

### Overview

HP Insight Management WBEM Providers for Windows® are based on industry standard technology that enables management of servers in an enterprise environment. The Insight Providers:

- Are built on top of Windows Management Instrumentation (WMI). This enables access to standard ProLiant instrumentation using the rich set of scripting and tools built to take advantage of the WMI technology
  - Leverage and extend standards defined by the Distributed Management Task Force (DMTF). The data provided by the Insight Providers follows the format defined by the DMTF and SMI-S standards and is extended only where there is significant value-add for customers.
  - Extend the Common Information Model (CIM) to make HP ProLiant-specific management data and events available to system administrators, enabling administrative tasks to be automated.
  - Leverage the rich set of base-level instrumentation provided by the system management controllers and drivers shipped with HP PSPs.
  - Deliver in-depth hardware management, inventory data, system state, and event notifications.
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### What's New

Support for New Hardware like:

- HP ProLiant 100 series Generation 6 (G6) servers. ProLiant 100 series servers have never before been supported by the Windows WBEM Providers.  
**NOTE:** There are no PSPs available with these servers.

New Features :

- Windows Server 2008 R2 and Foundation Support
- G6 power supply identification

### Standard Features

#### Key Features

HP ProLiant 100 series, 300 series and above

- HP Insight Management WBEM Providers are based on a set of management and Internet standard technologies developed to unify the management of distributed computing environments
  - The Distributed Management Task Force (DMTF) has developed the core set of standards that make up WBEM:
    - Common Information Model (CIM) schema for describing management data elements and their association
    - Management Profiles describe in a standard format the data surfaced for a given management domain. These profiles describe the CIM elements that are surfaced and the associated semantics used to manage a class of device
- HP Insight Management WBEM Providers
  - Server Providers
    - Processor information and indications (indications on 300 series and above only)
    - Memory information and indications (indications on 300 series and above only)
    - PCI devices and system slot information
    - Sensor information and indications, including redundancy, fans, temperature sensors, power supplies, ASR, and unit ID visual indicator (redundancy not supported on 100 series)
    - Computer system info, including physical location, IML, system ROM, and aggregate system status
    - Integrated Management Log (not supported on 100 series)
  - Network Providers
    - Network controller info and indications
  - Storage Providers
    - Storage controller info and indications
- Indications (Alerts) are logged to Windows® system event log
- Provide performance monitoring capabilities by providing information on CPU usage and Disk free space.
- All instrumentation is available via WMI

#### Additional Information for HP ProLiant 100 series

- Health Monitoring is more limited for ProLiant 100 series than for the ProLiant 300 series servers and above. Health monitoring is limited to disk, fans, network, power supplies and temperature. (ProLiant 300 series and above have additional capabilities in the areas of memory, processors, fan redundancy, hardware logs, power metering, NMI logging as well as monitoring pre-failure thresholds.)
- Alerting for ProLiant 100 series provides basic alert notification and drive pre-failures on Smart Arrays only. (ProLiant 300 Series and above have additional protection of critical server components by providing pre-failure alert notifications on memory, processors, and storage.)

### Standard Features

#### Availability and Usage

HP ProLiant 300 series servers and above

- The HP Insight Management WBEM Providers are distributed as a part of the SmartStart CD (starting with v8.0) that ship with every ProLiant server. Additional information is available at: [www.hp.com/go/HPwbem](http://www.hp.com/go/HPwbem)
- Updates to the HP Insight Management WBEM Providers can be downloaded from the HP Web site at: [www.hp.com/servers/psp](http://www.hp.com/servers/psp)

HP ProLiant 100 series

- The HP Insight Management WBEM Providers for ProLiant 100 series servers are distributed as a part of the Easy Set-up CD that ships with each ProLiant 100 series G6 server starting with version 2.2. They are also available as part of an ISO image web download from each server's web pages.
- Additional information is available at: [www.hp.com/go/HPwbem](http://www.hp.com/go/HPwbem) and [www.hp.com/servers/easysetup](http://www.hp.com/servers/easysetup)

All HP ProLiant servers:

- HPSIM can be used to access data and events from the Insight Providers, including:
  - Server property pages, which include overall ProLiant server management data.
  - WMI indications (events) from the WMI providers.
  - Refer to "Integration with HP Systems Insight Manager" section of this document (page 10) for information on configuring HP SIM for use with HP Insight Management WBEM Providers.
- You can also build custom WMI tools to access data and events for the HP Systems Insight Management WBEM Providers. The Microsoft MSDN website provides information on building WMI clients such as Visual Basic scripts or C++ and C# applications. For more details, see the following WMI references on the MSDN website:
  - How to use WMI ([http://msdn.microsoft.com/library/en-us/wmisdk/wmi/using\\_wmi.asp](http://msdn.microsoft.com/library/en-us/wmisdk/wmi/using_wmi.asp))
  - Scripting Access to WMI ([http://msdn.microsoft.com/library/en-us/wmisdk/wmi/scripting\\_access\\_to\\_wmi.asp](http://msdn.microsoft.com/library/en-us/wmisdk/wmi/scripting_access_to_wmi.asp))
  - More Information on WMI ([http://msdn.microsoft.com/library/en-us/wmisdk/wmi/further\\_information.asp](http://msdn.microsoft.com/library/en-us/wmisdk/wmi/further_information.asp))

#### Benefits

- Heightened security
- Reduced complexity of setup and configuration
- Guaranteed event delivery
- Common view of the system for the client for both in-band and out-of-band management
- Delivers standards-based management across vendor platforms
- Facilitates the development of platform-neutral, reusable infrastructure, tools and applications
- Reduce TCO
  - Reduce the number of management applications required
  - Reduces the overall load on the server
- Can co-exist with SNMP agents

### Technical Specifications

#### Supported Operating Systems

HP Insight Management WBEM Providers are formally supported for use on the following operating platforms:

- Microsoft® Windows Server™ 2003, Web Edition
  - Supported with Service Pack 1 and Service Pack 2
- Microsoft® Windows Server™ 2003, Standard Edition
  - Included with Service Pack 1 and Service Pack 2
- Microsoft® Windows Server™ 2003, Enterprise Edition
  - Included with Service Pack 1 and Service Pack 2
- Microsoft® Windows Server™ 2003, x64 Standard Edition
- Microsoft® Windows Server™ 2003, x64 Enterprise Edition
- Microsoft® Windows Server™ 2003, R2 Web Edition
- Microsoft® Windows Server™ 2003, R2 Standard Edition
- Microsoft® Windows Server™ 2003, R2 Enterprise Edition
- Microsoft® Windows Server™ 2003, R2 x64 Standard Edition
- Microsoft® Windows Server™ 2003, R2 x64 Enterprise
- Microsoft Windows Web Server 2008
- Microsoft Windows Server 2008 Standard 32-Bit
- Microsoft Windows Server 2008 Enterprise Edition 32-Bit
- Microsoft Windows Server 2008 Standard
- Microsoft Windows Server 2008 Enterprise

**NOTE:** The HP Insight Management WBEM Providers is currently supported on Windows platforms only.

#### Supported HP Servers

HP ProLiant BL Servers	HP ProLiant ML Servers	HP ProLiant DL and SL Servers
HP ProLiant BL20p G3	HP ProLiant ML150	HP ProLiant DL160 G6
HP ProLiant BL20p G4 *	HP ProLiant ML310 G2	HP ProLiant SL170h G6
HP ProLiant BL25p	HP ProLiant ML310 G3	HP ProLiant DL180 G6
HP ProLiant BL25 G2 *	HP ProLiant ML310 G4	HP ProLiant SL160z G6
HP ProLiant BL30p *	HP ProLiant ML310 G5	HP ProLiant SL170z G6
HP ProLiant BL35p *	HP ProLiant ML310 G5p	HP ProLiant SL2x170z G6
HP ProLiant BL40p *	HP ProLiant ML350 G4	HP ProLiant DL320 G3
HP ProLiant BL45p	HP ProLiant ML350G4p(SCSI)	HP ProLiant DL320 G4
HP ProLiant BL45p G2 *	HP ProLiant ML350G5	HP ProLiant DL320 G5
HP ProLiant BL260c G5	HP ProLiant ML350 G6	HP ProLiant DL320 G6
HP ProLiant BL260c G6	HP ProLiant ML370 G3	HP ProLiant DL320 G5p
HP ProLiant BL2x220c G5	HP ProLiant, ML370G4	HP ProLiant DL320s
HP ProLiant BL460c	HP ProLiant ML370, G5	HP ProLiant DL360 G3
HP ProLiant BL460 G6	HP ProLiant ML370 G6	HP ProLiant DL360 G4
HP ProLiant BL465c	HP ProLiant ML570 G3	HP ProLiant DL360 G4p (SCSI)
HP ProLiant BL465 G5	HP ProLiant ML570 G4	HP ProLiant DL360 G5
HP ProLiant BL480c		HP ProLiant DL365
HP ProLiant BL490c G6		HP ProLiant DL365 G5
HP ProLiant BL680c		HP ProLiant DL380 G3
HP ProLiant BL685c		HP ProLiant DL380 G4
HP ProLiant BL685c G5		HP ProLiant DL380 G5
HP ProLiant BL685c G6		HP ProLiant DL385
		HP ProLiant DL385 G2
		HP ProLiant DL385 G5
		HP ProLiant DL560
		HP ProLiant DL580 G2
		HP ProLiant DL580 G3

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HP ProLiant DL580 G4  
HP ProLiant DL580 G5  
HP ProLiant DL585  
HP ProLiant DL585 G2  
HP ProLiant DL585 G5  
HP ProLiant DL785 G5  
HP ProLiant DL380 G6  
HP ProLiant DL360 G6

\* Some p-Class blades are supported, p-Class enclosure data is not supported via WMI.

**NOTE:** Some of the servers listed above may be discontinued.

#### Supported HP Management Processors

- HP Remote Insight Lights-Out Edition II Board
- HP Integrated Lights-Out (iLO)
- HP ProLiant Onboard Administrator Powered by Integrated Lights-Out 2 (iLO 2)
- HP ProLiant Onboard Administrator Powered by Lights-Out 100i (ProLiant 100 series G6 servers only)

#### Supported HP Storage Options

- **Storage Options:**
  - Smart Array 5xxx Series Controller
  - Smart Array 6xxx Series Controller
  - Smart Array E200/200i Controller
  - Smart Array E500 Controller
  - Smart Array P400/400i Controller
  - Smart Array P411 Controller
  - Smart Array P600 Controller
  - Smart Array P800 Controller
  - Smart Array P212 Controller
  - Smart Array P410 Controller
  - Smart Array P410i Controller
  - Smart Array B110i SATA RAID Controller
  - Smart Array P700m Controller
  - Smart Array P712m Controller
  - HP 4 Internal Port SAS HBA
  - HP 4 Internal/4 External SAS PCI-Express HBA
  - HP 8 Internal Port SAS/SATA RAID HBA
  - HP Single Channel U320 PCI-E HBA
  - HP SC08Ge HBA
  - HP Qlogic QMH4062 1Gbe iSCSI Adapter for HP BladeSystem c-Class
- **Attached through PCI Smart Array:**
  - HP StorageWorks Modular Smart Array MSA 20
  - HP StorageWorks Modular Smart Array MSA 30
  - HP StorageWorks Modular Smart Array MSA 50
  - HP StorageWorks Modular Smart Array MSA 60
  - HP StorageWorks Modular Smart Array MSA 70
  - HP StorageWorks Modular Smart Array MSA 500
  - HP StorageWorks Modular Smart Array MSA 500 G2
  - HP StorageWorks 4200 Series
  - HP StorageWorks 4300 Series
  - HP StorageWorks 4400 Series
- **Attached through PCI SCSI:**
  - HP StorageWorks Modular Smart Array MSA 20
  - HP StorageWorks Modular Smart Array MSA 30
  - HP StorageWorks 4200 Series

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- HP StorageWorks 4300 Series
- HP StorageWorks 4400 Series
- **Attached through Fibre Channel:**
  - HP StorageWorks Modular Smart Array MSA 30
  - HP StorageWorks 4200 Series
  - HP StorageWorks 4300 Series
  - HP StorageWorks 4400 Series

**NOTE:** Differences in storage support may vary between ProLiant 100 series and other ProLiant servers. In general, the ProLiant 100 Series use an embedded SATA controller for all NHP configurations. The B110i SATA Raid controller provides the RAID support for this embedded controller. For Hot Plug Configurations, Smart Array controllers starting with the P212/ZM, P212, P411 and P412 can be used depending on the configuration and cache/battery options. The HBA's for tape include the following: SC11Xe, U320e and Whelk, P212/ZM. For MSA2000 and MSA2300, there is the SC08Ge HBA. Please check each servers QuickSpecs to verify the storage supported.

#### Supported HP Network Options

NC110T	NC371i
NC150T	NC373i
NC310F	NC373T
NC320i	NC380T
NC320T	NC510C
NC324i	NC510F
NC325i	NC512m
NC325m	NC3163
NC326i	NC1020
NC326m	NC6170
NC360m	NC7170
NC360T	NC7760
NC364m	NC7761
NC364T	NC7771
NC370F	NC7780
NC370i	NC7781
NC370T	NC7782
	HP NC522SFP Dual Port 10Gbe Multifunction BL-c Adapter
	HP NC524SFP Dual Port 10Gbe ProLiant Module
	HP NC112T PCI Express Gigabit Server Adapter

**NOTE:** Some of the options listed above may be discontinued.

### Technical Specifications

#### Supported HP Options

#### Hardware

LTO-4 Ultrium 1840

LTO-4 Ultrium 1760

LTO-3 Ultrium 960

LTO-3 Ultrium 920

LTO-2 Ultrium 448

LTO-1 Ultrium 232

DAT 160

DAT72

DAT40

#### Interface

SCSI, SAS

SCSI

SCSI

SCSI, SAS

SCSI, SAS

SCSI

SCSI, SAS (No USB Support)

SCSI (No USB Support)

SCSI (No USB Support)

**NOTE:** Smart Arrays are not supported. Below are the SCSI and SAS HBAs that are supported by both WBEM and tape drives.

#### SCSI HBAs

Compaq 32-Bit Fast SCSI-2 Controller

Compaq Systempro/XL Integrated SCSI-2 Options Port

Integrated Fast-SCSI-2 Controller/P

Compaq 32-Bit Fast-Wide SCSI-2 /E Controller

Compaq 32-Bit Fast-Wide SCSI-2 /P Controller

Deskpro XL Integrated PCI SCSI-2 Controller

Compaq Wide-Ultra SCSI Controller

Compaq SCSI Controllers

Compaq Wide Ultra2 SCSI Controller

Compaq 64-Bit Dual Channel Wide Ultra2 SCSI Controller

Compaq Wide Ultra3 SCSI Adapter

Compaq StorageWorks Library Adapter

HP 64-Bit/133MHz PCI-X 2CH Ultra320 HBA

HP PCI-X Dual Channel Ultra320 SCSI Adapter

HP Single Channel Ultra320 SCSI HBA G2

HP Single Channel Ultra320 SCSI HBA

HP SC11Xe Host Bus Adapter

HP StorageWorks U320e SCSI

#### SAS HBAs

HP 8 INT Port SAS/SATA HBA

HP 4 INT Port SAS/SATA HBA

HP SC44Ge Host Bus Adapter

HP SC40Ge HBA

#### Recommended Versions HP Management Tools

**NOTE:** To obtain the maximum benefit and optimized operations from HP Insight Management WBEM Providers, the following versions of HP management tools are recommended.

**NOTE:** Differences in option support may vary between ProLiant 100 series and other ProLiant servers. Please check each server QuickSpecs to verify the option support.

### Technical Specifications

HP Software Component		Windows Platform	Linux Platform
HP ProLiant Servers	HP System Insight Manager (HP SIM)	v5.2	
	HP System Management Home Page (HP SMH)	v2.1	
	HP ProLiant Support Pack (not supported on ProLiant 100 series servers)	v8.1	

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<b>Environment-friendly Products and Approach</b>	<b>End-of-life Management and Recycling</b>	Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to <a href="http://www.hp.com/go/green">http://www.hp.com/go/green</a> . To recycle your product, please go to: <a href="http://www.hp.com/go/green">http://www.hp.com/go/green</a> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.
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The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

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