HP Insight Dynamics 6.2 Release Notes

Acknowledgments

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Contents

1 Enhancements

Description

The HP Insight Dynamics suite is advanced infrastructure management software that allows you to analyze and optimize both physical and virtual resources in the same way. HP Insight Dynamics gives you a powerful toolkit to accelerate complex technology projects and simplify daily operations. It enables you to plan capacity and power continuously, provision infrastructure consistently, and balance across physical and virtual resources. It also allows you to ensure cost-effective high availability for a larger set of applications.

HP Insight Dynamics for ProLiant, **HP Insight Dynamics for non-HP servers**, and **HP Insight Dynamics – VSE for Integrity** are integrated by design, delivering capabilities greater than the sum of its parts. HP Insight Dynamics is based on proven HP technologies, such as HP Insight Control and HP Systems Insight Manager (HP SIM), the world's most popular platform management tool. HP Insight Dynamics takes advantage of HP Virtual Connect to bring the flexibility of virtualization to a physical environment.

- **HP Insight Dynamics for ProLiant** and **HP Insight Dynamics for non-HP servers** include capacity planning, advanced virtualization and logical server management, and Insight Orchestration capabilities for automated design and provisioning.

- **HP Insight Dynamics for ProLiant** also includes Insight Recovery for disaster recovery capabilities, HP Insight Control for advanced power management, performance management, and server deployment, and extends advanced virtualization management to HP server blades using HP Virtual Connect technology.

- **HP Insight Dynamics – VSE for Integrity** includes capacity planning, advanced virtualization management, global workload management, and support for Integrity blades by HP Integrity Virtual Machines, HP-UX Workload Manager, and Insight Remote support.

HP Insight Dynamics suite licenses

HP Insight Dynamics suite licenses are available for managing different types of systems, as shown in the table below. The software is installed on a Central Management Server (CMS) running Systems Insight Manager, which provides a browser-based user interface. A single CMS can be used to manage different types of systems. The software is installed on the CMS once, regardless of how many or what types of suite licenses are purchased.

Table 1 HP Insight Dynamics suite licenses

Suite license	Managed systems supported	CMS platform
HP Insight Dynamics suite for ProLiant	• HP ProLiant servers running Microsoft Windows or Linux • HP BladeSystem c-Class ProLiant server blades running Microsoft Windows or Linux • Virtual machines and VM hosts running Microsoft Windows or Linux running under VMware ESX, VMware ESXi, or Microsoft Hyper-V on HP ProLiant hosts	• HP ProLiant server running Microsoft Windows • HP BladeSystem c-Class ProLiant server blade running Microsoft Windows • Virtual machine running Microsoft Windows running under VMware ESX or Microsoft Hyper-V on HP ProLiant or selected non-HP host
HP Insight Dynamics suite for non-HP servers	• Virtual machines and VM hosts running Microsoft Windows or Linux running under VMware ESX, VMware ESXi, or Microsoft Hyper-V on selected non-HP hosts • Selected non-HP servers running Microsoft Windows or Linux [1]	
HP Insight Dynamics – VSE suite for Integrity	• HP Integrity servers running HP-UX, HP OpenVMS, Integrity Linux, or Microsoft Windows for Integrity • HP Integrity server blades running HP-UX, HP OpenVMS, Integrity Linux, or Microsoft Windows for Integrity • nPartitions running HP-UX, Integrity Linux, or Microsoft Windows for Integrity • Virtual machines running under HP Integrity Virtual Machines • Virtual partitions running under a vPars monitor	• HP ProLiant server running Microsoft Windows • HP BladeSystem c-Class ProLiant server blade running Microsoft Windows • Microsoft Windows virtual machine running under VMware ESX or Microsoft Hyper-V on HP ProLiant or selected non-HP host • HP Integrity server running HP-UX • HP Integrity server blade running HP-UX • HP-UX virtual machine running under HP Integrity Virtual Machines

1   Provisioning of physical servers and automated power control is not supported for these servers; logical servers on non-HP hardware is limited to virtual machines

ⓘ   **IMPORTANT:**   This table is a summary. Specific supported hardware and software configurations are provided in the *HP Insight Software 6.2 Support Matrix*, available at www.hp.com/go/insightdynamics/docs.

New capabilities in HP Insight Dynamics 6.2 software

HP Insight Dynamics 6.2 software provides new capabilities and expanded platform support.

- New hardware support
  - Integrity BL8x0c i2 server blades and Superdome 2 server support
    Systems Insight Manager discovery, power management, visualization, capacity planning and workload management for BL860/70/90c i2 Integrity server blades
  - Fibre Channel over Ethernet (FCoE) via Virtual Connect FlexFabric (for ProLiant)
- New hypervisor support
  - VMware ESX 4.1 managed nodes
  - VMware ESXi 4.1 managed nodes

- HP Insight Orchestration (infrastructure orchestration) (Windows CMS only)
  - VMware vNetwork Distributed Switch (vDS)
  - SAN Virtualization Services Platform (SVSP) support for VMware and Hyper-V data stores
  - Support for HP Integrity VM logical server operations
  - VLAN tagging for Hyper-V
  - Server Automation satellite support
    - Single core server
    - Multiple boot networks (up to 255 IPs) may connect to a single core server
  - Service "host name customization"
    - Suffix pattern specification (printf)
    - No-suffix option for single-use templates
  - API/CLI enhancements
- HP Insight Recovery (recovery management) (Windows CMS only)
  - Microsoft Hyper-V virtual machines can be protected against disasters
    - Support for Microsoft Windows Server 2008 with Hyper-V R2 in a standalone (non-clustered) configuration
    - **Technology preview**: Microsoft Windows Server 2008 with Hyper-V R2 in a clustered configuration with cluster shared volumes (CSV)
  - Support for asynchronous mode in Continuous Access replication of EVA storage arrays
- Capacity Advisor
  - Models the memory for VMware ESX servers including only memory used by each VM, as if the VM has no reserved memory (the current default setting for ESX). For HP Integrity VM and Hyper-V, memory for VMs is still modeled as if all memory is reserved (an earlier default setting for ESX)
  - Peak Summary Reports are improved with new graphs
- Logical server management (Windows CMS only)
  - Cross-technology logical servers

    Cross-technology logical servers, which can be moved between servers with Virtual Connect and ESX virtual machines and between servers with Virtual Connect with unlike configurations. Using Insight Recovery, the same type of movement can be accomplished across sites and used for disaster recovery

    Raw Device Mapping (RDM) for ESX virtual machine logical servers, which allows moves between physical and virtual environments while still accessing the same boot and data volumes

  - HP Integrity VM logical servers

    Logical server operations performed on HP Integrity VM guests on an HP-UX VM host, using Shared Logical Volume Manager (SLVM) storage volumes or physical Fibre Channel disks

  - New storage pool entry types for integration with Storage Provisioning Manager catalog entries, which support secure access to automated hostmode setting and masking operations
  - Virtual Local Area Network (VLAN)
  - VMware vNetwork Distributed Switch (vDS)

- SAN Virtualization Services Platform (SVSP) support for VMware and Hyper-V data stores
- Integration with the `mxsync` backup and restore utility for automated and manual post-restore recovery actions

  For more information, see the *Backing up and restoring HP Insight Software 6.2 Management Server (Windows)* white paper at www.hp.com/go/insightdynamics/docs

- Storage Provisioning Manager (SPM) (Windows CMS only)

  HP Storage Provisioning Manager (SPM) is an optional tool for managing storage provisioning within the Insight Dynamics software environment. It provides a secure service-centric management interface to storage, allowing storage requests to be fulfilled with available storage services from a storage catalog, and securely automating storage management tasks by interfacing directly with storage arrays.

2 Installation, configuration, and licensing

For system requirements and installation instructions on HP ProLiant and non-HP servers running Microsoft Windows, see *HP Insight Software 6.2 Installation and Configuration Guide*.

For system requirements and installation instructions on a CMS running HP-UX, see *HP Insight Dynamics 6.2 Integrity CMS Installation and Configuration Guide*.

These and other documents for HP Insight Dynamics software can be found at www.hp.com/go/insightdynamics/docs.

See "Additional software dependencies" (page 12) for additional software not included with this release that might be required in your configuration.

Newer version available for download

HP Insight Dynamics – VSE for Integrity

The latest version of HP Insight Dynamics – VSE for Integrity is available from the following location:

https://h20392.www2.hp.com/portal/swdepot/displayProductInfo.do?productNumber=vse

HP Insight Dynamics for ProLiant and non-HP servers

The latest version of HP Insight Dynamics for ProLiant and non-HP servers is available from the following location:

https://h20392.www2.hp.com/portal/swdepot/displayProductInfo.do?productNumber=HPID

Accessing online help before licenses are installed

You can access the HP Insight Dynamics online help before you have installed licenses on the CMS by performing the following steps.

1. Select **Help→For HP Systems Insight Manager** from the top menu.
2. In your browser address bar (if enabled), change the URL from the first line to the second line:

    ```
    https://{CMS-FQDN}:50000/mxhelp/mxportal/en/help-welcome.html
    https://{CMS-FQDN}:50000/mxhelp/vsemgmt/en/licenses.html
    ```

    where {CMS-FQDN} is the fully qualified domain name of the CMS.
3. Press Enter to display the HP Insight Dynamics license management topic. From there, you can select any of the help topics that apply to the entire HP Insight Dynamics suite. For help specific to an individual component of HP Insight Dynamics, select the **Related information** topic and choose one of the links in the section **Help for related products**.

Back up your existing CMS configuration before upgrading the software

HP recommends making a backup of your pre-6.2 environment before upgrading the software. The upgrade process is not reversible. If, after you begin, you decide not to complete the upgrade to HP Insight Software 6.2, a backup copy of your pre-6.2 environment is required to restore your CMS to the pre-upgrade state.

See the *HP Insight Software 6.2 Installation and Configuration Guide* at www.hp.com/go/insightdynamics/docs for detailed backup and restore instructions.

> **IMPORTANT:** After the upgrade process has successfully completed, you must also perform a backup of the upgraded 6.2 configuration to restore your environment to a known good state in the event of a catastrophic failure. This is necessary to ensure that managed resources, if they were changed by the 6.2 CMS, will continue to be manageable if the CMS ever needs to be restored from backup.
>
> Refer to the *Backing up and Restoring HP Insight Software Central Management System (Windows)* white paper at www.hp.com/go/insightsoftware/docs for instructions about backing up an HP Insight Software DVD 6.2 Windows CMS.

Back up user-modified properties files before upgrade

During an upgrade, Insight Dynamics properties files from an earlier release are replaced by new properties files for the 6.2 release. If you made any modifications or customizations to the properties files, your changes are lost.

Suggested action

Before beginning an upgrade to Insight Dynamics 6.2, save a copy of user-modified properties files or note any changes made to the files so that you can insert those modifications into the new versions of the files.

Following is a partial list of properties files that are commonly modified. Verify in your environment if you have modified these files before beginning an upgrade, and if you have modified them, save the files to a location that is not under the `\Program Files\HP\Virtual Server Environment` directory tree.

```
C:\Program Files\HP\Insight Orchestration\conf\blade_models.properties
C:\Program Files\HP\Virtual Server Environment\conf\esa.properties
C:\Program Files\HP\Virtual Server Environment\conf\lsa\hp_lsa_service.conf
C:\Program Files\HP\Virtual Server Environment\conf\lsa\lsa.properties
C:\Program Files\HP\Virtual Server Environment\conf\lsa\lsaclient.properties
C:\Program Files\HP\Virtual Server Environment\conf\lsa\vc\vcController.properties
C:\Program Files\HP\Virtual Server Environment\conf\lsa\vmm\vmmController.properties
C:\Program Files\HP\Virtual Server Environment\conf\lsa\storage\storageController.properties
```

After the upgrade has completed, but before the services are restarted or the CMS is rebooted, edit the new properties files and add any custom entries made to the previous version of the file.

Clear browser cache after upgrade

After an upgrade to Insight Dynamics 6.2, or to a 6.2 update release, clear your browser's cache before logging in to Insight Dynamics. In Internet Explorer, use **Tools→Delete Browsing History**. In Firefox, use **Tools→Clear Recent History**.

User experience and application performance

HP Insight Dynamics is based on web client server technologies. Your perception of performance can be affected by many external sources, including the central management server's health, network congestion and latency, and client side equipment and browser.

Every effort to balance performance and functionality has been made to the default settings to create the best user experience under multiple browsers with different server environments. Changing these default settings can result in adverse application responsiveness, which is more noticeable in some browsers; for example, there are known memory issues in Internet Explorer 7 and 8 that can be exposed in large scale environments. No matter which browser you choose to use, HP recommends using the latest release and updates to improve your user experience and protect your environment from the latest security threats.

Enabling template access restrictions in HP Insight Orchestration

Insight Orchestration supports template access restrictions on a per user basis. This feature is disabled by default. If you do not modify the properties file, all users will see all templates.

To enable template access restrictions, edit the file in the default location at `C:\Program Files\HP\Insight Orchestration\conf\hpio.properties`, and set `template.access.restricted = true`. After access restrictions are enabled, only users assigned to a template will be able to see and use the template.

Switching between HP Server Automation cores

Insight Orchestration 6.3 supports SA 9.x by default. To revert to an earlier version of SA support (for example, SA 7.83), perform the following steps to switch between SA cores.

1. Replace `opswclient.jar` from the 9.x SA Core at `C:\Program Files\HP\Systems Insight Manager\lib` with `opswclient.jar` from the SA Core to be configured with installed Insight Dynamics. The location of `opswclient.jar` on the SA Core is `/opt/opsware/da/webapps/arm/WEB-INF/lib/opswclient.jar` and `/opt/opsware/twist/extlib/client/opswclient.jar`.
2. Remove the existing SA Core credentials and add the new SA Core credentials to the System Insight Manager server using the `mxnodesecurity` utility.
3. Restart the HP System Insight Manager Windows service.

Operations Orchestration Studio installation and upgrade issues

Pointing a remote Operations Orchestration Studio installation to Operations Orchestration Central installed on a CMS

A "Failed Login" error message is displayed when you try to log in to Operations Orchestration Studio 7.51 pointing to a remote repository (for example, Operations Orchestration Central 7.51 on the CMS).

To resolve this issue, perform the following steps:

1. Make a backup of the `rc_keystore` file on the CMS.
2. Copy the `rc_keystore` file installed on the CMS (`C:\Program Files\HP\Operations Orchestration\Central\conf\rc_keystore`) to the same path on the remote Operations Orchestration Studio system (`C:\Program Files\HP\Operations Orchestration\Studio\conf\rc_keystore`).
3. Restart Operations Orchestration Studio.

Certificate key mismatch after Operations Orchestration Studio upgrade

After upgrading Operations Orchestration from version 7.51 to 9.0, Operations Orchestration Central and Studio have different certificate keys. Operations Orchestration Studio cannot access the URL https://localhost:16443.

To resolve this issue, perform the following steps:

1. Make a backup of the `rc_keystore` file on the CMS.
2. Copy the `rc_keystore` file installed on the CMS (`C:\Program Files\HP\Operations Orchestration\Central\conf\rc_keystore`) to the same path on the Operations Orchestration Studio system (`C:\Program Files\HP\Operations Orchestration\Studio\conf\rc_keystore`).
3. Restart Operations Orchestration Studio.

Cannot download 64-bit Operations Orchestration Studio from Insight Orchestration Designer

An icon in the Workflow dialog box in Insight Orchestration Designer allows you to download and install the 32-bit version of Operations Orchestration Studio. If you download and attempt to install the 32-bit version on a 64-bit CMS, the following error is displayed: "Studio version: 9.00 does not match Central version: 2.0. Setup will exit."

The 64-bit version of Operations Orchestration Studio is available on the Insight Software DVD #2, in the /hpio folder.

Red Hat Enterprise Linux 5.5 cannot be installed in VM guest on ESXi 4.1 host on BL465c G7

Red Hat Enterprise Linux 5.5 cannot be installed in a VM guest on an ESXi 4.1 host on server blade BL465c G7.

To resolve this issue, install RHEL 5.5 on the host system, install a RHEL 5.4 guest and then upgrade the guest to RHEL 5.5, ensuring that kernel-2.6.18-194.3.1.el5 or higher is used.

For more information, see Red Hat's Knowledgebase article at https://access.redhat.com/kb/docs/DOC-38013.

Managing Microsoft Windows servers without OpenSSH installed

Even though the product documentation states OpenSSH is required, HP Insight Dynamics supports Microsoft Windows environments not running OpenSSH. However, for Microsoft Windows systems without OpenSSH, there are several limitations with agent installation and troubleshooting.

For details on using HP Insight Dynamics with Microsoft Windows systems not running OpenSSH, see the *HP Insight Dynamics 6.0 software without OpenSSH on HP ProLiant and Integrity Servers Running Microsoft Windows* white paper, available at the following website:

www.hp.com/go/insightdynamics/docs

Patch required for proper management of Microsoft Windows Server 2008 with Hyper-V systems

A patch from Microsoft is required for managing Microsoft Windows Server 2008 with Hyper-V systems. Patches are installed on the Hyper-V hosts, and after you do so, you must install or update Hyper-V Integration Services from the updated host to each VM guest. Do this as a precaution because not all patches affect Integration Services on the guests.

Microsoft Windows Server 2008 SP2 with Hyper-V requires you to install the following patch that fixes the hang in host servers with many simultaneous virtual machine operations. The patch is located at http://support.microsoft.com/kb/980081.

See the *Managing Microsoft Windows Server 2008 Hyper-V with HP Insight Software* technology brief for more information about other patches that might be required for later editions of Microsoft Windows Server 2008 (R2):

http://www.hp.com/go/insightdynamics/docs

Managing a Microsoft Hyper-V (or any MSCS) cluster when an alias is assigned by DHCP

In Windows Server 2008 Failover Clusters, if the cluster alias is assigned using DHCP, the cluster alias PTR (reverse lookup) record in DNS will be incorrect, and will cause the cluster to be incorrectly discovered in Systems Insight Manager.

To correct this problem, delete the cluster objects from Systems Insight Manager, take the steps in the Microsoft Knowledge Base article at http://support.microsoft.com/kb/969049 to modify the cluster DNS behavior, and then rediscover the cluster in Systems Insight Manager.

Additional software dependencies

The following are additional dependencies related to HP Insight Dynamics – VSE for Integrity software.

- Instant Capacity Manager requires iCAP version 8.02 or higher installed on the HP-UX managed systems.
- HP Insight Dynamics – VSE for Integrity supports having multiple database instances hosted by Microsoft SQL Server. Refer to the Microsoft SQL Server documentation for instructions on how to set up a system to host multiple SQL Server database instances.

3 Issues and suggested actions

Issues and limitations of this release are listed below, organized by HP Insight Dynamics feature or functional area. If a feature or functional area has no limitations or issues, that category will not appear. The following categories are used:

Limitations   Limitations of the implemented feature or functional area.

Major issues   Issues that may significantly affect functionality and usability.

Minor issues   Issues that may be noticeable but do not have a significant impact on functionality or usability.

HP Insight Dynamics software

Limitations

Configuring Insight Dynamics with a remote Microsoft SQL Server database

Because Windows Single Sign On is used by Insight Dynamics to connect to the SQL Server database, the credentials associated with the user account executing a command or service are used to connect to the remote database. Therefore, user accounts used to execute Insight Dynamics software that accesses the database must satisfy the following conditions:

- The user credentials specified for the CMS access and database access during the installation should be the same, and be trusted domain credentials available to both the CMS and database systems.
- The user credentials specified during the installation for the database access should have access permissions to the database.

If you run a CLI command as a user that is not a domain user or does not have database access permission on the remote database, and the CLI command requires database access, the command will fail.

Major issues

Unable to get detailed disk information on Microsoft Hyper-V VM host with a QLogic HBA

Because of an issue with the QLogic HBA driver, detailed disk information is unavailable for disks visible to the QLogic HBA card to manage virtual machines on the VM host.

Without this driver, you cannot select SAN disks as storage when creating a virtual machine logical server. This prevents you from moving the virtual machine within a Microsoft Hyper-V cluster.

Suggested action

Update the Windows driver of the QLogic HBA to 9.1.8.25 or higher.

To locate and download the driver, perform the following steps.

1. Go to http://www.hp.com and click Support & Drivers at the top of the screen.
2. Select "Download drivers and software (and firmware)".
3. Enter the product number for your product (for example, AE312A is the product number for HP StorageWorks FC1242SR 4 Gb PCIe HBA).
4. Select the operating system you are running.
5. Download the "Storport Driver Component for QLogic FC HBAs and QLogic-based FC Mezzanine HBAs" (9.1.8.25 or higher).

Using a remote CMS database with components that use ESA for storage provisioning and server operations

Some components in Insight Dynamics use the Extensible Server & Storage Adapter (ESA) for storage provisioning and server operations. Information about resources managed by these components may be unavailable or missing if you are using a remote CMS database. These problems occur because ESA cannot access its database when the CMS is using a remote database.

If your CMS is running a remote database and you are using HP Insight Orchestration, HP Insight Recovery, or logical server management to manage:

- Storage Provisioning Manager catalog-based storage pool entries

  Candidate volumes will not be visible in SPM so you cannot create a catalog-based storage pool entry. In Insight Orchestration, there will be no storage available for use.

- Operations Orchestration Workflow physical servers or non-HP servers

  Portability groups containing Operations Orchestration Workflow (OOWF) physical servers or non-HP servers will not be available for selection when you create a logical server or storage pool entry. Insight Orchestration will not be able to perform operations that depend on these types of servers.

- Annotated servers with Virtual Connect using Operations Orchestration workflows

  The annotation will be missing, so there will be no server resources with local disks.

Suggested action

Change the account under which the ESA service runs to an account that has access to the remote database.

After installing and configuring the Insight Dynamics CMS to use a remote database:

1. Sign into the CMS as Administrator.
2. Enter the following command:

   ```
   sc qc "HP Logical Server Automation" 2096
   ```

   The output will contain a line similar to the following. The *string* displayed is the account name that was configured.

   ```
   SERVICE_START_NAME : string
   ```

3. Enter the following command, replacing *string* with the string in the preceding output. Note the space between `obj=` and `string`.

   ```
   sc config esa obj= string
   ```

4. Restart the ESA service using the Windows Services GUI, or by entering the following two commands:

   ```
   sc stop esa
   sc start esa
   ```

Capacity Advisor

Limitations

Automatic power calibration of Integrity Linux systems running SUSE 11 operating system is not supported

The HP Insight Dynamics 6.2 software does not support the automatic power calibration of Integrity Linux systems running the SUSE 11 operating system.

Suggested action

Manually calibrate Integrity Linux SUSE 11 systems for power.

Automatic power calibration requires power metering support in server

Auto-calibration of idle/max power with Capacity Advisor requires the power metering features of iLO in the managed server. For information about which servers support power metering, see Appendix A in the *HP Insight Software 6.2 Support Matrix* at www.hp.com/go/insightdynamics/docs.

Suggested action

Manual power calibration is recommended for servers that do not support iLO power metering.

Sub-OS workloads on Linux systems are not supported

On x86 and Integrity Linux systems, Linux sub-OS workloads cannot be created or modeled, and sub-OS workload data cannot be collected.

On Linux systems where the Utilization Provider was previously installed and sub-OS workloads were defined, those sub-OS workloads will no longer be displayed in Virtualization Manager. The definition of these sub-OS workloads on a Linux system will be removed from Virtualization Manager by the upgrade process because they are no longer used by Insight Dynamics Global Workload Manager (gWLM), nor supported by Capacity Advisor or Virtualization Manager.

Data collected for VMs or OS workloads that migrate across three or more dissimilar hosts in a 24-hour period may be marked invalid

Some historical performance data in Capacity Advisor will be marked as "invalid" (and will appear to be missing in the Profile Viewer) when VMs or operating systems instances have migrated across three or more VM hosts or servers with different clock speeds since the last Capacity Advisor data collection. By default, invalid data is not included in Capacity Advisor calculations.

Suggested action

For planned migrations between dissimilar VM hosts or servers, always collect Capacity Advisor data at least once between migrations to obtain a valid data sample for each configuration visited. Alternatively, avoid frequent VM or OS migrations across three or more dissimilar hosts or servers. If these actions are not possible (for example, for automatic migrations within clusters with dissimilar hosts), you can validate any data that was invalidated as a result of multiple migrations, and use it as an estimate of historical performance data, even though it may not be accurately normalized.

NOTE: For Integrity VMs, data must always be collected prior to a migration. Failure to do so will result in either incorrect data or a gap in data that starts from the time that the last collection occurred before the migration and ends at the time that the VM was migrated.

See the *HP Insight Capacity Advisor 6.2 Software: User Guide* at www.hp.com/go/insightdynamics/docs for information about showing, and optionally validating, invalid data.

Minor issues

Socket and core count inaccurate on Microsoft Windows 2003 and HP-UX 11 v2 (IA and PA) systems

Windows 2003 and HP-UX 11 v2 (IA and PA platforms) operating systems may not correctly report the number of processor sockets in a multi-core/hyperthreading environment.

Suggested action

The following patches are required to correct this issue.

- For Windows 2003, apply the KB932370 patch. For more information, see http://support.microsoft.com/kb/932370/.
- For HP-UX 11 v2, apply the PHKL_37803 patch. You can download this patch from http://www13.itrc.hp.com/service/patch/mainPage.do. After downloading, execute the command `sh PHKL_37803`, and install the depot file that is generated.

No patch is necessary for Windows 2008 or HP-UX 11 v3.

This information does not apply to HP-UX 11 v1.

Global Workload Manager

Limitations

HP Integrity Superdome 2 support

The HP Global Workload Manager (gWLM) supports Fair Share Scheduler (FSS), Partition Sets (PSETS), and HP Integrity Virtual Machines on HP Integrity Superdome 2. Global Workload Manager does not support nPartitions and vPartitions. Online migration of CPU is also not supported.

HP Insight Orchestration

HP Insight Orchestration runs on an x86/x64 Windows CMS.

Limitations

Number of networks provisioned to a logical server

The Insight Dynamics infrastructure template Designer does not restrict the number of networks that can be connected to a logical server group. In practice, only four networks can be connected to virtual logical servers, and 32 networks can be connected to physical logical servers designed to run on HP c-Class server blades. These practical limits will increase over time as Virtual Connect and hypervisors are enhanced.

If these limits are exceeded in an infrastructure template, provisioning operations using that template will fail.

Suggested action

Limit the number of network connections to a logical server group to four for virtual logical servers and 32 for physical logical servers.

Manually configure the SAN boot path for ProLiant DL/ML servers before provisioning

The job "Deploy ProLiant System Configuration (BL BFS)," contained in the Insight Control Rapid Deployment software job folder deployed using Insight Orchestration, cannot be used to configure ProLiant DL/ML target servers. The job configures ProLiant/Integrity BL target servers. If you attempt to configure ProLiant DL/ML servers using this job, the request will fail.

Suggested action

Manually configure the SAN boot path before you use Insight Orchestration to provision a ProLiant DL/ML target server on SAN boot LUN, as follows.
1. Create a server deployment job folder that does not contain the "Deploy ProLiant System Configuration (BL BFS)" job.
2. Change the Boot Controller Order (from ROM-Based Setup Utility) for the ProLiant DL/ML server to select Fiber Channel port (HBA) as the first in the boot order.
3. Use the HBA vendor's utility to configure the HBA's boot path to boot from the desired SAN boot LUN.
4. Power off the target server after the Boot Controller Order and the HBA's boot path have been configured correctly.

Manual OS or SA OS provisioning of virtual machines to a local disk on a VM host is not supported

HP Insight Orchestration supports "manual OS" or "SA OS" provisioning of virtual machines to shared storage only. Provisioning using ESX or Insight Control virtual machine management "template cloning" is supported for local disks on VM hosts.

Suggested action

Exclude local disks on VM hosts that will be used for "manual OS" or "SA OS" provisioning.

1. Open the properties file in the default location at `C:\Program Files\HP\Insight Orchestration\conf\hpio.properties`.
2. Modify the **volume.exclusion.list** property to exclude all local disks visible to all VM hosts.
3. Restart the HP Insight Orchestration service for the changes to take effect.

Required HBA firmware and OS drivers to access multi-initiator NPIV data disks

The HP blade multi-initiator NPIV feature allows you to configure multiple WWNs for a single HBA connected with a Virtual Connect Fiber Channel module. Although Insight Dynamics automates the configuration, certain versions of HBA firmware and drivers are required to access multi-initiator NPIV data disks configured for any target BL server.

Suggested action

The HBA firmware and drivers shown for the following operating systems are required to support multi-initiator NPIV data disks.

- QLogic HBA (BIOS version 2.07 or higher)

  RHEL 5.3 and higher
  SLES 11 and higher
  SLES 10 SP3 and higher
  Windows 2003/2008: QLogic driver 9.1.7.29 or higher

- Emulex HBA (BIOS version 3.11a3 or higher)

  RHEL 5.4 or higher
  SLES 10 SP3 or higher
  SLES 11 in-box driver not yet available. Requires out-of-box Emulex driver version: 8.2.8.32
  Windows 2003/2008: Emulex driver 5.00.17.06-2 or higher

Multi-initiator N-Port ID Virtualization (NPIV) features on Integrity blades are not supported

Multi-initiator NPIV features used by Insight Dynamics and Virtual Connect Enterprise Manager are not supported on Integrity blades.

Suggested action

Create a single storage pool entry that combines a boot volume and the data volumes intended to be allocated to a single physical server. You can do this in one of the following ways:

- Pre-provision any number of these composite storage pool entries to enable fully automated allocation of SAN volumes to physical servers.

- Pre-provision storage pool entries with only boot volumes. An automated provisioning request pauses after the operating system is deployed if the infrastructure service template specifies data disks. You can modify the storage pool entry allocated to the server to add data volumes, and then continue the request.

Install Microsoft Sysprep tool for customization of Windows 2003 guests on Hyper-V after installation

The Microsoft System Preparation (Sysprep) tool, which is required for customization of Windows 2003 guests on Microsoft Hyper-V, is not retained on the CMS after upgrading from previous versions of Insight Software. Without these tools, customization of Windows 2003 guests on Hyper-V results in failures.

Suggested action

To enable customization of Windows 2003 guests on Hyper-V, install the Microsoft Sysprep tool on the CMS in the folder `C:\Program Files\HP\Insight Control virtual machine management\Sysprep\2003` after the installation or upgrade of Insight Software 6.2.

Cannot power on a virtual server during provisioning if VM hardware version is 4 and a template contains more than three NICs

A request to power on an ESX virtual server may fail if the ESX VM hardware version is set to 4 and the virtual machine contains more than three NICs. Insight Orchestration provisions virtual machines using ESX hardware version 4 by default, which allows a maximum of five PCI Controller devices (two SCSI controllers and three NICs) attached to a virtual machine. ESX hardware version 7 allows four SCSI controllers and ten NICs.

Suggested action

Use an ESX native template with a hardware version of 7, or reduce the number of NICs in the Insight Orchestration template to three or fewer.

Cannot retrieve software inventory from an SA 9.02 deployment server

Insight Orchestration ships with out-of-box support for Software Automation 7.83. You cannot retrieve software inventory from an SA 9.02 deployment server.

Suggested action

Manually enable support for SA 9.02.

1. Stop the HP System Insight Manager windows service
2. Copy `opswclient.jar` from the 9.02 SA Core at `/opt/opsware/twist/extlib/client/opswclient.jar` to `CMS:<SIM>\lib`
3. Copy `SAplugin.jar` from `CMS:<IO>\update\6.2.1\SA9.x_support\SAplugin.jar` to `CMS:<SIM>\lib`
4. Start the HP System Insight Manager windows service

Console access to provisioned virtual servers from operating systems and browsers

Launching a console to a provisioned virtual server (VM) hosted on VMware ESX 3.5, ESX 4, ESXi 3.5, and ESXi 4 VM hosts is supported using Microsoft Internet Explorer and Mozilla Firefox browsers running on Windows XP and Windows 2003 operating systems.

Browsing to user interface requires default Systems Insight Manager port

HP Systems Insight Manager is installed with a default port of 50000 in the JBoss container. Browsing to the Insight Orchestration user interfaces, for example, Designer, depends on this port value.

Suggested action

Do not modify the Systems Insight Manager default port of 50000 in the JBoss container.

Erase Hardware job name and service name of a provisioning task must not contain non-English characters

The following issues may occur if your browser language is set to Japanese.

- If you are using HP Insight Control server deployment on Japanese operating systems and you specify a Japanese job name for the Erase ProLiant Hardware job, the service is not removed after physical provisioning.
- If you specify Japanese characters for the service name of a provisioning task, the logical server is not provisioned.
- If you create a new virtual provisioning template and configure mail settings, the "Approve or Reject" e-mail contains a garbled service name.

Suggested action 1

1. Launch the Deployment Console.
2. Rename the Erase ProLiant Hardware job to a name that does not contain non-English characters.
3. Retry the operation.

Suggested action 2

Specify a service name containing valid characters ([a-z] [A-Z] [0-9] [_] [-] [space]).

Suggested action 3

Use the Insight Orchestration Operations Console to approve or reject requests that contain Japanese characters.

Major issues

Using a remote CMS database with components that use ESA for storage provisioning and server operations

See "Using a remote CMS database with components that use ESA for storage provisioning and server operations " (page 16) for information about an issue that may affect HP Insight Orchestration.

Minor issues

Deployment to a Hyper-V cluster server volume may fail unless the template resides in the Hyper-V cluster

An HP Insight Orchestration virtual machine deployment to a Hyper-V cluster server volume may fail when it has reached approximately 60 percent of completion if the source server where the template resides is not in the Hyper-V cluster. The following error is displayed:

```
Error deploying Logical Server logical-server-name. Failed to copy all the disk files from source to target
Server. Check the availability of disk space on the target.
```

Suggested action

Ensure that the source server that contains the template is stored in the Hyper-V cluster before starting the VM deployment.

Delete service request leaves "clean-me" logical servers when used with Integrity servers

After successfully provisioning an Integrity blade using Ignite-UX, there are manual steps you must perform to allow the disk to be erased during de-provisioning. Erasing the disk is part of a successful de-provisioning (delete request) for an Integrity service.

If the disk is not erased, the delete service request may fail and "clean me" logical servers will remain. In that case, a manual clean-up procedure is required. (See the **Suggested action** for the clean-up procedure.)

Before you start a delete request from Insight Orchestration:

1. Make sure that the Integrity service was successfully provisioned (the Integrity service is running).
2. Discover the Integrity blade where the Integrity service is running using its IP address from Systems Insight Manager. The Integrity node's identification information should contain the UUID and UUID (logical). You can discover the blade in either of the following ways:
   a. Use the Systems Insight Manager menu selection **Options→Discovery...**, or
   b. Use the Systems Insight Manager command: `mxnode -a <ip-address> -w`

      where *<ip-address>* is the IP address that was assigned to the Integrity blade after provisioning.

      Add the root login of the Integrity blade using the Systems Insight Manager menu selection **Options→Security→Credentials→ Credentials...**.
3. To set up an SSH connection between the CMS and the Integrity blade, enter the command:
   `mxagentconfig -a -n <ip-address> -u <username> -p <root password>`

Suggested action

If you did not perform the preceding steps before you started a delete request for the Integrity service, the automatic delete service will not succeed completely. In that case, you must clean up the logical server associated with the Integrity blade and manually erase the disk.

1. Power on the server blade. (The blade was powered off when delete service completed or failed.)
2. Perform steps 2 and 3 above, if you did not do so before starting the delete request.
3. To erase the disk, enter the following command from the CMS:
   `mxexec -t "Ignite Erase Disks" -n <ip-address>`

Customizations to the blade_models.properties file are not saved after upgrade

During an upgrade, the `blade_models.properties` file from an earlier release is replaced by a new file for the 6.2 release. If you made any modifications or customizations to the `blade_models.properties` file, your changes are lost.

The `blade_models.properties` file is used to declare any new server models to be managed in Insight Orchestration. For example, if you modified this file to add rack mount server models so that physical provisioning can be performed using ESA, you will no longer be able to provision to those systems after an upgrade.

Suggested action

Before an upgrade to Insight Dynamics 6.2, save a copy of the `C:\Program Files\HP\Insight Orchestration\conf\blade_models.properties` file to a location that is not under the `\Program Files\HP\Insight Orchestration` or `\Program Files\HP\Virtual Server Environment` directory trees, or note any changes made to the file. After the upgrade, edit the new `blade_models.properties` file to add back in any custom entries made to the previous version's file.

Clear browser cache after upgrade

After an upgrade to Insight Dynamics 6.2, or to a 6.2 update release, if your web browser cache has not been cleared you may not be able to log into Insight Orchestration.

Suggested action

Clear your browser's cache (history) before launching Insight Orchestration after an upgrade.

Virtual machine deployment on Microsoft Hyper-V with High Availability does not create an HA VM

If an Insight Orchestration template is configured to manually deploy a Hyper-V virtual machine or use SA jobs to deploy a non-linked clone Hyper-V virtual machine with High Availability (HA) selected, the provisioning operation completes and reports success. However, the virtual machine

is not created as a service on a Windows failover cluster configuration, which means that the virtual machine is not an HA virtual machine.

This issue occurs only if "Manual software deployment" is selected on the Software tab of the Edit Server Group Configuration dialog in the Insight Orchestration template.

Suggested action

After the virtual machine is deployed by Insight Orchestration, manually configure the virtual machine as a cluster service.

1. Access the Microsoft Hyper-V Failover Cluster Manager.
2. In the left menu under the "Failover Cluster Manager" tree, select "Services and applications."
3. From the top Action menu, select "Configure a Service or Application."
4. Navigate to "Select Service or Application."
5. Select the "Virtual Machine" service and click Next.
6. Select the desired Virtual Machine from the list and click Next.
7. Follow the remaining steps on the screen to configure the virtual machine as a cluster service until the "Summary" is presented.

Console and Self-Service Portal do not reload logical server group software details and network resource details after selecting another template

If you view the Software Details tab for logical server groups, or the Resource Details tab for networks in a template in the Insight Orchestration Console or Self-Service Portal, then select another template and reselect the original template, the logical server group Software Details or network Resource Details tab for the original template provides incorrect information.

Suggested action

To repopulate the logical server group Software Details or network Resource Details tabs, reload the browser and select the original template.

Launching Telnet connection causes navigation error in IE 7 and IE 8

If you attempt to launch a Telnet connection to a deployed server from the Insight Orchestration user interface, Internet Explorer opens a popup window that asks if you want to view only the content that is delivered securely. If you click "Yes", a navigation error page is displayed.

This issue occurs in Internet Explorer 7 and 8 only.

Suggested action

Click "No" in the popup window to launch Telnet.

Access error on Insight Orchestration web pages from e-mail notification using private network

In some cases, the administrator cannot access the approve/reject web page (and other HP Insight Orchestration pages) from the notification e-mail that asks the administrator to continue or reject a user request. An access page error appears instead of the expected Insight Orchestration request web page.

This error occurs when the HP Insight Orchestration CMS is configured to use a private network, and the private network communicates with a public network. The private network is only accessible from the HP Insight Orchestration CMS, and it is used to provision virtual and physical infrastructures. Insight Orchestration notification e-mail is set with the private network settings which does not allow external access to the URLs contained in the notification e-mail.

Suggested action

To allow access to Insight Orchestration web pages in e-mail from the private or public network:

1. Open HP Operations Orchestration Studio and log in using valid credentials.
2. Expand the **Configuration** node.

3. Expand the **System Properties** node.
4. Double click the `HpioCmsIp` property.
5. Click the **Lock** button to check out the property.
6. Update the property value to the hostname of the CMS.
7. Click **Save** and **Check in**.

Console "Authorization failed" error requires latest Adobe Flash Player

In a browser running Adobe Flash Player 10.0.22.87 or earlier, the Insight Orchestration console may display the following error:

```
The Insight Orchestration tool cannot be displayed.
Problem:
Authorization failed for user dr7he05qdxix.
```

Suggested action

Upgrade to the latest Adobe Flash Player, available at http://get.adobe.com/flashplayer. Then restart the browser, and browse to Systems Insight Manager and the Insight Orchestration console.

ioexec virtual machine provisioning fails during service creation when host name and service name exceed character limits

If you use the `ioexec` command to create a new service, virtual machine provisioning failures can occur if the server host name exceeds 13 characters, or the service name exceeds 16 characters.

Server in Insight Orchestration Server Pools remains in the server pool after removal from enclosure

A removed server blade may remain in the Insight Orchestration Server Pools and Servers list, even after removal from the blade enclosure and from VSE Resources. You can apply the server to a new pool, but it will not be assigned to a service as the node will be tagged as an invalid target.

Suggested action

Remove the server from the pool before removing it from the blade enclosure. If you do not remove the server from the pool first, the assignment of a new service will fail if there are no other targets available in the pool.

Inconsistent state during CMS crash recovery of Add Disk operation

If the Insight Dynamics CMS crashes during an Add Disk operation of a physical disk, the status of the request is incorrectly displayed as Completed, and the logical server may remain inactive when the request is resumed and completes successfully. In addition, after crash recovery, running virtual services are shown with the status Off.

Suggested action 1

Activate the logical server using Insight Orchestration.

Suggested action 2

Restart the HP Insight Orchestration service. This resets the status of the virtual services to Up.

Network inventory is not correctly reported when only vDS virtual switches are used

If an ESX data center is configured to use only vDS virtual switches, Insight Orchestration is not able to correctly report network inventory for the data center.

Suggested action

Configure at least one non-vDS virtual switch on each of the ESX hosts in the data center.

Database synchronization error in logical server deployment with automatically allocated IP addresses

When deploying a logical server with automatically allocated IP addresses, an occasional failure occurs due to a database synchronization error. The error displayed is similar to the following:

"A general error occurred during reservation. To resolve this issue, make sure all resources are available: ask the Administrator to refresh Logical Server resources in Virtualization Manager and refresh HP IO resources in the HP IO console. Once all resources are available, submit this HP IO template again. If this error persists, contact the System Administrator."

Suggested action

Resubmit the create (or add server) request.

Rack mount servers left in power-on state following service delete

If you use Insight Orchestration to provision rack mount servers, the servers will be left in a power-on state following service delete.

Suggested action

1. Edit the properties file in the default location at `C:\Program Files\HP\Insight Orchestration\conf\hpio.properties`.

2. Change:

    ```
    # Indicates if power state is preserved on physical provisioning failure
    power.preserve.onfailure = true
    ```

    to

    ```
    # Indicates if power state is preserved on physical provisioning failure
    power.preserve.onfailure = false
    ```

3. Restart the HP Insight Orchestration Windows service.

Provisioning a non-VC physical server fails with "No MAC address was found" error when incorrect server is allocated

During provisioning of a non-Virtual Connect physical server in an environment with multiple such servers connected to disparate sets of networks, Insight Control server deployment completes the operating system installation, but Insight Orchestration customization fails with the error "CreatePhysicalServer completed with a failure status. No MAC address was found for network *network–name* in HP Logical Service Automation (LSA) service." The server selected for provisioning is not connected to the network-name in the error message.

Suggested action

Organize non-VC physical servers into Insight Orchestration server pools according to their network connectivity. Specify the appropriate server pool(s) for each Create Service request.

HP Insight Rapid Deployment software name changed to HP Insight Control server deployment

HP Insight Control server deployment was previously known as HP Insight Rapid Deployment software and was also referred to by the acronym RDP. Both previous names appear in the Insight Orchestration application and associated help topics. These old names will be replaced in future versions.

Suggested action

Note the name change when using the Insight Orchestration application and associated help topics.

HP Storage Provisioning Manager

HP Storage Provisioning Manager runs on an x86/x64 Windows CMS.

Limitations

Proper SAN ID specification when using an HP Operations Orchestration storage workflow for an XP array

Unlike EVA arrays, XP arrays allow for target ports to be mapped individually to a LUN. This mapping is performed at volume creation time (using the XP array device manager). For SPM to be able to appropriately fulfill service requests from Insight Dynamics, it is critical to create SAN IDs in SPM that correctly reflect how target ports are actually connected to the fabric, taking switch zoning into account. Failure to do so can cause SPM to offer inadequate candidate storage services back to Insight Dynamics. For example, SPM might present a storage service candidate to Insight Dynamics that is not visible by the initiator(s) specified in the service request.

Suggested action

During storage volume allocation (using the XP array device manager UI), take note of how device ports are mapped to volumes. Then, after the array is added to the SPM catalog, perform the following steps:

1. From the SPM "Catalog" view (accessed by clicking on Catalog in the left-hand navigation tree), use the "Define SAN IDs" button at the bottom of the screen and create a SAN ID for each SAN to which the array is connected via one or more ports. (This feature can also be accessed using the Catalog menu, in the "Define SAN IDs" selection.)
2. In the SPM "Array Properties" dialog, "Connectivity" tab: set the "SAN/Network Connectivity" property for every target port in the array, using the SAN IDs created in Step 1.

Insight Managed System Setup Wizard

Limitations

Privilege elevation configuration that requires a password by the privilege elevation tool is not supported

Insight managed system setup wizard supports privilege elevation only on a CMS that has privilege elevation configured so that no password is required by the privilege elevation tool (such as `su` and `sudo`). If you attempt to configure features when privilege elevation is turned on and requires a password, you may see failures in the wizard's execution output.

Suggested action

If a feature fails to configure correctly because of privilege elevation password requirements, configure the feature outside of the managed system setup wizard.

To turn off the requirement for a password, use the Systems Insight Manager **Options**→**Security**→**Privilege Elevation** menu, and uncheck the check box labeled "A password is required for this privilege elevation tool." Note that systems managed by the CMS must be reconfigured to reflect this configuration change.

Patch required to register HP Integrity VM hosts running Integrity VM 4.1 or higher and 11.31 HA-OE or DC-OE

The Insight managed system setup wizard fails to register HP Integrity VM hosts running Integrity VM 4.1 or higher and either the 11.31 High Availability Operating Environment (HA-OE) or the 11.31 Data Center Operating Environment (DC-OE).

Suggested action

Apply the patch PHSS_40784 to the HP-UX 11i v3 Integrity VM host. The patch is needed on systems where Serviceguard is installed, but the systems are not actively in a Serviceguard cluster. Serviceguard is included with the HP-UX 11i v3 HA-OE and DC-OE.

You can download this patch from http://www13.itrc.hp.com/service/patch/mainPage.do. Select Search by Patch IDs in the drop-down menu, then type PHSS_40784 in the search box.

HP Integrated Lights-Out 3 (iLO3) support

HP Integrated Lights-Out 3 (iLO3) is supported in the current release of Insight managed system setup wizard. However, iLO3 for ProLiant requires firmware version 1.05.

Suggested action

Update iLO3 ProLiant firmware to version 1.05.

HP Integrity rx2620 is not supported

In this release, using the Insight managed system setup wizard to configure an HP Integrity rx2620 server is not supported.

Suggested action

Manually configure HP Integrity rx2620 servers.

Minor issues

Insight managed system setup wizard fails to install the version 4.2 HP Integrity VM provider on VM guest systems

The Insight managed system setup wizard attempts to install the version 4.2 HP Integrity VM provider on VM guest systems running on an HP Integrity VM host whose version is greater than 4.2. When the VM provider version on a VM guest is lower than the HP Integrity VM version on the host, the managed system setup wizard will try to update the VM provider on the VM guest.

There are two scenarios in which the VM provider will fail to install on the VM guest:

- If the Integrity VM version on the VM host is manually updated with a version greater than 4.2 and the VM provider on the VM guest stays at version 4.2 or earlier, the managed system setup wizard will try to update the VM provider on the VM guest with the 4.2 version. This does not cause any failures other than the managed system setup wizard attempting to install the VM provider each time you try to configure Insight Dynamics features on that VM guest system.

- If the Integrity VM version on the VM host is manually updated with a version greater than 4.2 (for example, 4.4) and the VM provider on the VM guest is also updated with a version greater than 4.2 (for example, 4.3) but less than the version of the Integrity VM host, then the managed system setup wizard will try to install the VM provider version 4.2 on the VM guest. The install will fail because there is a higher version of the VM provider already installed and running on the VM guest. This failure can be safely ignored.

Suggested action

Manually update the VM provider on the VM guest system to match the Integrity VM version on the VM host. After this is done, the managed system setup wizard will not attempt to install the VM provider on the VM guest again.

Instant Capacity Manager

Limitations

Commands executed under privilege elevation may cause Instant Capacity Manager to monitor but not control managed nodes

Some HP-UX security settings cause output to be generated every time a user is logged in. This can occur, for example when `sudo` is used in Systems Insight Manager privilege elevation mode to execute commands on HP-UX managed nodes, which can generate apparently extraneous output to `stderr`. This output may be interpreted by some Instant Capacity (iCAP) Manager functions executed under privilege elevation as error output from those commands.

When this apparent error output occurs, the affected iCAP Manager functions fail. In this condition, iCAP Manager can be used only to monitor, and not control, managed nodes configured in this way.

Suggested action

Configure HP-UX managed nodes so that no extraneous output is generated when the `sudo` command is executed.

For more information, see the following [HP-UX documentation](#):

- *HP-UX 11i Security Containment Administrator's Guide*
- *HP-UX System Administrator's Guide: Configuration Management* (HP-UX 11i v3)
- *HP-UX Servers and Workstations – HP-UX Standard Mode Security Extensions* (HP-UX 11i v2)
- the manpage `man 4 security` (particularly the discussion of DISPLAY_LAST_LOGIN)

Logical Server Management

Logical server management runs on an x86/x64 Windows CMS.

Limitations

Cross-technology logical servers

Following are limitations in cross-technology logical servers. Cross-technology logical servers can be moved between servers with Virtual Connect and ESX virtual machines, and between servers with Virtual Connect with unlike configurations.

- Valid targets for activating or moving a cross-technology logical server:
  - ESX Hosts: 3.5, 3.5i, 4.0, 4.0i, 4.1, and 4.1i
  - ProLiant c-Class servers with Virtual Connect
    Not supported: Servers with Virtual Connect with FCoE (Fibre Channel over Ethernet) ports

- Storage requirements:
  - SAN volume presented to an ESX VM host (RDM disk) that can be added to a Virtual Connect profile
  - Data store shared on a SAN or iSCSI volume (to store the VMM configuration file and RDM mapping file [.vmdk] on the ESX VM Host)
    Not supported: SPM (catalog) storage volumes
    In this release, catalog storage pool entries are supported on servers with Virtual Connect logical servers only. Catalog storage pool entries cannot be used with cross-technology logical servers that may be activated on an ESX VM Host

- Network requirements:
  - Single or multiple networks (limited to 4 by ESX)
    Not supported: VLAN networks

Performing operations on a logical server running as a VM host

HP Insight Dynamics supports a logical server that is a physical server blade running a VM host. Insight Dynamics also supports logical servers that are guest VMs on that physical server. In order

to protect the VM guests from inadvertent operations, a logical server that is a physical server running as a VM host has the following restrictions:

- Deactivate, move, power off, and delete operations on the VM host logical server are not supported while there are guest VM logical servers residing on the VM host logical server. You must move the guest VM logical servers off of the VM host logical server before performing any of these operations on the VM host logical server.

- Deactivate, move, power off, and delete operations on the VM host logical server are not supported while there are running jobs on the VM host logical server that could result in creating or leaving a VM guest logical server on the VM host logical server. If this occurs, re-identify the source and target server blades and VM host. If the orphan VM guest logical server remains after re-identification, unmanage the logical server and, if necessary, remove its underlying resources.

Managing a CMS as a logical server is not supported

HP strongly recommends that systems running Central Management Server (CMS) software not be managed as logical servers. This includes the Insight Dynamics CMS, as well as any other CMS managed by the Insight Dynamics CMS.

Note that logical server management does not prevent you from managing a CMS as a logical server. For example, Insight Dynamics will allow any managed node, including the CMS, to be selected for moving or other logical server operations; doing so may result in unpredictable results.

Hyper-V cluster shared volume created with GPT disk partitioning system is not supported

If you attempt to move a Hyper-V virtual machine logical server to a Hyper-V VM host that is configured with cluster shared volume (CSV) storage with a GUID partition table (GPT) disk partitioning system, the target host is rejected with the error:

```
VM Host was filtered out because the data storage of logical server
logical-server-name does not match the available storage on VM Host hyper-v-vm-host-name.
```

Suggested action

Recreate the CSV using master boot record (MBR) storage. GPT disks are typically used only if you need volumes that exceed 2TB.

Moving a logical server from a Microsoft Hyper-V R2 host to a Hyper-V R1 host is not supported

A limitation from Microsoft prevents you from moving or reactivating a virtual machine logical server from a Microsoft Hyper-V R2 host to a Hyper-V R1 host. An error message is displayed if you attempt the operation.

You can move or reactivate a virtual machine logical server from a Hyper-V R1 host to a Hyper-V R2 host.

NOTE: The Hyper-V host version is shown in the Platform column in the Available Target Hosts table on the activate or move logical server target screen. The host is a Hyper-V R1 host if the host version begins with 6.0 (for example, 6.0.6001 or 6.0.6002 in Windows 2008 Server – Hyper-V SP1 or Windows 2008 Server – Hyper-V SP2). The host is a Hyper-V R2 host if the host version begins 6.1 (for example, 6.1.7077 in Windows Server 2008 R2).

Suggested action

Be certain that you want to move or reactivate the logical server from Microsoft Hyper-V R1 to R2 before you complete the operation. After the operation completes, you cannot move or reactivate the logical server back to Hyper-V R1.

Importing a Microsoft Hyper-V virtual machine with configuration file in default location is not supported

A Hyper-V virtual machine whose configuration file is in the default location on the hard disk in `\ProgramData\Microsoft\Windows\Hyper-V` is not supported by logical server management. You *cannot* import a virtual machine guest as a logical server if the virtual machine's configuration file is in this location. There is a limitation in Microsoft Hyper-V that allows HP Insight Control virtual machine management to re-register the virtual machine if the configuration file is created in this directory. To prevent issues with reactivation, logical server management checks the path and rejects any virtual machines with a configuration file in the default location.

iSCSI disk requirements for use with Microsoft Hyper-V virtual machine logical servers

To enable selection of a specific iSCSI data store as the storage definition during logical server creation or modification, iSCSI disks associated with Microsoft Hyper-V hosts must be a cluster disk or a shared cluster volume, online, and contain a volume created with a drive letter.

Microsoft Hyper-V virtual machine logical server boot disk is IDE and data disks are SCSI

When you create a Hyper-V virtual machine logical server, the boot disk (where Windows or Linux is installed) is always created using an IDE controller. Data disks are created using a SCSI controller. The IDE controller is required to allow the installation of the operating system using Deploy Tools or using images without additional drivers.

If a virtual machine is created outside of Virtualization Manager and imported as a logical server, it is possible that the boot disk controller type is SCSI. In this case, you must install the SCSI controller driver to allow installation of the operating system.

If a virtual machine is provisioned by Insight Orchestration (using either a SCSI or an IDE controller) and the logical server is imported, the virtual machine has an operating system installed so the SCSI driver is not needed. If the boot disk controller type is SCSI, it is not changed.

One Microsoft Hyper-V target displayed when activating a logical server created on a cluster disk volume

A limitation in Microsoft Hyper-V R1 prevents the hypervisor from providing logical server management with required information about a Hyper-V cluster. The result is that only one target is shown when you attempt to activate a virtual machine logical server configured to be created on a cluster disk volume. In Hyper-V R1, a logical server that is high availability (HA)-enabled can be configured only on a cluster disk volume.

Suggested action

Upgrade to Hyper-V R2. In R2, Microsoft corrected the problem so that the activation of a virtual machine logical server configured to be created on a cluster disk or a cluster shared volume lists all Hyper-V hosts in the cluster on the target screen.

File-based storage pool entry not supported

Beginning in HP Insight Dynamics 6.0 Update 1, file-based storage pool entries are not supported. Storage pool entries must be RDM or SAN-based.

File-based storage entries are created by default for all virtual machine logical servers. However, these entries cannot be inserted into the storage pool or managed on the **Modify**→**Logical Servers Storage Pools...** screen.

Integrity VM logical servers with file-based storage and Windows or Linux guests are not supported

In this release, you can create an Integrity VM virtual machine logical server if you specify Accelerated Virtual I/O Storage with virtual disk-backed storage only. All virtual disks will be a logical volume created in a Shared Logical Volume (SLVM) Volume Group. You must create and

add SLVM VGs to the storage pool on the VM Host for the CreateVirtual Disk operation to run successfully. Local storage is not supported for Integrity VM virtual machines.

In addition, the Integrity VM virtual machine guest must have an HP-UX operating system type. Windows and Linux guests are not supported.

Logical servers upgraded from Insight Dynamics 6.0 and 6.1, which allowed physical SAN disk storage and Windows or Linux guest operating system types for Integrity VM logical servers, will have limited features; for example, they can be moved and powered on and off.

Reactivating and moving logical servers created on ESX 4x VM Hosts to ESX 3x VM Hosts

The ESX 4 virtual hardware version prevents virtual machine logical servers that were first activated on an ESX 4x VM host from being moved or reactivated on an ESX 3x VM host.

ESX 4x supports virtual hardware version 4 and version 7 VM guests, but ESX 3x supports only version 4 VM guests.

You can successfully move a virtual machine logical server first activated on ESX 3x to an ESX 4x VM host. If you attempt to move a logical server first activated on ESX 4.x to an ESX 3.x VM host, logical server management checks the version and rejects the targets correctly.

Multi-initiator N-Port ID Virtualization (NPIV) features on Integrity blades running HP-UX and HP OpenVMS

See "Multi-initiator N-Port ID Virtualization (NPIV) features on Integrity blades are not supported" (page 19) for a limitation on defining storage pool entries.

Major issues

Unable to get detailed disk information on Microsoft Hyper-V VM host with a QLogic HBA

See "Unable to get detailed disk information on Microsoft Hyper-V VM host with a QLogic HBA" (page 15) for information about downloading the QLogic HBA driver for Windows. Without this driver, logical server management fails to operate correctly on Hyper-V cluster shared volumes and cluster volumes with a QLogic driver.

Using a remote CMS database with components that use ESA for storage provisioning and server operations

See "Using a remote CMS database with components that use ESA for storage provisioning and server operations " (page 16) for information about an issue that may affect logical server operations.

LSA service may run out of memory on large scale systems

On large scale systems, with large numbers (1000+) of managed nodes and/or large numbers (1000+) of logical servers on a 64-bit CMS, the HP Logical Server Automation service may run out of memory and display out of memory errors in the `/logs/hp_lsa_service.log` or `/logs/vselog.lsm.log` file. You may see the following errors:

```
java.lang.OutOfMemoryError: GC overhead limit exceeded
java.lang.OutOfMemoryError: Java heap space
java.lang.OutOfMemoryError: PermGen space
```

Suggested action 1

To correct the GC overhead limit and/or Java heap space errors, modify the configuration file to increase memory allocation, as follows.

1. Modify the configuration file (shown in the default location) at `C:\Program Files\HP\Virtual Server Environment\conf\hp_lsa_service.conf`.
2. Increase the value of `wrapper.java.maxmemory=1024`. HP suggests a value of 2048.
3. Restart the HP Logical Server Automation service.

Suggested action 2

To correct the PermGen space error, modify the configuration file to increase permanent generation size, as follows.

1. Modify the configuration file (shown in the default location) at `C:\Program Files\HP\ Virtual Server Environment\conf\hp_lsa_service.conf`.

2. Add the following line. (Change `additional.2` to `additional.3` if a line with `additional.2` already exists; change `additional.2` to `additional.4` if lines with `additional.2` and `additional.3` already exist, and so on.)

    `wrapper.java.additional.2=-XX:PermSize=32m -XX:MaxPermSize=128m`

3. Restart the HP Logical Server Automation service.

Unmask catalog-based storage volumes before removing storage volumes

For a SAN Catalog Storage Entry and a SAN Pre-populated Catalog Storage Entry, the Remove Volume action on the Add/Modify Storage Pool Entry screen returns the selected storage volume to the storage catalog as an available resource. However, the Remove Volume action does not change the presentation of the storage volume. If masked, the storage volume remains presented to the WWN assigned to the storage pool entry. This state can lead to unexpected errors. For example, if the Administrator attempts to add a new storage volume to the storage pool entry, the presentation may fail because the requested logical unit number is already in use.

In Insight Dynamics 6.2, if you attempt to remove a storage pool entry from a logical server, a text box is displayed that reminds you to unmask the storage volume before removing it. To proceed with the remove volume operation, delete the string "Type YES to proceed with this operation:", type YES and click OK to continue.

Suggested action

Unmask the storage volume before removing the volume.

1. If the storage volume is assigned to a logical server, quiesce all I/O operations to the disk before performing the unmask operation.

2. For non-boot volumes, uncheck the Masked checkbox on the Add/Modify Storage Pool Entry screen, then press Save.

3. For boot volumes, use HP Storage Provisioning Manager to change the presentation state of the storage volume. From the SPM Volume Services screen, click the Goal associated with the storage volume to be unmasked. On the Service Request Goal screen, click the Properties button. Select the Properties constraint on the Goal Properties window and press Edit Value. Uncheck the Presented: checkbox and press OK to close the Edit Value window and OK to close the Goal Properties window.

4. For both non-boot and boot volumes, from the Add/Modify Storage Pool Entry screen, press Remove Volume and press Save.

> **NOTE:** The Masked checkbox associated with a storage volume in a storage pool entry is disabled if the storage pool entry is marked Inoperable. In most cases, the inoperable state is irreversible. However, if a storage pool entry is inoperable solely because SPM automation is disabled for one or more of the assigned storage volumes, the state of the storage pool entry can be changed to Operable by enabling automation for each of the assigned storage volumes. Check the Enable fulfillment and automation (Active) box for each storage volume on the SPM Volume Properties screen. After enabling automation for each of the volumes in SPM, click the Get/Refresh Pool Entries button on the Manage Storage Pool screen to refresh the storage pool entry definitions.

Minor issues

Performing operations on logical servers outside of Virtualization Manager may cause incorrect information to be displayed

If you use tools other than Virtualization Manager to manage logical servers, modifications to the underlying resources managed by logical server management are not immediately reflected in the logical server.

For example, if you modify the power state of a managed resource outside of logical server management, the power state of the logical server is displayed incorrectly until logical server management resets its data.

Suggested action

Wait several minutes for the logical server to reset its data, or use **Tools→Logical Servers→Refresh...** to manually refresh server resources.

Imported logical server may not contain all storage pool entries after backup and restore

After a backup and restore operation, if you import an unmanaged Virtual Connect logical server that contains a predefined storage pool entry, and the logical server was modified to add a storage entry using the same fabric, the imported logical server may be missing the WWN from the added storage entry.

Suggested action

Refresh logical server resources using the **Tools→Logical Servers→Refresh...** menu selection, and selecting Virtual Connect Enterprise Manager. This corrects the logical server by adding a new storage pool entry with the missing WWN to the logical server.

Storage validation of multiple volumes returns incorrect results

If more than one volume is defined for a storage pool entry, validating the storage definition may not return correct results. The information returned for one volume (actual storage size, RAID level, and host mode) is displayed for all volumes.

Suggested action

Validate each storage volume separately. Enter volume and path information for one storage volume, validate it, and delete it. Repeat for each volume in the storage pool entry, then add all of the volumes back and save the entry.

Catalog storage pool entries with redundant paths that use XP storage array volumes complete presentation with errors

If you attempt to create a catalog (SPM) storage pool entry that uses an XP storage array volume, and you select the redundancy checkbox in the Volume and Path Selection table, after saving the entry the presentation status of the storage pool entry will be "Completed with Errors." This occurs because the same Storage Port WWN is incorrectly used for both the primary and secondary path for each volume.

Suggested action

Do not specify redundant paths for XP storage array volumes.

Data disk may not be presented at the end of provisioning when SAN Catalog Storage Entry is specified

If you include the data volume and the boot volume in the same Storage Pool Entry when specifying a SAN Catalog Storage Entry, the data volume may not be presented at the end of provisioning using Insight Orchestration. When you view the Storage Pool Entry, the data volume is unmasked (the Masked checkbox is unchecked).

Suggested action

Manually check the "Masked" checkbox for the data volume on the Storage Pool Entry screen.

mxsync fails with "Synchronization module com.hp.vse.lsa.mxsync.LsaMxsyncFactory is not found" error

If Insight Dynamics is installed to a directory other than the default directory, mxsync will fail to load the "Logical servers and associated SAN-based storage" module and exit with the error "Synchronization module com.hp.vse.lsa.mxsync.LsaMxsyncFactory is not found."

Suggested action

Modify the value of JarDirectory in the file `<System Insight Manager Installation Directory>\mxsync\mxsync\conf\module\lsm.xml` to correctly point to the directory containing the `lsa-mxsync.jar` file, `<Insight Dynamics Installation Directory>/lib/lsa`.

Viewing or editing the logical server management properties file may cause failure of the LSA service

Viewing or editing the `lsa.properties` file may write lock the file while the HP Logical Server Automation service is running. This may cause a serious failure of the service.

Suggested action

Use a text editor that does not lock the file, such as Emacs, Notepad, or TextPad.

Error when manually restarting LSA service

If you manually restart the Logical Server Automation service, the error "Could not start the Logical Server Automation service on Local Computer. The service did not respond to the start or control request in a timely fashion." is displayed.

Suggested action

You can safely ignore this error. The service will restart after a short delay.

Process Resource Manager

Limitations

Creating and modifying configuration files with privilege elevation enabled is not supported

If privilege elevation is enabled in Systems Insight Manager, you can monitor Process Resource Manager (PRM), but you may experience problems performing PRM operations. Specifically, creating and modifying PRM configuration files may report success even though the operations hang.

Suggested action

Do not change PRM configuration files using the PRM user interface when privilege elevation is enabled.

Virtualization Manager

Major issues

Selecting the Workload tab or Profile Viewer after a logical server activation may cause an error or null pointer exception

In rare instances after activation of an HP Integrity VM logical server, if you select the Workload tab or the Profile Viewer, the following error may be displayed: "The selected workload was not found," or it may result in a null pointer exception.

Suggested action 1

Wait for the problem to resolve itself, which may take several hours or up to 24 hours.

Suggested action

Restart Systems Insight Manager to correct the problem immediately.

4 Support and other resources

Contacting HP

Information to collect before contacting HP

Be sure to have the following information available before you call contact HP:

- Software product name
- Hardware product model number
- Operating system type and version
- Applicable error message
- Third-party hardware or software
- Technical support registration number (if applicable)

How to contact HP technical support

Use the following methods to contact HP technical support:

- In the United States, see the Customer Service / Contact HP United States website for contact options:

  http://welcome.hp.com/country/us/en/contact_us.html

- In the United States, call 1-800-HP-INVENT (1-800-474-6836) to contact HP by telephone. This service is available 24 hours a day, 7 days a week. For continuous quality improvement, calls might be recorded or monitored.

- In other locations, see the Contact HP Worldwide website for contact options:

  http://welcome.hp.com/country/us/en/wwcontact.html

Registering for software technical support and update service

HP Insight Software products include one year of 24 x 7 HP Software Technical Support and Update Service. This service provides access to HP technical resources for assistance in resolving software implementation or operations problems.

The service also provides access to software updates and reference manuals, either in electronic form or on physical media as they are made available from HP. Customers who purchase an electronic license are eligible for electronic updates only.

With this service, HP Insight Software customers benefit from expedited problem resolution as well as proactive notification and delivery of software updates. For more information about this service, see the following website:

http://www.hp.com/services/insight

There are two methods for registering:

- If you received a license entitlement certificate, automated registration for this service takes place upon online redemption of the license certificate/key.

- If the license information you received for your product instructs you to register for Software Technical Support and Update Service, you must follow the instructions in order to be eligible for telephone support and product updates.

How to use your software technical support and update service

After you have registered, you will receive a service contract in the mail containing the Customer Service phone number and your Service Agreement Identifier (SAID). You need your SAID when you call for technical support. Using your SAID, you can also go to the Software Update Manager (SUM) web page to view your contract online and elect electronic delivery for product updates.

Warranty information

HP will replace defective delivery media for a period of 90 days from the date of purchase. This warranty applies to all HP Insight Software, HP Systems Insight Manager, and ProLiant Essentials products.

HP worldwide customer service contact numbers

HP worldwide customer service contact numbers are available at the following website:

http://welcome.hp.com/country/us/en/wwcontact_us.html

Security bulletin and alert policy for non-HP owned software components

Open source software (such as OpenSSL) or third-party software (such as Java) are sometimes included in HP products. HP discloses that the non-HP owned software components listed in the HP Insight Dynamics end user license agreement (EULA) are included with HP Insight Dynamics.

To view the EULA, use a text editor to open the `/opt/vse/src/README` file on an HP-UX CMS, or the `<installation-directory>\src\README` file on a Windows CMS. (The default installation directory on a Windows CMS is `C:\Program Files\HP\Virtual Server Environment`, but this directory can be changed at installation time.)

HP addresses security bulletins for the software components listed in the EULA with the same level of support afforded HP products.

HP is committed to reducing security defects and helping you mitigate the risks associated with security defects when they do occur. HP has a well defined process when a security defect is found that culminates with the publication of a security bulletin. The security bulletin provides you with a high level description of the problem and explains how to mitigate the security defect.

Subscribing to security bulletins

To receive security information (bulletins and alerts) from HP:

1. Open a browser to the HP home page:

    http://www.hp.com

2. Click the **Support & Drivers** tab.
3. Click **Sign up: driver, support, & security alerts**, which appears under **Additional Resources** in the right navigation pane.
4. Select **Business & IT Professionals** to open the Subscriber's Choice web page.
5. Do one of the following:

    -   Sign in if you are a registered customer.

    -   Enter your e-mail address to sign-up now. Then, select the box next to **Driver and Support alerts** and click **Continue**.

HP authorized resellers

For the name of the nearest HP authorized reseller, see the following sources:

- In the United States, see the HP U.S. service locator website at:
  http://www.hp.com/service_locator

- In other locations, see the Contact HP worldwide website at:
  http://welcome.hp.com/country/us/en/wwcontact.html

Documentation feedback

HP welcomes your feedback. To make comments and suggestions about product documentation, send a message to:

docsfeedback@hp.com

Include the document title and manufacturing part number in your message. All submissions become the property of HP.

Related information

The latest versions of manuals and white papers for HP Insight Dynamics and related products can be downloaded from the HP Web. Documents for HP Insight Dynamics software can be found at http://www.hp.com/go/insightdynamics/docs.

For more information about HP Insight Dynamics and related products and solutions, visit the following HP website:

- HP Insight Software: www.hp.com/go/insightsoftware
- HP Insight Dynamics: www.hp.com/go/insightdynamics