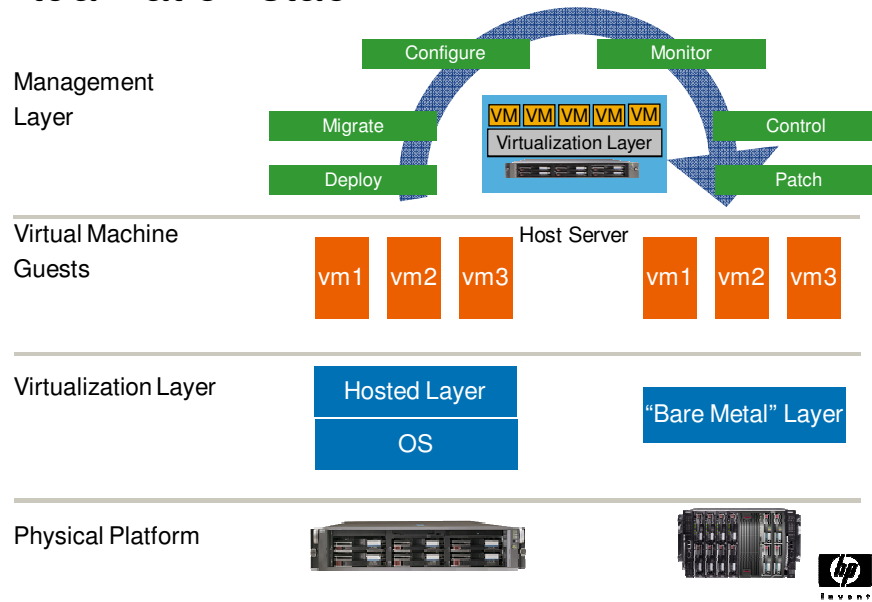
Leverage existing functionality: discovery, identification, scheduling, role-based security, notification, group-based-actions: no need to recreate for vulnerability assessment and patching

Single pane view of fault, performance, system software and vulnerability status

Virtualizing physical systems

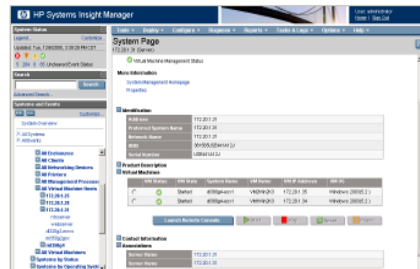


HP's unique value in the virtualization stack

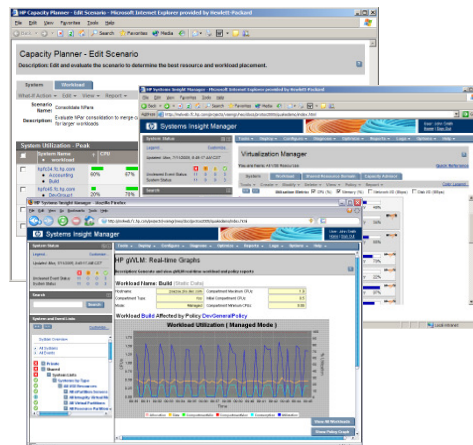


HP ProLiant Essentials Virtual Machine Management Pack

- Extends HP Systems Insight Manager to manage VMs
 - Associates VMs to Host Server
- Heterogeneous VM control
 - VMware & Microsoft VMs
- VM control functions
 - Start, Stop, Pause, Suspend
- VM recovery functions
 - Copy, Move, Back up, Template
- Flexible move options
 - Initiate VMware VMotion technology
- Performance indicators for Host and VMs
 - Set CPU usage threshold and receive alerts



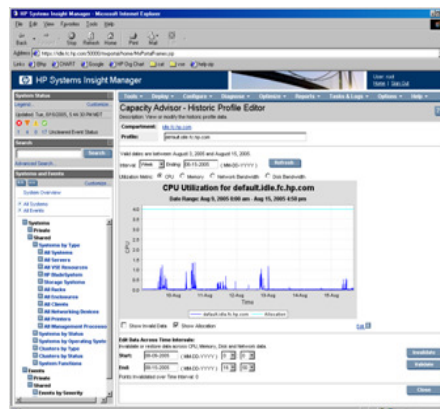
Integrated HP VSE management tools for planning, managing, and automating virtual servers



- **Planning**
HP Integrity Essentials
Capacity Advisor
Industry's first intuitive, integrated tool for ongoing capacity planning simulating placement of application workloads
- **Configuration**
HP Integrity Essentials
Virtualization Manager
Reducing complexity with comprehensive, integrated configuration and management of all VSE elements
- **Automation**
HP Integrity Essentials
Global Workload Manager
Automatically aligning server resources with business needs



HP Integrity Essentials Capacity Advisor



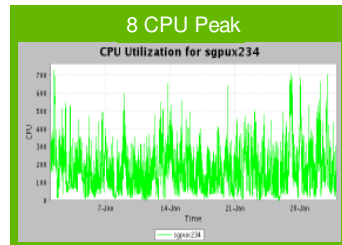
- **Experiment with different scenarios**
 - Fully integrated with VSE technologies to simulate major configuration changes before implementation
- **Easier to use and more accurate**
 - Designed for on-going use by general server administrators
 - Uses historic data of actual usage
- **Determines ideal amount of resources needed for:**
 - Existing workloads
 - Planned migrations
 - New workloads
- **Recommends placement of workloads such that**
 - Each workload has sufficient resources
 - Over-capacity is minimized

Support for HP-UX 11i and Linux on HP Integrity, and HP-UX 11i on HP 9000

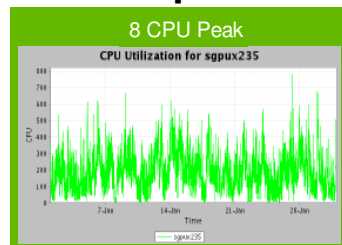


HP Integrity Essentials Capacity Advisor

The new math: $8+8 = 12$

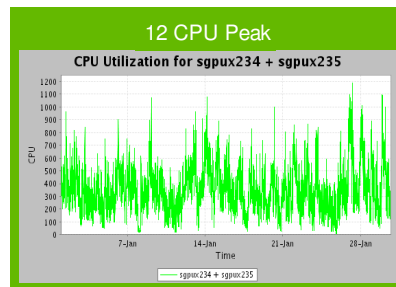


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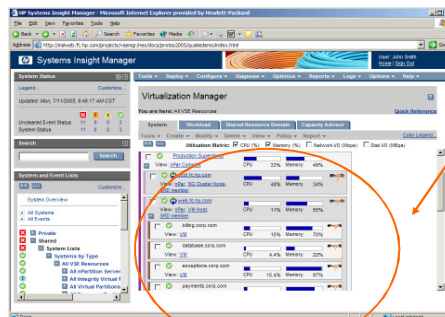
- Peaks for different workloads do not all happen at the same time.



- Two workloads each have an 8 CPU peak demand but the peak of their sum is 12 CPUs.



HP Integrity Essentials Virtualization Manager Visualization of all VSE technologies



Discovery, visualization, and configuration of virtual resources/ workloads and their utilization

- nPars (and standalone servers)
- Virtual Partitions
- Integrity Virtual Machines
- gWLM groups
- Secure Resource Partitions
- Serviceguard clusters
- Groups of virtual resources (Shared Resource Domains)

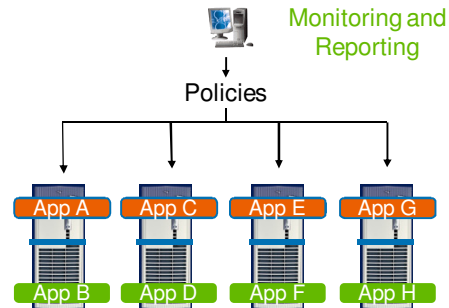
Single click drill down capability



HP Integrity Essentials Global Workload Manager

Manage and automate large, multi-system VSEs

- Goal-based policy engine
 - for managing workloads across multiple systems simultaneously
- Easy to use management
 - integrated with HP Systems Insight Manager and other VSE management tools
- Enables central IT to deliver an IT utility
 - supporting multiple LOBs
 - Resources can be assigned to LOB based on:
 - Own/borrow/lend model
 - Fixed entitlement model
 - CPU utilization model
 - Service Level Objectives



New functionality with gWLM 2.0

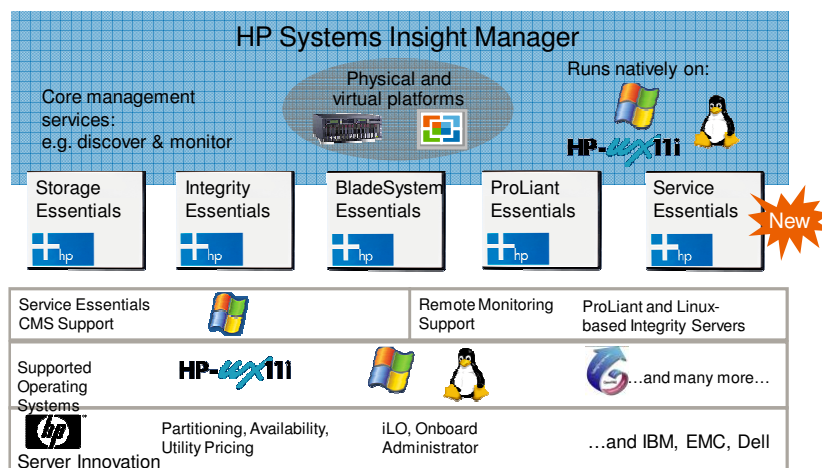
- Support for HP Integrity VMs and Temporary Instant Capacity
- Support for OpenVMS

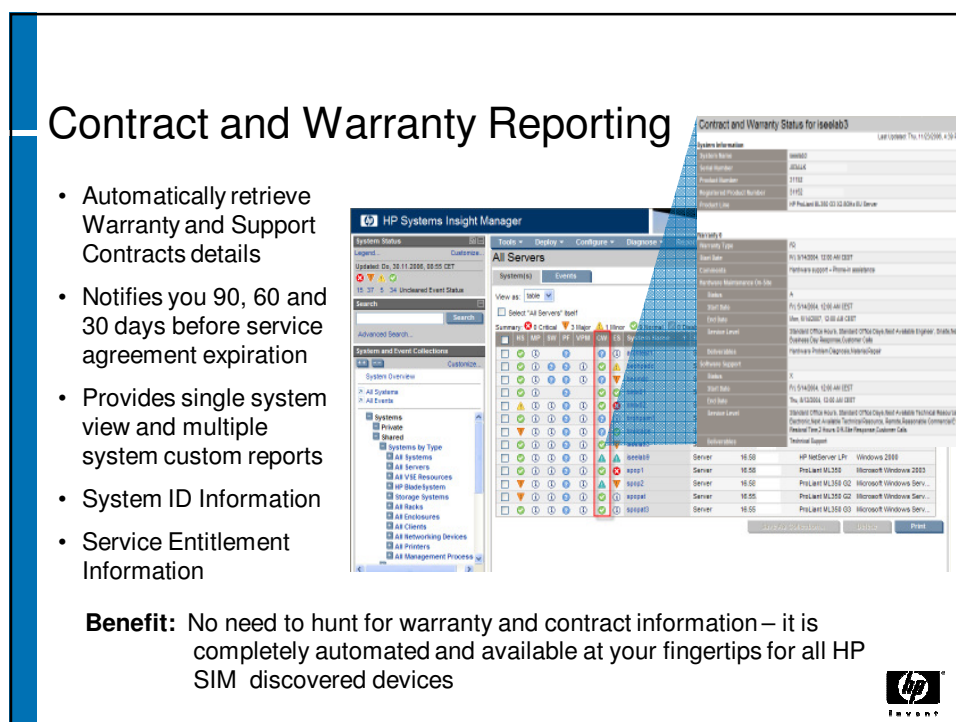
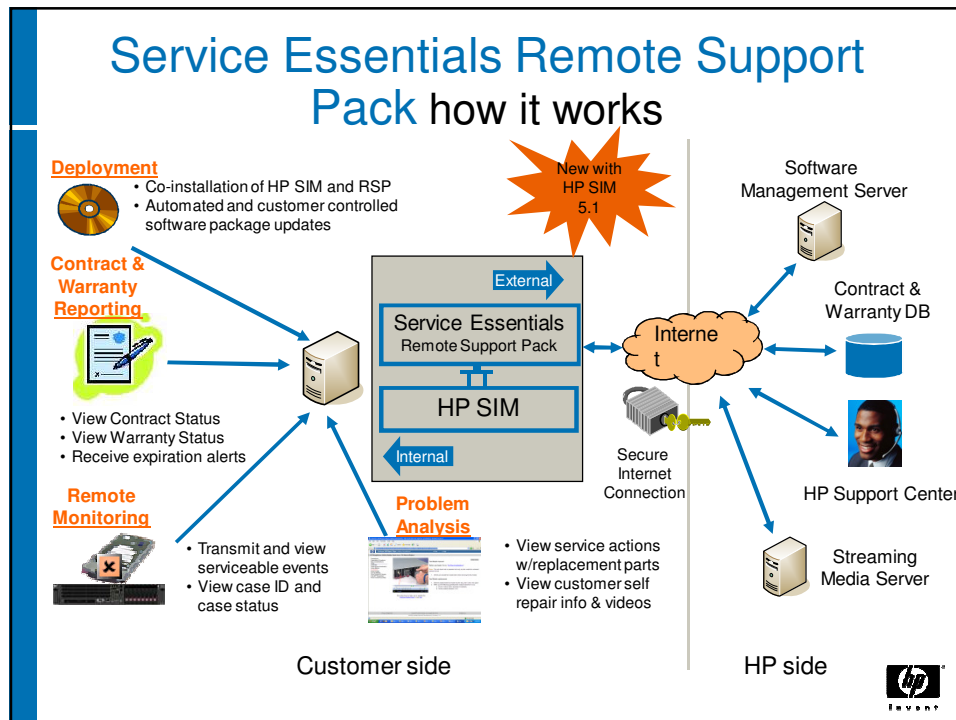
Support for HP-UX 11i, Linux, and OpenVMS on HP Integrity, and HP-UX 11i on HP 9000



Unified Infrastructure Management

Integrating HP Services to HP Systems Insight Manager 5.1





Warranty and Contract Status detail

supports any discovered device with valid entitlement data
- example shown is for notebook workstation nw8240

Contract and Warranty Status for bimini

Last Updated: Mon, 2/12/2007, 1:27 PM CDT

System Information	
System Name	bimini
Serial Number	CNU63006MG
Product Number	ED912UC#ABA
Registered Product Number	ED912UC
Product Line	Cnw8340FFSP760K560WMg10NS ALL
Warranty 0	
Warranty Type	FR
Start Date	Wed, 8/2/2006, 12:00 AM CDT
Extension	0
Why: HP HW Maintenance Onsite Support	
Status	A
Start Date	Wed, 8/2/2006, 12:00 AM CDT
End Date	Thu, 8/2/2007, 12:00 AM CDT
Service Level	Std Office Hrs Std Office Days,Std Office Hrs Std Office Days,Global Coverage,Standard Material Handling,Standard Parts Logistics,No Usage Limitation,HP Ships Customer Site,2 Business Days Turn-Around,Pickup by HP
Deliverables	Onsite Support & Materials,Hardware Problem Diagnosis
Why: HP Support for Initial Setup	
Status	X
Start Date	Wed, 8/2/2006, 12:00 AM CDT
End Date	Tue, 10/31/2006, 12:00 AM CST
Service Level	Std Office Hrs Std Office Days,NextAvail TechResource Remote,2 Hr Remote Response,Unlimited Named Callers
Deliverables	Initial Setup Assistance

'Single Pane of glass'

Adding new event attributes to HP SIM 5.1

Event listings are now showing:

- HP **Case ID** if event is actionable
- **Case Status** indicating the event lifecycle state
 - Delivered to HP
 - Assigned at HP
 - Closed at HP (non actionable or is resolved)
- Warranty and Contract **expiration warning**

Benefit: Automated submission and event status alerting, no manual IT intervention needed.



All HP Service Events service incident

HP Systems Insight Manager

System Status: Updated: Wed, 2/14/2007, 3:45 PM C...

Search: 159 125 2547 121 Uncleared Event Sta

System and Event Collections

- System Overview
- All Systems
- All Events
- Systems
 - Private
 - Shared
- Events
 - Private
 - Shared
 - Events by Severity
 - Login Events
 - Service Events
 - All HP Service Events

Service Events view

All HP Service Events

To view event details, make sure 'Event Type' column is displayed and click on desired link.

Summary: 0 Critical, 25 Major, 2 Minor, 1 Warning, 0 Normal, 5 Informational, Total: 33

Severity	Event Type	System Name	Event Time	Case ID	Case Status	Comments
Major	A Service Incident has been reported (Type 4)	pse-0a1	1/31/07 7:47 AM	9501363539	Assigned at HP	Blade...
Major	A Service Incident has been reported (Type 4)	16.100.81.178	1/11/07 1:52 PM	9501361697	Assigned at HP	DL36
Major	A Service Incident has been reported (Type 4)	16.100.81.178	1/9/07 9:29 AM	9501361049	Assigned at HP	DL36
Major	A Service Incident has been reported (Type 4)	10.2.0.51	1/9/07 10:06 AM	9501361078	Assigned at HP	MSA1
Major	A Service Incident has been reported (Type 4)	10.2.0.51	1/9/07 10:06 AM	9501361077	Assigned at HP	MSA1
Warning	The contract or warranty for this system will expire in 30 days	Orphan-72	1/9/07 3:27 PM			proac
Warning	The contract or warranty for this system will expire in 90 days	Orphan-75	1/31/07 4:09 PM			proac
Warning	The contract or warranty for this system has expired	lovebuzz3	1/9/07 11:52 AM			reacti
Major	A Service Incident has been reported (Type 4)	16.100.81.178	1/11/07 1:52 PM	9501361699	Assigned at HP	
Major	A Service Incident has been reported (Type 4)	10.2.0.51	1/9/07 10:06 AM	9501361081	Assigned at HP	
Major	A Service Incident has been reported (Type 3)	16.100.81.178	2/12/07 8:01 PM			
Major	A Service Incident has been reported (Type 3)	16.100.81.178	2/12/07 8:00 PM			
Major	A Service Incident has been reported (Type 4)	16.100.81.178	2/12/07 8:00 PM		Closed at HP	
Major	A Service Incident has been reported (Type 4)	10.2.0.51	2/14/07 12:33 PM			
Major	A Service Incident has been reported (Type 4)	16.100.81.178	2/14/07 2:47 PM			
Major	A Service Incident has been reported (Type 4)	16.100.81.178	1/11/07 1:52 PM	9501361700	Assigned at HP	
Major	A Service Incident has been reported (Type 4)	10.2.0.51	1/9/07 10:05 AM	9501361071	Assigned at HP	
Major	A Service Incident has been reported (Type 4)	16.100.81.178	1/9/07 9:29 AM	9501361050	Assigned at HP	
Major	A Service Incident has been reported (Type 4)	10.2.0.51	1/9/07 10:06 AM	9501361080	Assigned at HP	
Major	A Service Incident has been reported (Type 3)	10.2.0.51	2/14/07 12:33 PM			
Major	A Service Incident has been reported (Type 3)	16.100.81.178	2/14/07 2:48 PM			
Major	A Service Incident has been reported (Type 4)	16.100.81.178	2/14/07 2:47 PM			
Major	A Service Incident has been reported (Type 4)	10.2.0.51	1/9/07 10:06 AM	9501361076	Assigned at HP	
Major	A Service Incident has been reported (Type 4)	16.100.81.178	2/12/07 8:00 PM		Closed at HP	
Major	A Service Incident has been reported (Type 4)	16.100.81.178	1/9/07 9:28 AM	9501361042	Assigned at HP	
Warning	The contract or warranty for this system will expire in 30 days	pse-d380-g3	2/14/07 12:55 PM			
Major	A Service Incident has been reported (Type 4)	16.100.81.178	2/12/07 8:00 PM		Closed at HP	
Major	A Service Incident has been reported (Type 4)	10.2.0.51	2/13/07 3:35 PM	9501364954	Assigned at HP	
Major	A Service Incident has been reported (Type 4)	16.100.81.178	2/14/07 2:47 PM			
Major	A Service Incident has been reported (Type 4)	16.100.81.178	2/14/07 2:48 PM			
Major	A Service Incident has been reported (Type 3)	16.100.81.178	2/14/07 2:48 PM			

DL360 service incident

Service Event Callout – Service Information at your fingertips!

HP Systems Insight Manager

System Status: Updated: Wed, 2/14/2007, 3:46 PM C...

Search: 159 125 2547 121 Uncleared Event Sta

System and Event Collections

- System Overview
- All Systems
- All Events
- Systems
 - Private
 - Shared
- Events
 - Private
 - Shared
 - Events by Severity
 - Login Events
 - Service Events
 - All HP Service Events

Recommended action information

Link to customer self repair

All HP Service Events

Comments: DL360-G4 memory

Case Status: Open

Case ID: 9501361697

Service Event Source: Remote Support

Related HP SIM Event ID: 629

Support case status & ID

Correlation link to triggering management event

Service Event Details

Variable Description	Value
Name of the system this service event relates to.	16.100.81.178
IP Address of the system this service event relates to.	16.100.81.178
The severity of the service incident.	major
The status of the service incident.	Delivered to Remote Support
Provides the URL to the event analysis report.	http://pse-d1580-g2.americas.cpqcorp.net/2069/user/notification?id=AUYYQgAgWslUww_1168545132453
Brief description of the event that initiated the service incident.	cpqHe4CorrMemReplaceMemModule
Unique Event Analysis Identifier assigned to the incident.	AUYYQgAgWslUww_1168545132453
Time of the original event this service event relates to.	11 January 2007 13:52:12.453
Name of the system this service event was analyzed on.	pse-d1580-g2
This is a URL pointing to the Service Incident status in ISEE if available.	https://pse-d1580-g2.houstonlab.local/2381/isee/event-display.php?eventGuid=48BBF1B5-0FB6-4401-BCE2-90EC3CCC2D9C
Service Incident Identifier assigned to the incident report by the ISEE client.	48BBF1B5-0FB6-4401-BCE2-90EC3CCC2D9C
The ID of the originally received event.	1.3.6.1.4.1.232.6066
Recommended action.	A 1GB memory module has had A0h excessive correctable memory errors and should be replaced (use spare part number 367167-001).
Replaceable Unit information.	Memory Module Size: 1GB Memory Module Spare Part #: 367167-001
Replaceable Unit location.	The failing 1GB memory module is installed in slot 4 on the system board of the server P8E-DL360-G4 a ProLiant DL360 G4 with serial number USM43900RV.
A URL pointing to additional repair information.	http://h18023.www1.hp.com/support/svctools/OSEM/serviceLinks.html?DL360-G4

Link to analysis report

Link to remote support status

Part callout

Blade System c7000 analysis Phone Home, Self-Help here!

Tools ▾ **Deploy** ▾ **Configure** ▾ **Diagnose** ▾ **Reports** ▾ **Tasks & Logs** ▾ **Options** ▾ **Help** ▾

PSE-C7000 (Server Enclosure)

System(s) **Events**

View: **All Events**

Provides the URL to the event analysis report.	http://pse-d580-g2.america.cpqcorp.net:2069/user/notification?id=AUYYVgAg/VslJvw_1170251217312
Brief description of the event that initiated the service incident.	cpdRackEnclosureFanFailed
Unique Event Analysis Identifier assigned to the incident.	AUYYVgAg/VslJvw_1170251217312
Time of the original event this service event relates to.	31 January 2007 07:46:57.312
Name of the system this service event was analyzed on.	pse-d580-g2
This is a URL pointing to the Service Incident status in ISEE if available.	https://pse-d580-g2.houstonlab.local:2381/isee/event-display.php?eventOuid=C58F1B9F-8AF8-4B09-BEB6-3C60A7C27476
Service Incident Identifier assigned to the incident report by the ISEE client.	C58F1B9F-8AF8-4B09-BEB6-3C60A7C27476
The ID of the originally received event.	1.3.6.1.4.1.232.22008
Recommended action.	The fan at location 7 has failed. Replace the fan with spare part number 413996-001.
Replaceable Unit information.	Fan Spare Part #: 413996-001 Fan Location: 7
Replaceable Unit location.	The failing fan is installed at location 7 in the rack enclosure PSE-C7000 a BladeSystem c7000 Enclosure with serial number U866321F74.
A URL pointing to additional repair information.	http://h18023.www1.hp.com/support/invtools/CSEM/serviceLinks.html#c7000-enc

Fan alert service information

Link to Customer Self Repair information and video procedures

View Printable Details **Close Details**

hp
Inventory

Top 5 business reasons to deploy HP Systems Insight Manager

- 1 **Fault management and pre-failure warnings**
 - HP SIM is the only way to get Pre-Failure Warranty coverage
- 2 **HP firmware/utility/driver acquisition and deployment**
 - HP SIM version control provides this automatically and free
- 3 **Detailed hardware reporting for asset management**
 - Gathers data down to the individual socket and slot
- 4 **Network storage management**
 - LUN usage and server attachment for HP and 3rd Party storage
- 5 **Event notifications and automated actions**
 - Notify concerned individuals and take action automatically

