HP COMPAQ BUSINESS PC MANAGEABILITY

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Introduction

Corporate IT departments face tough challenges in providing large scale PC management. These challenges can become increasingly costly in terms of time, manpower, and budget. The widespread physical location of systems, system power state or a non-functional operating system can lead to inaccurate or even impossible management. Management technologies are now available to ease client management with platform resident hardware and firmware solutions.

Management Technologies

HP supports the following solutions:

- Alert Standard Format
- Intel Active Management Technology
- Desktop and mobile Architecture for System Hardware

The Intel Active Management Technology and Desktop and mobile Architecture for System Hardware technologies give corporate IT departments the means to remotely manage multiple clients in an Out-Of-Band (OOB} environment.

OOB manageability allows PC control and configuration regardless of the system power state or presence of an operating system. OOB manageability only requires that a platform be connected to a network and to a power source.

Note

An OOB-managed system must be connected to a power source but does not have to be turned on. Either AC power from a wall socket or DC battery power is acceptable.

Alert Standard Format

Alert Standard Format (ASF) was the computer industry's initial attempt to standardize out-of-bond management capabilities. Introduced in 2001, ASF is an older standard with limited functionality and industry support. The goals of ASF are to provide the following:

Advanced warning and system failure indication from managed clients to remote consoles.

- OS -absent functionality such as a presence heartbeat.
- OS-absent remote control capability such as remote power and boot control.
- Ensure interoperability between vendors of alerting and corrective-action devices.

Intel Active Management Technology

Intel Active Management Technology (AMT) is an Intel initiative to provide OOB manageability for desktop PCs and notebooks. AMT was introduced in 2006 and is continually being developed by Intel.

Intel AMT offers the following:

- Support for Intel Standard Manageability, a subset of AMT available features. Note that system chipset or non-vPro processors can limit the manageability features to Intel Standard Manageability.
- OOB access with built-in manageability in the chipset.
- Asset management for tracking and inventory.
- Remote remediation services with redirection and remote control.
- Proactive management services with alerts, event logging and reporting. Intel AMT is available on systems with Intel vPro Technology, a feature set of management and security capabilities allowing remote access to a PC regardless of its operating system or power state.

Desktop and mobile Architecture for System Hardware

Desktop and mobile Architecture for System Hardware (DASH) is an industry open standards initiative to define protocols and processes for over-the-wire management of desktops, workstations, laptops, and converged devices. DASH is defined by the Distributed Management Task Force (DMTF), an industry organization leading the development of management standards.

The following companies provided input into the creation of the DASH specification:

- Hewlett-Packard
- Intel
- AMD
- Broadcom

DASH is an alternative to Intel AMT and shares many of the same features and goals as Intel AMT. However, Intel AMT is proprietary to Intel and can only be used with high-end Intel desktop and mobile chipsets, whereas DASH is compatible with any chipset providing certain requirements are met. Intel AMT v3.2 and later contain DASH support, although the level of support is dependent on the Intel AMT version.

HP business PC support of management technologies

HP business PCs have supported one or more of the common management technologies since the introduction of the HP Compaq dc5850. Table 1 lists the HP business PC products supporting manageability technologies discussed in this guide.

Table 1. HP Business PCs supporting manageability technologies

HP Desktop system	ASF	DASH	AMT	Intel Standard Management
HP Compaq dc7700p Business PC (vPro SKU)	x	1.0	2.1	
HP Compaq dc7700p Business PC (non-vPro SKU)	x			
HP Compaq dc7800p Business PC (vPro SKU)	x	1.0	3.2	
HP Compaq dc7800p Business PC (non-vPro SKU)	x			
HP Compaq dc5850 Business PC		1.0		
HP Compaq dc7900 Business PC (vPro SKU)	x	1.0	5.2	
HP Compaq dc7900 Business PC (non-vPro SKU)	x			Standard 3.2
HP Compaq dc7900 Business PC (non-vPro SKU) DASH capable NIC Option	x	1.0		
HP Compaq 8000 Elite Business PC (vPro SKU)			5.2	
HP Compaq 8000 Elite Business PC (non-vPro SKU)				Standard 3.2
HP Compaq 6000 Pro Business PC		1.0		Standard 6.0
HP Compaq 6005 Pro Business PC		1.0		
HP Compaq 8100 Elite (vPro SKU)		1.1	6.0	
HP Compaq 8100 Elite (non-vPro SKU)		1.1		Standard 6.0
HP Compaq 6200 Pro (non-vPro SKU)		1.1		Standard 7.1
HP Compaq 8200 Elite (vPro SKU)		1.1	7.1	
HP Compaq 8200 Elite (non-vPro SKU)		1.1		Standard 7.1

Comparison of management technologies

Table 2 provides a general comparison of management technologies.

Table 2. Comparison of management technologies

	ASF	AMT	DASH
Sponsor	DMTF	Intel	DMTF
Description	Standard defined OOB PC management (when OS is not running)	Intel initiative delivering enhanced OOB management	Next generation standard for secure OOB remote PC management based on web services (WS management)
Year introduced	v2.0, 2001	v2.x, 2006; v3.x, 2007 v4.0/5.0, 2008 v6.0, 2009 v7.0, 2011	v1.0, 03/2007; v1.1, 12/2007
Industry support	Weak PC supplier support; uses unpopular connection and transport method (non-secure); poor console adoption due to non-normative standard	HP has offered AMT-capable desktops and notebooks since 2006. Console support provided by HP software, Altiris, Microsoft, LANDesk, and others	Co-chairs: HP and Dell Key contributors: AMD (ATI), Broadcom, Dell, HP, IBM, Intel, NVIDIA Monitoring firms: Symantec, LANDesk, Lenovo, Microsoft
OOB manageability?	No, system must first be remotely woken to S0 state	Yes. System can be managed in any power state (S0-S5).	Yes. System can be managed in any power state (S0-S5).
Remote control	Limited. Only remote boot and wake.	Yes. Media and text redirection; remote wake/reboot/ shutdown	Yes. Media and text redirection; remote wake/reboot/ shutdown
Remote boot	Yes, PXE	Yes, PXE and IDE redirect	Yes, PXE and IDE redirect
Event alerting	Yes, preset (restrictive)	Yes, policy based (flexible)	Yes, policy based (flexible)
Event logging	No	Yes	Yes
Asset information	No	Yes. Hardware and software inventory	Yes. Hardware and software inventory
Non-Volatile storage	No	Yes. 3rd party data store	Yes. 3rd party data store
Secure communication	Limited. Pre-shared keys	Yes. TLS, Kerberos	Yes. TLS, Kerberos
Transport layer	UDP, often blocked by routers	TCP, preferred routing protocol	TCP, preferred routing protocol
Remote control protocol	RMCP; UDP-based and obscure	SOAP/WS-MAN; well known	WS-MAN; well known

Management scenarios

The following subsections present three case uses of management technology:

- Asset management
- Remote remediation services
- Proactive management services

Use case: Asset Management

Asset management is the ability to remotely manage many systems with a single console to detect and track PCs and their components. Management technologies use hardware and software inventory capabilities that are available at all times to give an accurate response (Figure 1).

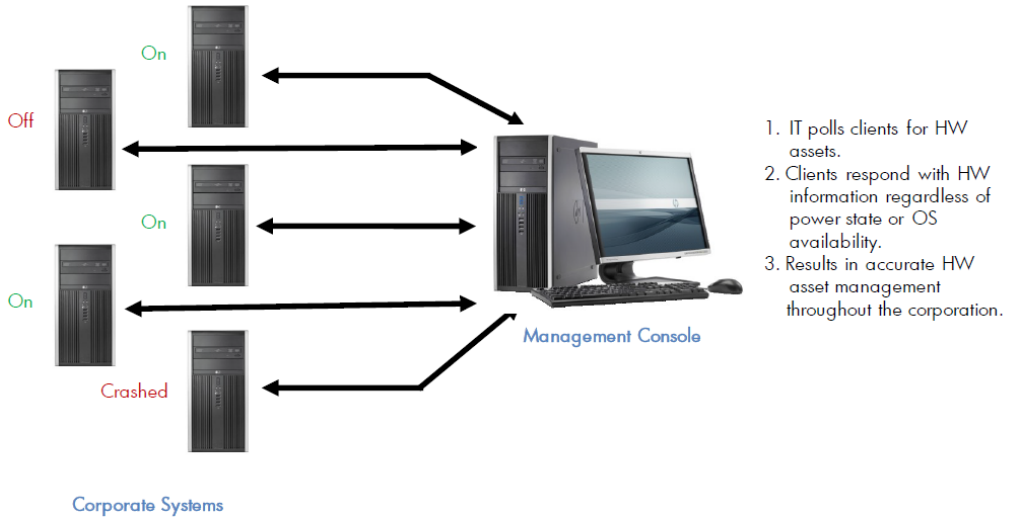

Figure 1. Asset management

Use case: Remote Remediation Services

Remote remediation is the ability to remotely diagnose and solve system malfunctions to reduce downtime and productivity loss. Management technologies use media and text redirection along with remote power and booting to correct problems (Figure 2).

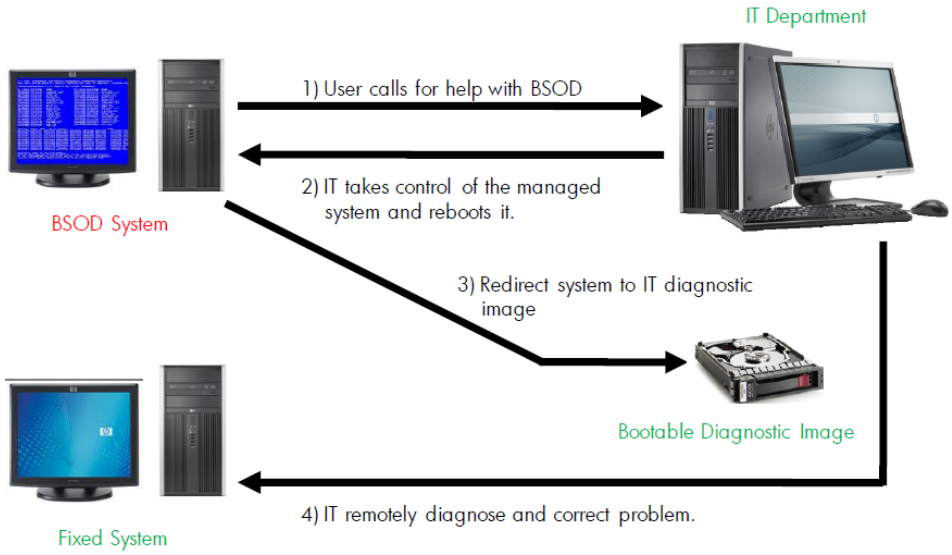

Figure 2. Remote remediation

Use Case: Proactive Management Services

Proactive management is the ability to generate alerts on pre-determined events and log them for later analysis. Management technologies use event-based alerting along with event logging and reporting to aid IT departments in detecting foiling systems and correcting the problem before on actual failure occurs (Figure 3).

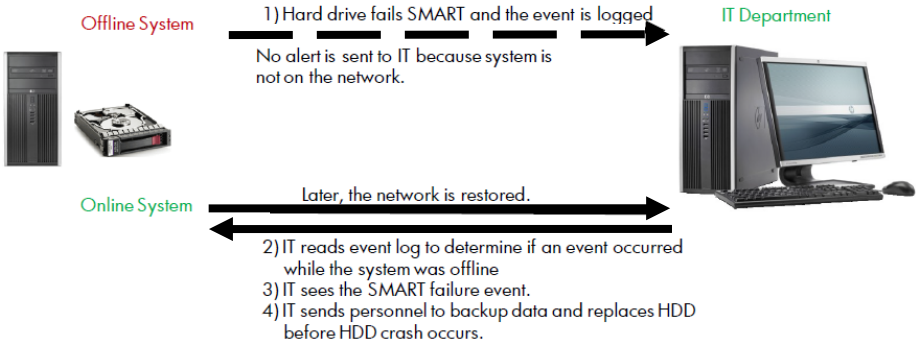

Figure 3. Proactive management

For more information

For more information on related subjects visit the following websites:

Intel vPro Processor Technology Setup and Configuration for the HP 8200 Elite Business PC	http://h20000.www2.hp.com/bizsupport/TechSupport/DocumentIndex.jsp?lang=en&cc=us&taskId=110&prodClassId=-1&contentType=SupportManual&docIndexId=64255&prodTypeId=12454&prodSeriesId=5037949

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