Unified System Management

HP Systems Insight Manager

Andreas Wolf
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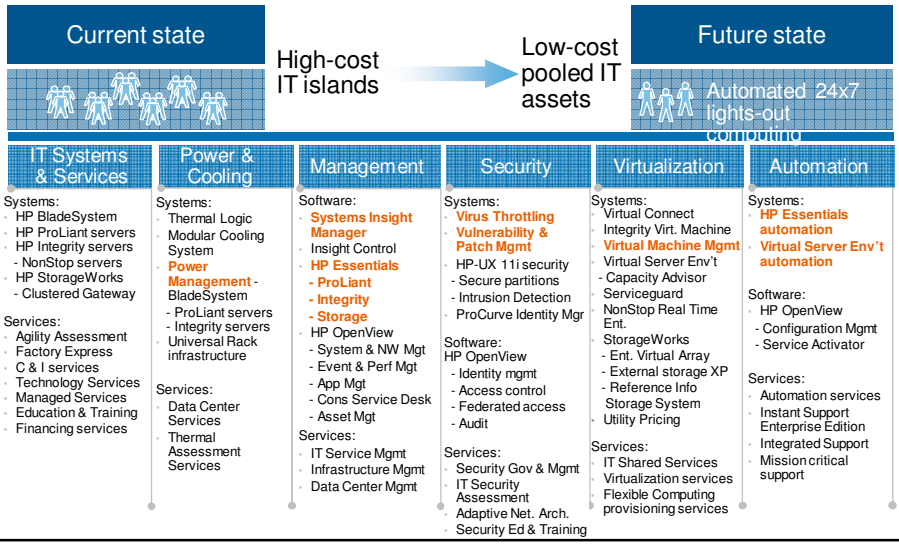
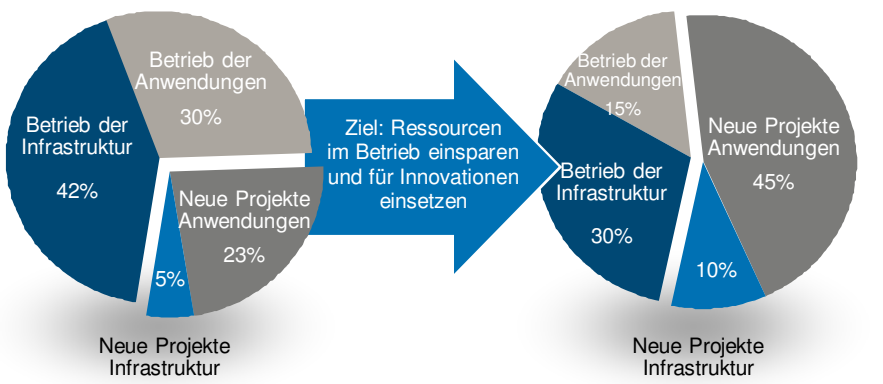
Adaptive Infrastructure

Key enablers

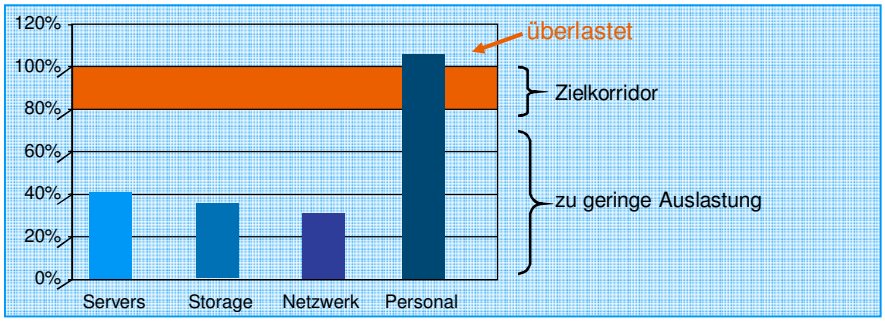


Herausforderung 1: IT Kosten



Infrastruktur-Management hilft die IT-Betriebskosten zu reduzieren!

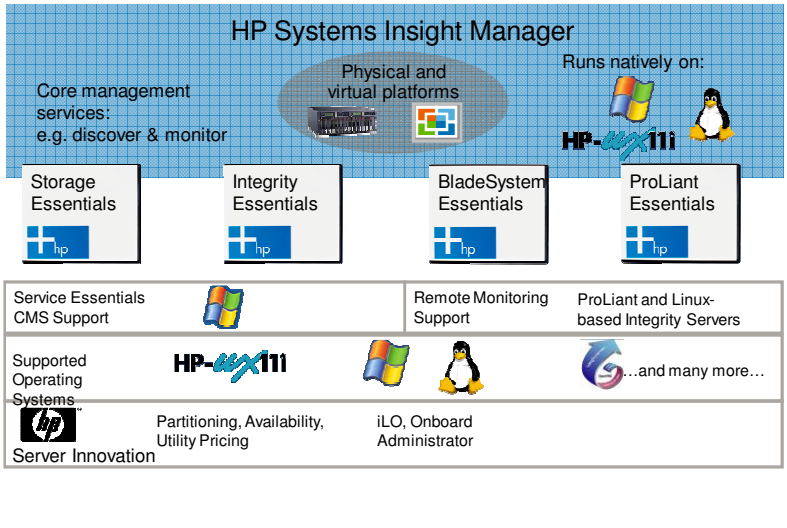
Herausforderung 2: Ressourcennutzung



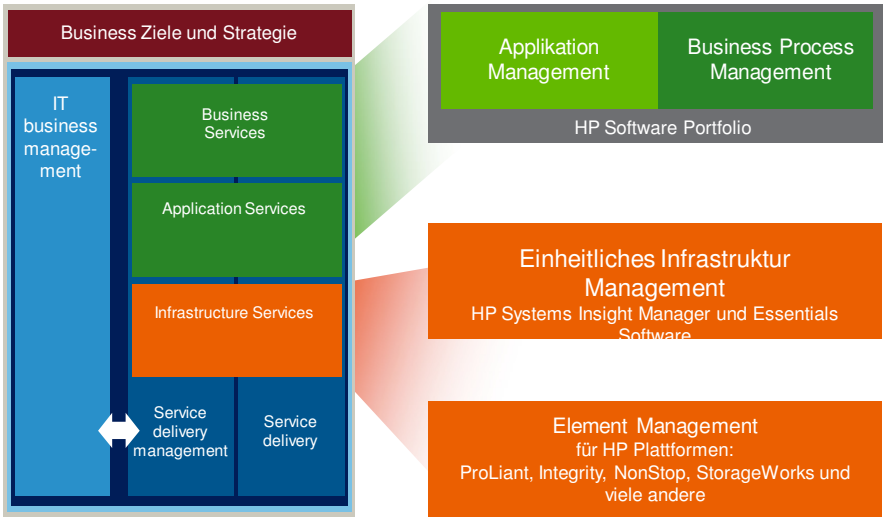
- Die Auslastung von Infrastrukturkomponenten liegt bei den meisten Kunden bei 30%-40%.
- Hauptursachen sind die Komplexität der IT-Umgebung und die mangelnde Flexibilität dynamisch auf Veränderungen in der Nutzung reagieren zu können.

Infrastruktur-Management hilft die Auslastung von IT Ressourcen zu optimieren!

Unified Infrastructure Management



Unified Infrastructure Management



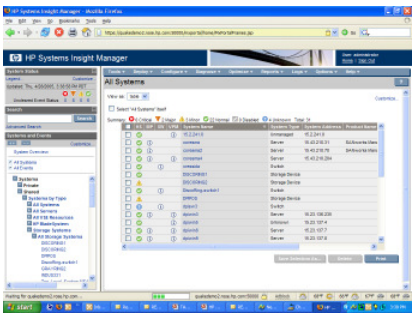
HP Systems Insight Manager

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

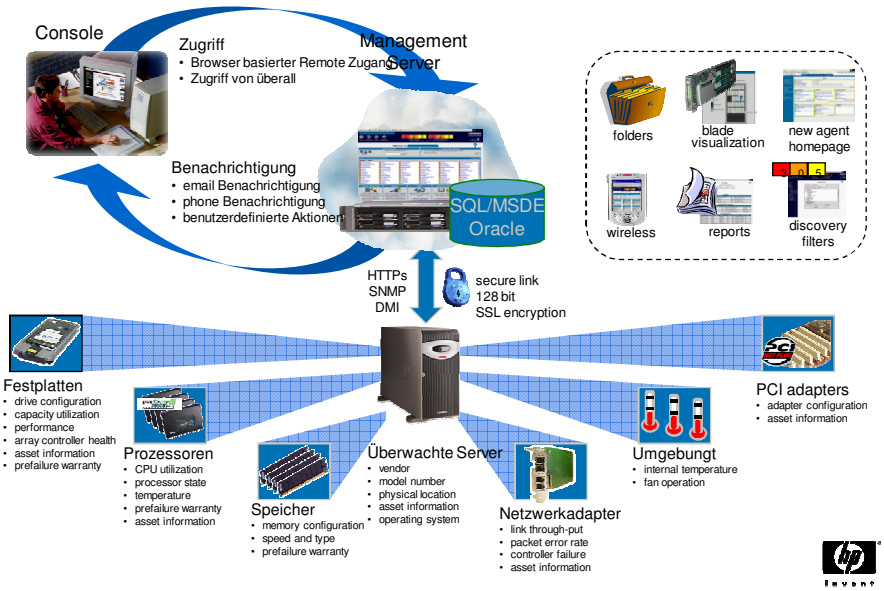
Storage instrumentation

- SAN and NAS device management – via WBEM

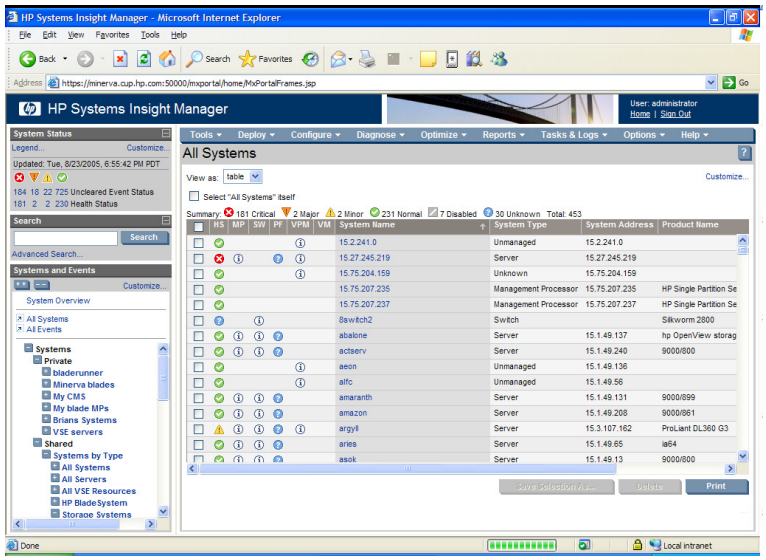
ISEE Integration

- Monitors services support call status – via SNMP

Systems Insight Manager

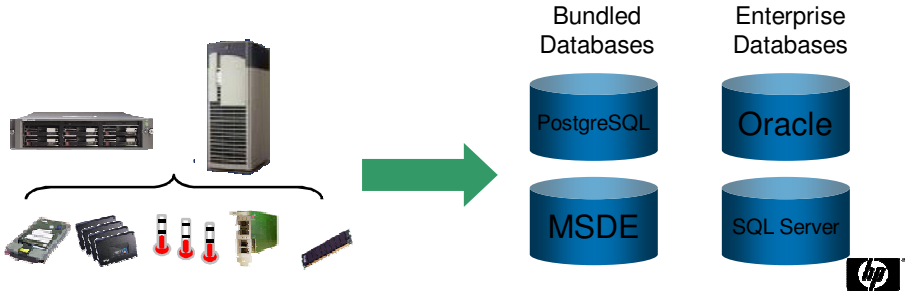


HP Systems Insight Manager 5.1
HP Look and Feel

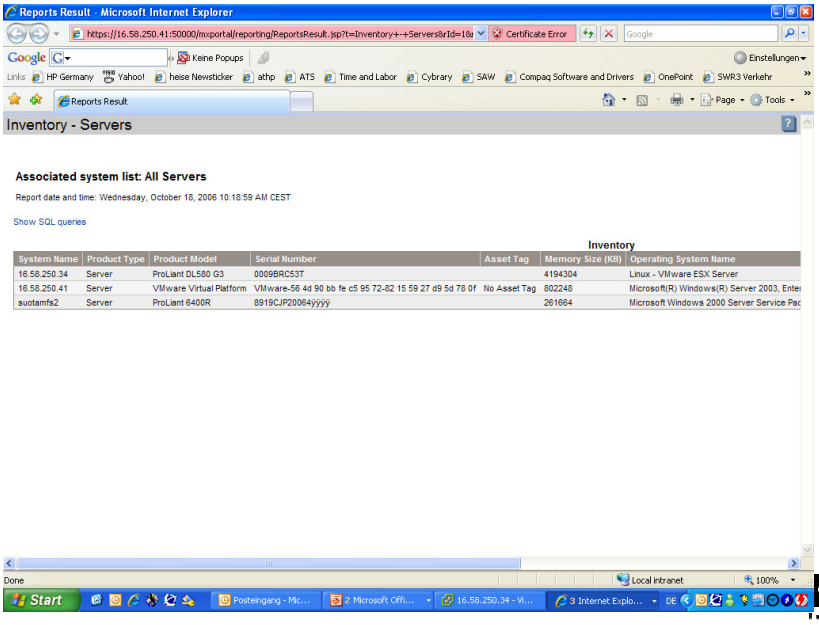


Inventory collection and reporting

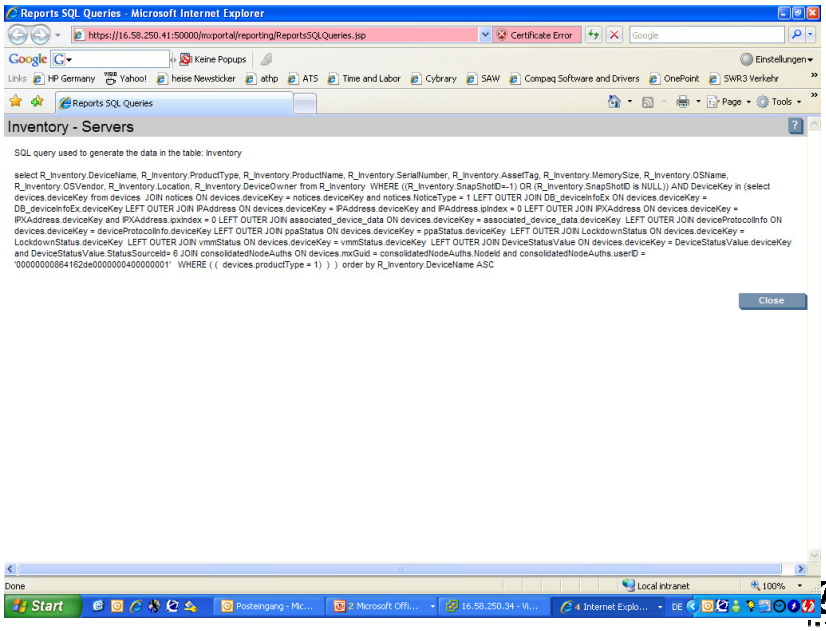
- Save device hardware asset inventory configurations
- Create custom reports of inventory details
- Flexible search simplifies location of specific devices
- Configuration snapshot – single and multi-system comparisons for consistency management and troubleshooting
- Extensive database support



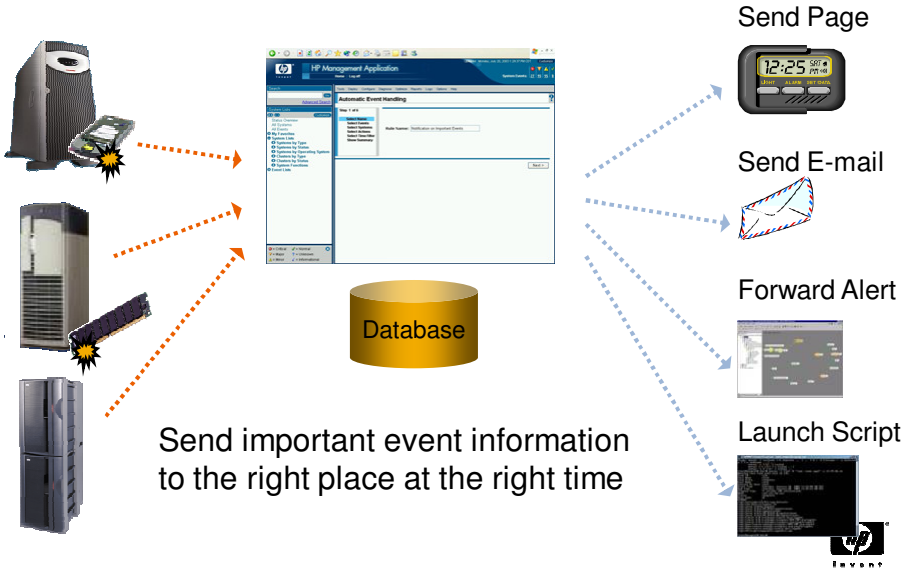
Reports



Reports – SQL Query

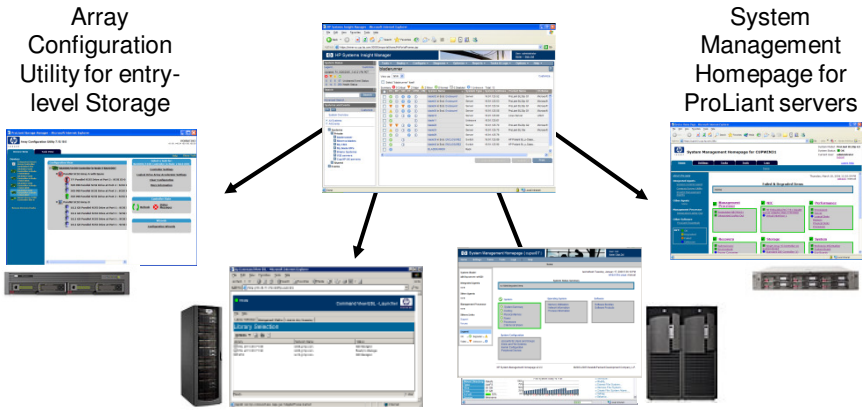


Automated event handling

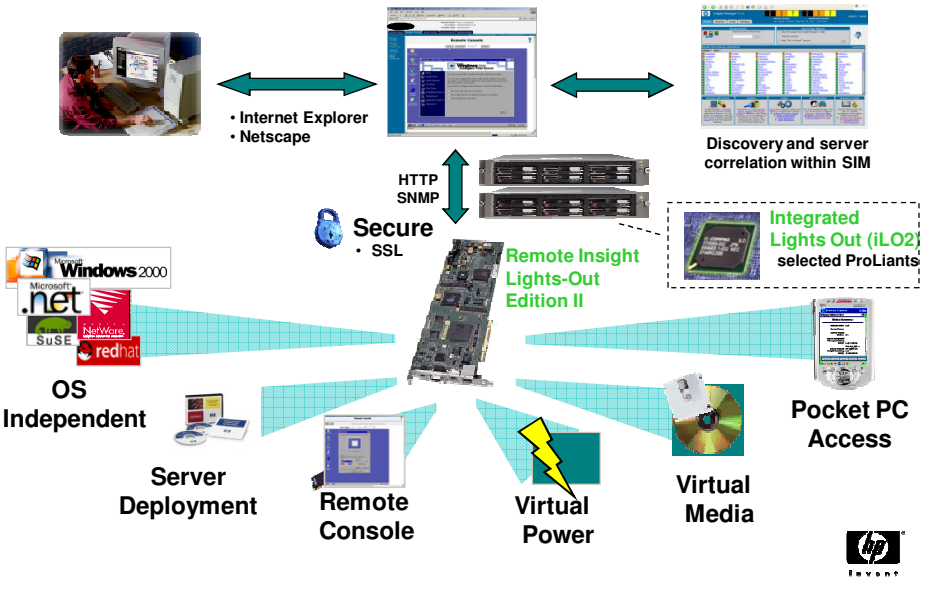


HP SIM – “Follow the Red”

Drill down to device element managers in context



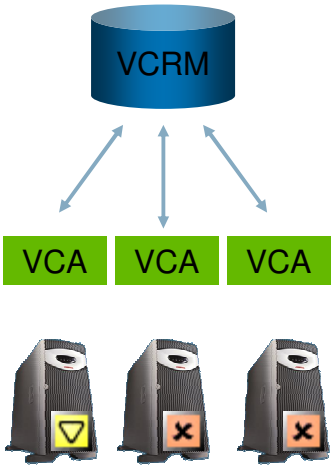
Remote Management & Kontrolle



New Flexible iLO 2 Licensing

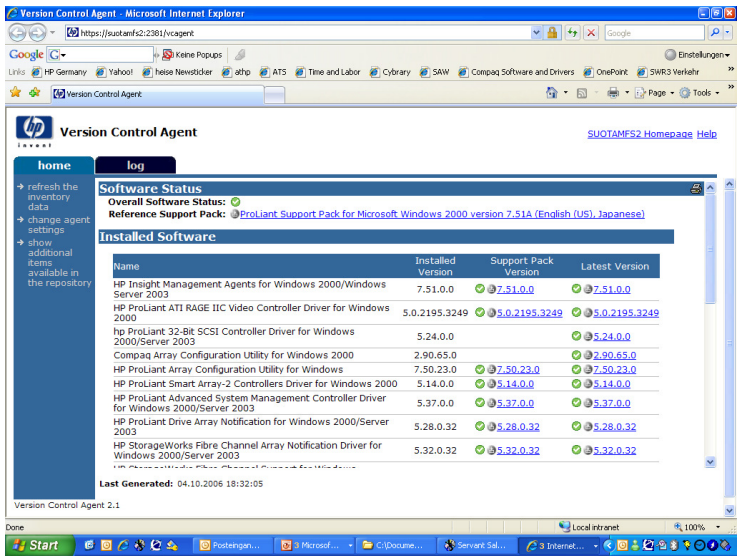
Introducing **iLO Select Packs** - upgrade remote control of your Linux servers	iLO Advanced 	iLO Select NEW 	iLO Standard 
Virtual KVM & Graphics Console	✓		
Integrated Remote Console	✓		
Terminal Services Pass-through	✓		
Enterprise security • Directory services integration • Two-factor Authentication	✓	✓	
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

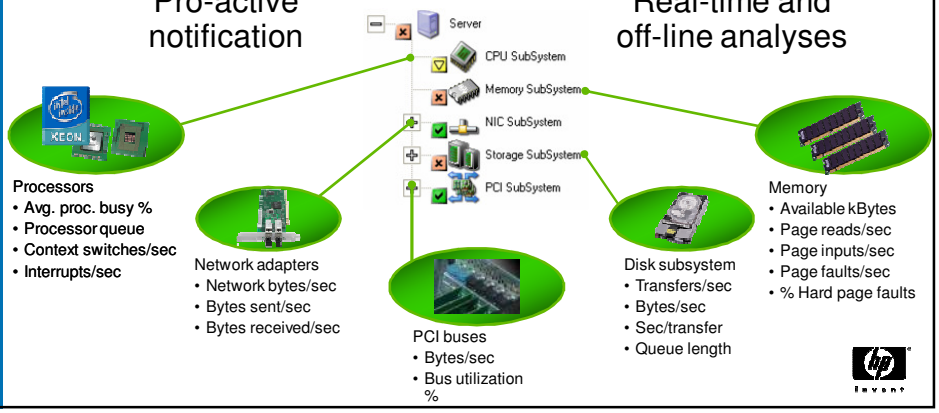
Version Control



Performance Management der ProLiant Key Server Subsysteme

Pro-active notification

Real-time and off-line analyses



Processors
- Avg. proc. busy %
- Processor queue
- Context switches/sec
- Interrupts/sec

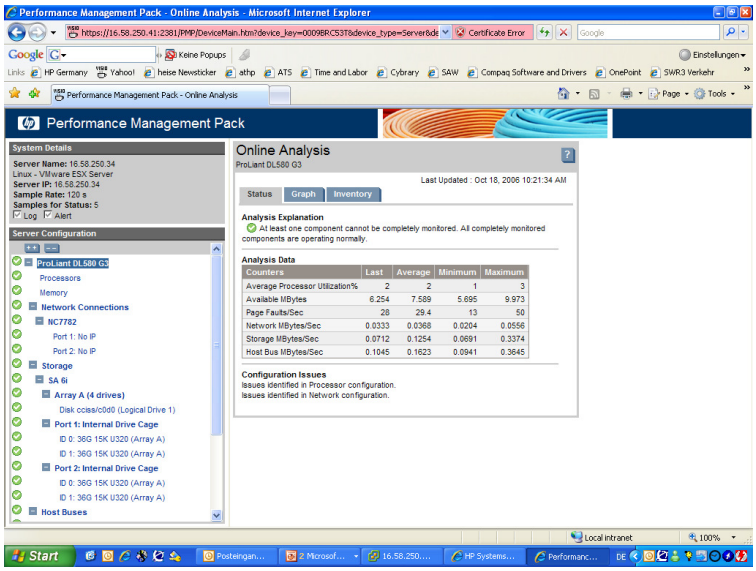
Network adapters
- Network bytes/sec
- Bytes sent/sec
- Bytes received/sec

PCI buses
- Bytes/sec
- Bus utilization %

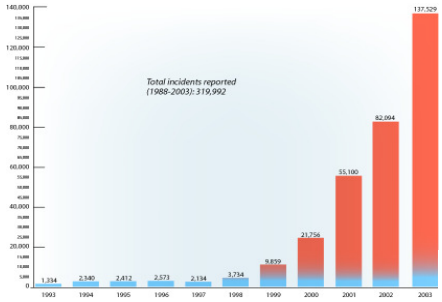
Disk subsystem
- Transfers/sec
- Bytes/sec
- Sec/transfer
- Queue length

Memory
- Available kBytes
- Page reads/sec
- Page inputs/sec
- Page faults/sec
- % Hard page faults

Performance Management Analyse Seite



Security – It's a growing threat

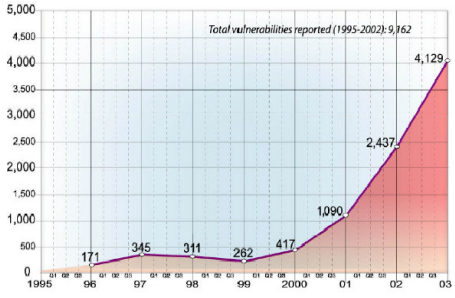


Source: R. Pethia CERT/CC, Jan 2004

Over 137,000 separate *incidents* reported in 2003

Over 4000 new *vulnerabilities* reported in 2003

2693 new *vulnerabilities* reported until Sept 30, 2004



Comprehensive Security

Exclusive

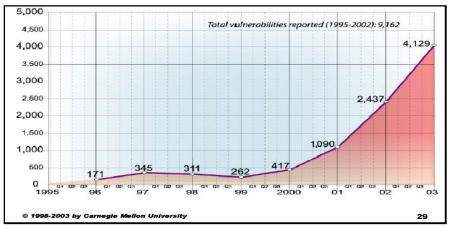
Protect servers against known and unknown vulnerabilities

Known vulnerabilities

Vulnerability and Patch Mgmt

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

Number of known vulnerabilities, 2003



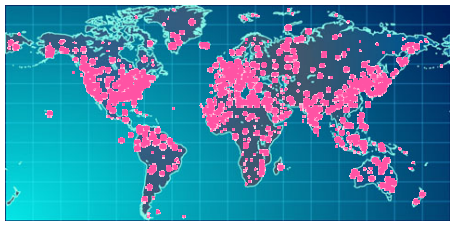
Time between announce of vulnerability and release of exploit is decreasing

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



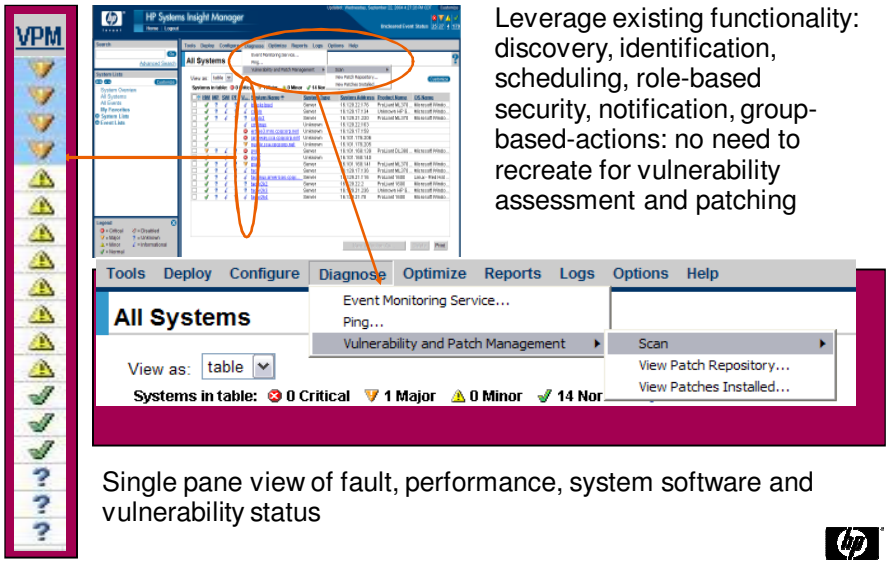
05:29 Jan 25 – 0 infected
06:00 Jan 25 – 74855 infected

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%

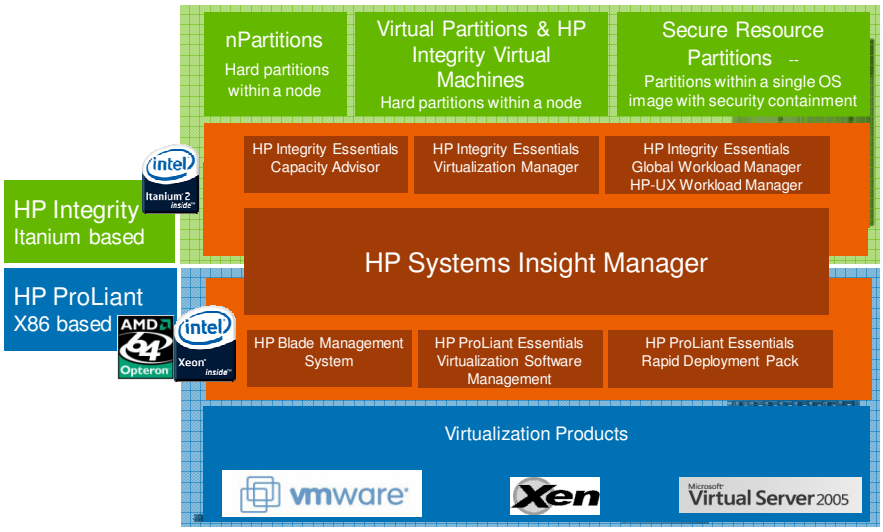
Integrated into Systems Insight Manager



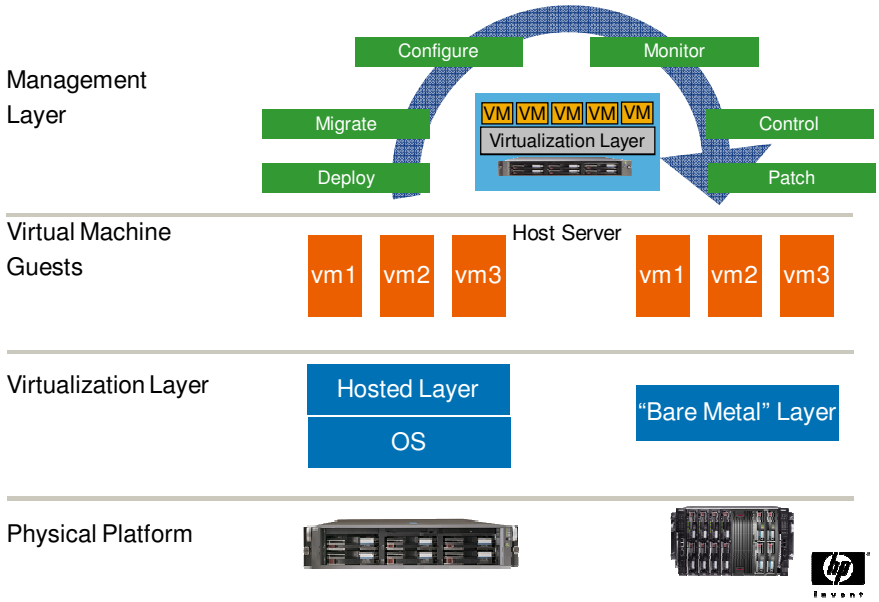
Leverage existing functionality: discovery, identification, scheduling, role-based security, notification, group-based-actions: no need to recreate for vulnerability assessment and patching

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

Virtualizing physical systems

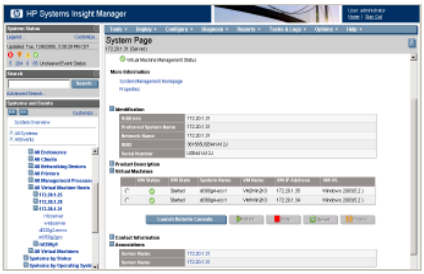


HP's unique value in the virtualization stack



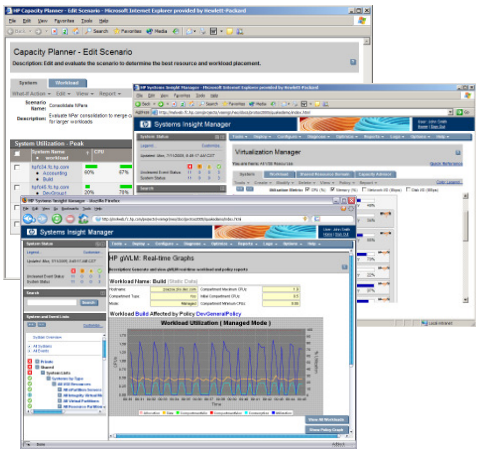
HP ProLiant Essentials Virtual Machine Management Pack

- 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



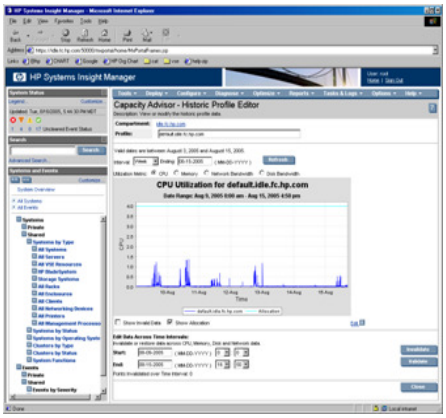
- Performance indicators for Host and VMs
  - Set CPU usage threshold and receive alerts

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

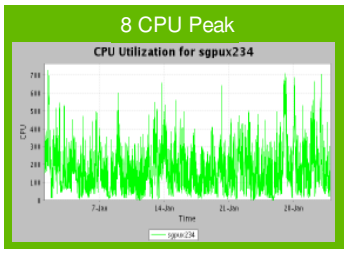
HP Integrity Essentials Capacity Advisor



- 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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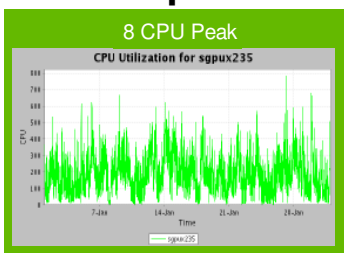

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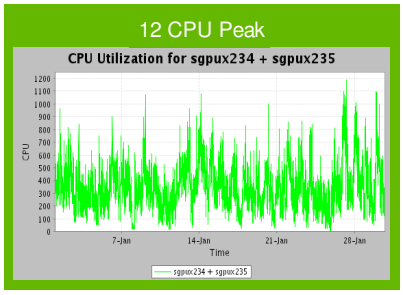
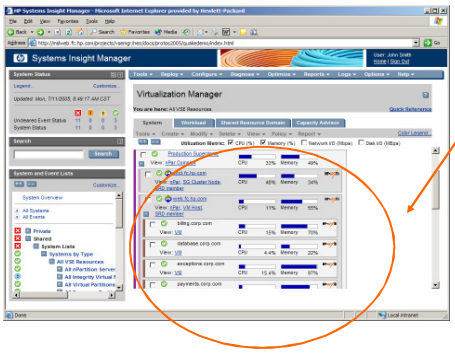


- Peaks for different workloads do not all happen at the same time.
- Two workloads each have an 8 CPU peak demand but the peak of their sum is 12 CPUs.

HP Integrity Essentials Virtualization Manager Visualization of all VSE technologies



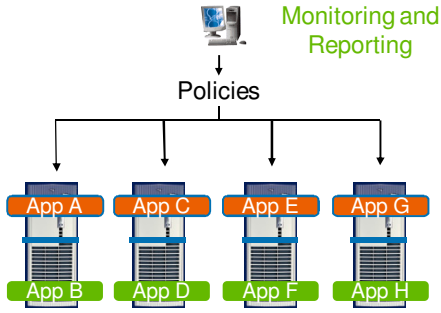
Discovery, visualization, and configuration of virtual resources/ workloads and their utilization

- 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



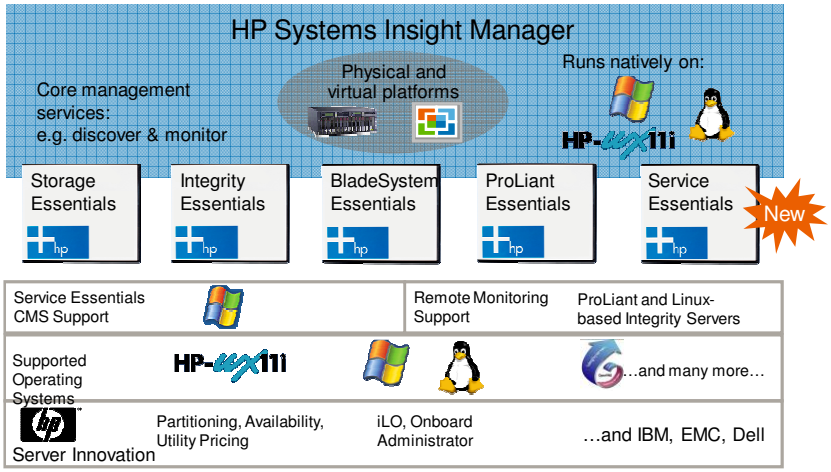
New functionality with gWLM 2.0

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

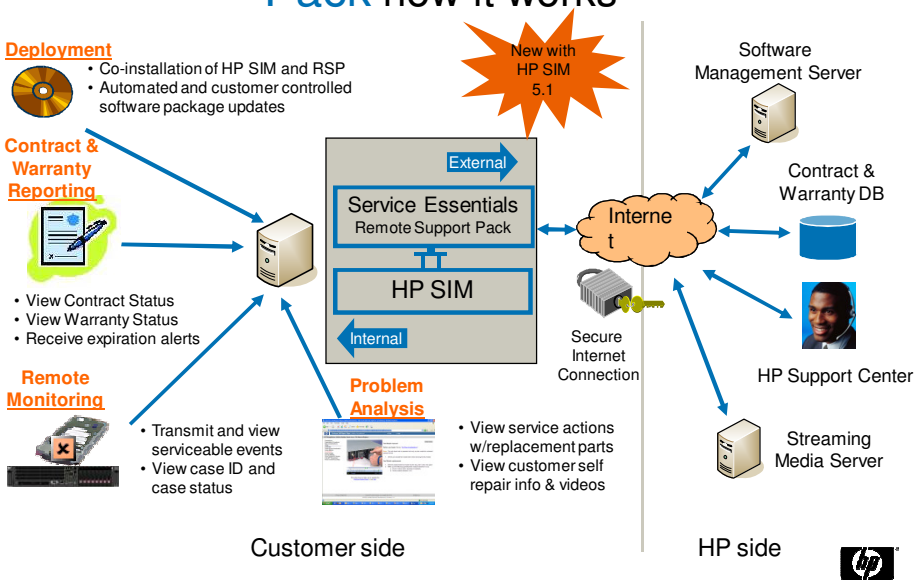
Support for HP-UX 11i, Linux, and OpenVMS on HP Integrity, and HP-UX 11i on HP 9000

Unified Infrastructure Management

Integrating HP Services to HP Systems Insight Manager 5.1

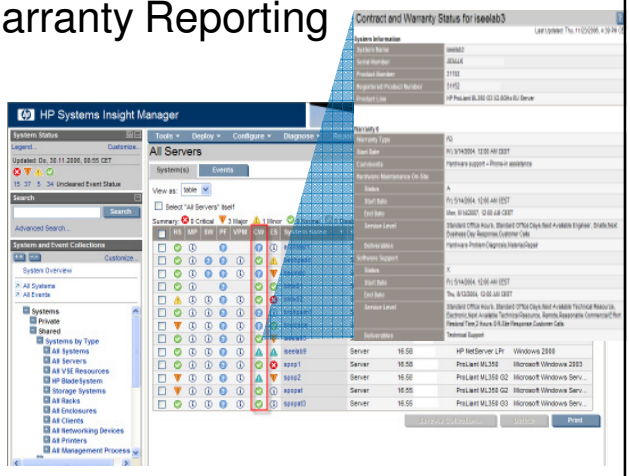


Service Essentials Remote Support Pack how it works



Contract and Warranty Reporting

- Automatically retrieve Warranty and Support Contracts details
- Notifies you 90, 60 and 30 days before service agreement expiration
- Provides single system view and multiple system custom reports
- System ID Information
- Service Entitlement Information



Benefit: No need to hunt for warranty and contract information – it is completely automated and available at your fingertips for all HP SIM discovered devices

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 C

System Information

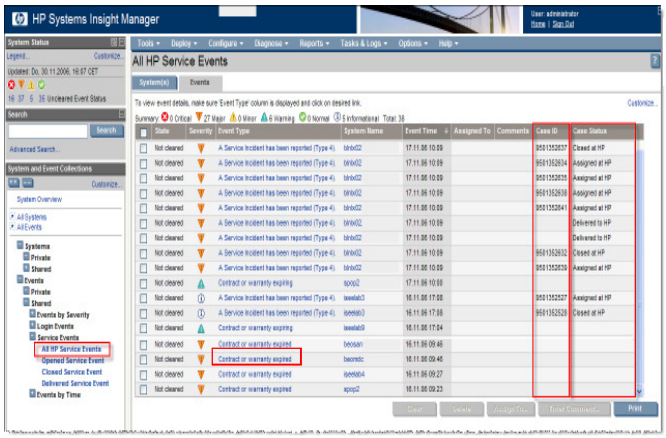
System Name	bimini
Serial Number	CNU63006MG
Product Number	ED912UC#ABA
Registered Product Number	ED912UC
Product Line	Cnw8240FFSP760K560WMg10NS ALL

Warranty 0

Warranty Type	FR
Start Date	Wed, 8/2/2006, 12:00 AM CDT
Extension	0
Wty: HP HW Maintenance Offsite 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	Offsite Support & Materials,Hardware Problem Diagnosis
Wty: 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

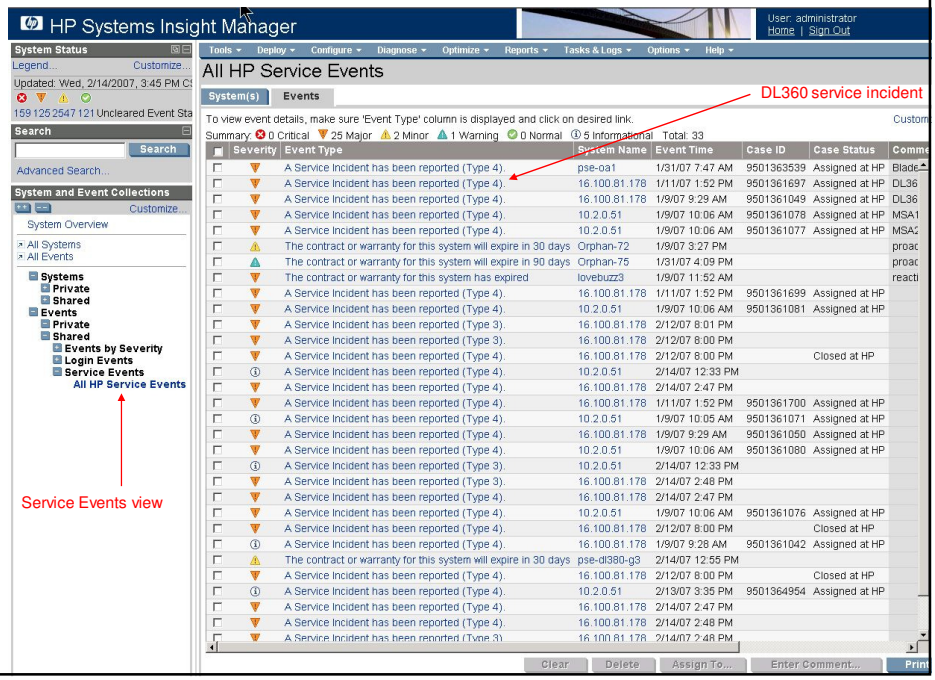


Benefit: Automated submission and event status alerting, no manual IT intervention needed.

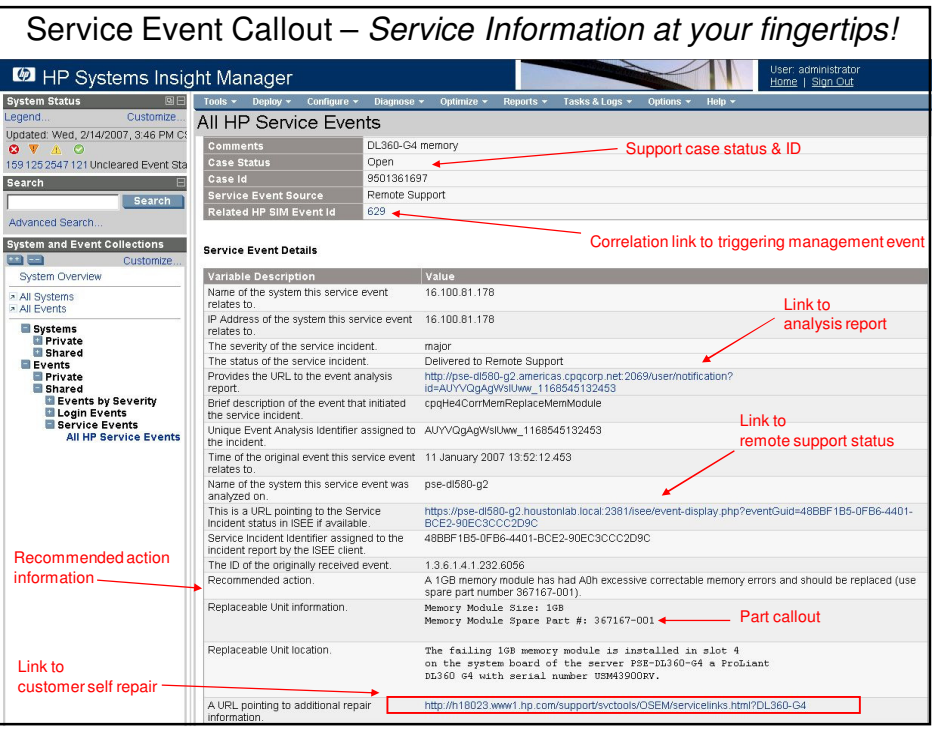
Event listings are now showing:

- 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**

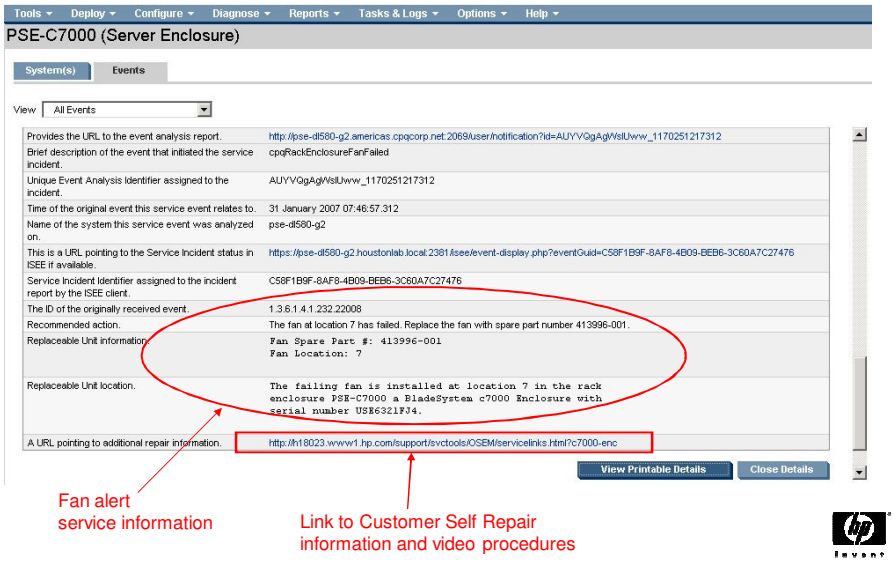
All HP Service Events service incident



Service Event Callout – *Service Information at your fingertips!*

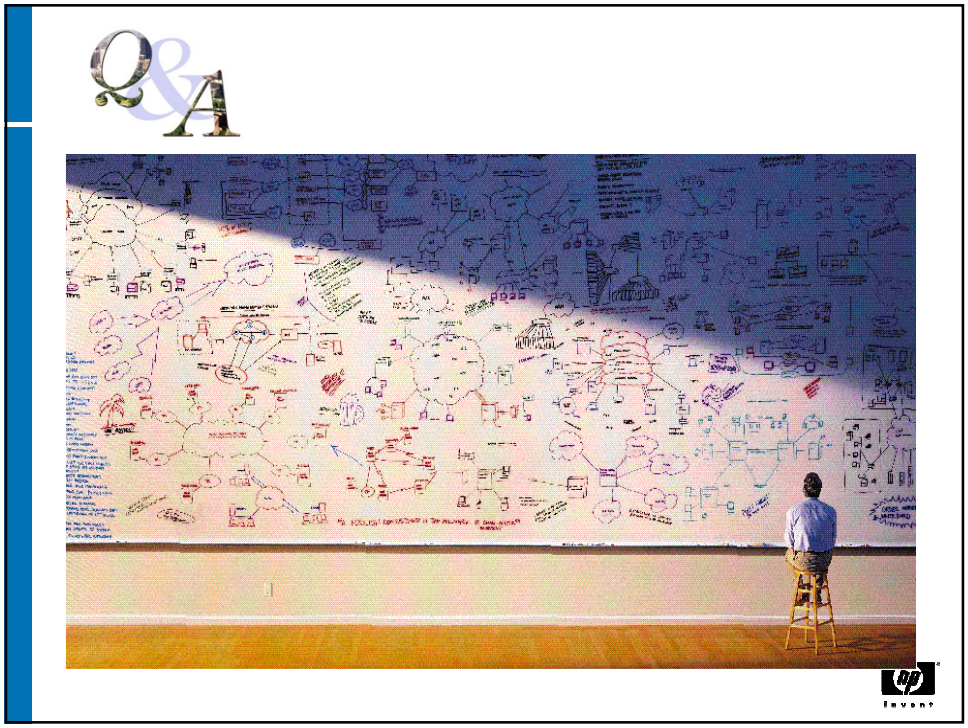


Blade System c7000 analysis
Phone Home, Self-Help here!



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


Q&A