Virtual I/O Server Version 2.1.2 for AIX 6.1

Release Notes

Virtual I/O Server Version 2.1.2 for AIX 6.1

Release Notes

> **Note**
> Before using this information and the product it supports, read the information in "Notices," on page 11.

Contents

Chapter 1. Installation, migration, upgrade, and configuration information

The following information applies to Virtual I/O Server (VIOS).

Note: This software might contain errors that could result in critical business impact. Install the latest available update packages prior to using this software. You can be obtain update packages from the following Web site:

> http://www14.software.ibm.com/webapp/set2/sas/f/vios/download

To view the most current version of the VIOS release notes, go to the online version of the Virtual I/O Server for AIX® 6.1 release notes.

All users of the VIOS should subscribe to the VIOS subscription service. Subscribing to this service allows users to stay current on VIOS news and critical product updates. To subscribe, go to the following Web site and click the **Subscribe/Setup** tab:

http://www14.software.ibm.com/webapp/set2/subscriptions/pqvcmjd

Migrating the VIOS from Version 1.4 or later to Version 2.1.2

Use the VIOS Migration DVD to migrate from VIOS Version 1.4 or later to VIOS Version 2.1. After the migration is complete, download and install Fix Pack 22.

Pre-migration steps

Before you begin a migration, complete the following steps:

1. Back up your current VIOS.
2. Use the **startnetsvc** command to determine any services that were started, and record these.
3. Use the **lssvc** command to determine other services and agents that are configured.
   - Use the **lssvc** command to see a list of all of the agents.
   - Use the **lssvc <agent_name>** command to determine the parameters set for a particular agent. Record these so that the agent can be reconfigured after they migration with the same parameters.

Migrating the VIOS from a migration DVD

To migrate the VIOS from a migration DVD, complete the following steps:

1. Activate the VIOS logical partition using the HMC (version 7 or later) by completing the following steps:
   a. Insert the VIOS migration DVD into the VIOS logical partition.
   b. In the HMC navigation area, expand `Systems Management Servers`.
   c. Select the VIOS logical partition server.
   d. In the contents area, select the VIOS logical partition.
   e. Shutdown VIOS by completing the following steps:
      1) Select `Tasks>Operations>Shutdown`.
      2) In the Shutdown menu, select `delayed`, then select `OK`.
   f. Once the VIOS logical partition is inactive, select `Tasks>Operations>Activate`. The Activate Partition menu opens with a selection of logical partition profiles. Ensure that the correct profile is highlighted.
   g. Select `Open a terminal window or console session` to open a virtual terminal (vterm) window.
   h. Select (`Advanced`) to open the advanced options menu.

   i. Select `SMS` for the boot mode.

   j. Click `OK` to close the advanced options menu.

   k. Click `OK`. A virtual terminal window opens for the logical partition.

2. Select a boot device by completing the following steps:

   a. Select `Select Boot Options` and press Enter.

   b. Select `Select Install/Boot Device` and press Enter.

   c. Select `CD/DVD` and press Enter.

   d. Select the device number that corresponds to the DVD and press Enter. You can also select `List all devices`, select the device number from the list, and then press Enter.

   e. Select `Normal mode boot`.

   f. Select `Yes` to exit SMS.

3. Install the VIOS by completing the following steps:

   a. Select a console and press Enter.

   b. Select a language for the BOS menus and press Enter.

   c. Select `Change/Show Installation Settings and Install` .

      If the title displayed is not `VIOS Migration Installation and Settings`, replace the DVD that is in the drive with the correct DVD before continuing to the next step.

   d. Select `Install with the setting listed above`.

   e. Select `Continue with Install`.

   f. Select `Continue with migration`.

4. Complete the following post-migration tasks:

   a. Verify that the migration was successful by doing the following:

      1) Check the results of the **installp** command.

      2) Run the **ioslevel** command. The results should indicate that the ioslevel is `$ ioslevel 2.1.0.0.v`.

   b. Restart the daemons and agents that were previously running by doing the following:

      1) Log on to the VIOS as a padmin user.

      2) Enter the following command:

```
$ motd -overwrite "<enter previous banner message>"
```

      3) Run the **cfgsvc** command to reconfigure all of the agents by using the configuration data that you saved in the pre-migration steps.

      4) Run the **startsvc** command to start the agents.

      5) Run the **startnetsvc** command to restart the services that were running before the migration using the information that you saved in the pre-migration steps.

      6) Start any previously running daemons such as FTP or Telnet.

      7) Download Fixpack 2.1.2.10–FP22. Directions for installing the Fixpack are available at the following Web site:

         http://www14.software.ibm.com/webapp/set2/sas/f/vios/download/FPinstall.html

Updating a VIOS from version 2.1.0 or 2.1.1 to version 2.1.2

To update a VIOS from either version 2.1.0 or 2.1.1 to version 2.1.2, complete the following steps:

1. Download Fixpack 2.1.2.10-FP22.

2. Complete the directions to install the Fixpack that are available at the following Web site:

   http://www14.software.ibm.com/webapp/set2/sas/f/vios/download/FPinstall.html

Chapter 2. VIOS Version 2.1.2 enhancements

There are a number of enhancements in this release of the VIOS. Several enhancements have been made in the area of POWER® Virtualization. The following sections describe the features of each element by product area.

VIOS

The following enhancements have been made to the VIOS:

- Preservation of virtual target device (VTD) names across a partition mobility event

    As part of a partition mobility event, a virtual target device associated with the migrating partition is removed from the source VIOS and recreated on the destination VIOS. If the VTD had a user defined name on the source VIOS that name will now be recreated on the destination VIOS. Additionally, the ability to rename a VTD on migration has been added. This can be accomplished using the chdev command to set the VTD's **mig_name** attribute. When this attribute is set, the VTD will be created on the destination VIOS using the new name.

- Support for encrypting partition data during a partition mobility event

    A command line interface (CLI) has been added to the VIOS to allow the creation of an IPSEC tunneled connection between the mover service partitions (MSPs) that are responsible for moving a client's data during a live partition mobility event. To enable encryption on the VIOS, the clic.rte package must be installed. It is available on the Virtual I/O Server Expansion Pack.

- Network interface selection for mover service partitions (MSP) with multiple interfaces

    If multiple network interfaces are available on a MSP, it is now possible through the HMC command line to select which IP address the mover will use to transport client partition data during a live partition mobility event. HMC level V7r3.5.0 or later is required for this function.

- Ability to create non-symmetric VIOS configurations during partition mobility events

    Best practices suggest that a client employ path management software and dual VIOS for redundancy. By default, if a client partition uses the dual VIOS strategy and partition mobility is used to migrate the partition to a new server, it is required that two VIOS be available on the destination. To give more flexibility to administrators, it is now possible to override this requirement. To do this, the administrator must indicate a willingness to accept a non-redundant configuration after migrating a client partition, by providing a flag on the HMC command line. The loss of redundancy will be indicated as a failed path by path management software. It will be up to the administrator to manually configure and restore the path. HMC level V7r3.5.0 or later is required for this function.

- Support for partition mobility of clients that employ shared persistent reserves on backing storage

    Shared persistent reserves placed on VIOS backing storage are now supported in the partition mobility environment. The reserve must be of type PR_shared and exist on both the source and destination side VIOS.

- A new VIOS command viosbr is introduced to backup, view and restore devices and their mappings on VIO Server partition

    Backup includes devices attributes, logical devices and virtual devices information. This command will let users view and restore device attributes for disks, optical devices, tape devices, fscsi controllers, Ethernet adapters, Ethernet interfaces, logical HEAs and logical devices like storage pools, file-backed storage pools, optical repositories, virtual block storage devices (vbsd). View option displays the information of all the backed up entities in a formatted output. During restore, information in back-up file is used and brings the VIOS partition to the same state when the backup was taken by setting the attribute values for physical devices, importing logical devices and creating virtual devices and corresponding mappings.

- Support of Solid State Devices within a virtual environment

3

VSCSI devices whose physical/logical backing device is a composite of one or more SSD drives are reported to virtual client partitions. The following list shows when a device will be reported as residing on non-rotating medium:

– Virtual device is backed by one SSD physical volume

– Virtual device is backed by a logical volume which resides on one or more SSD physical volume

– Virtual device is backed by a File which resides on one or more SSD physical volume

All other combinations of SSD-HDD or HDD will result in the client being informed that the virtual device is a Virtual SCSI Disk Drive. For the AIX Virtual Client, a message containing `Virtual SCSI Solid State Drive` will be displayed to the clients if the VSCSI device resides on non-rotating medium.

- NPIV enhancements

– Support for dynamic remapping of server virtual Fibre Channel (vfc) adapter (NPIV) to physical FC port without loss of connectivity between the VIOS and the client.

– Support for concurrent microcode download to FC ports mapped to server vfc adapters.

– Improved error handling performance for certain severe cases.

– Support for the following Blades Fibre Channel adapters: Emulex 8 Gigabit (Feature Code 8240), Qlogic 8 Gigabit (Feature Code 8242) and Qlogic 8 Gigabit (Feature Code 8271).

- Updates to Tivoli® Agents

The following Tivoli® Agents have been updated:

– ITM

- VIOS Premium Agent 06.21.00.03

- CEC Agent 06.21.00.03

   Documentation for these agents is available from the following Web sites:

   http://www-01.ibm.com/software/tivoli/products/monitor-virtual-servers/
   http://www.redbooks.ibm.com/abstracts/SG247443.html?Open

– ITUAM 7.1.2.0

Documentation for this agent is available from the following Web sites:

http://www-01.ibm.com/software/tivoli/products/usage-accounting/
http://www.redbooks.ibm.com/abstracts/sg247404.html?Open

– TSM 6.1.0.0

Documentation for this agent is available from the following Web sites:

http://www-01.ibm.com/software/tivoli/products/storage-mgr/
http://publib.boulder.ibm.com/infocenter/tsminfo/v6/index.jsp
http://www.redbooks.ibm.com/abstracts/sg247447.html?Open

– TPC 4.1.0.0 TPC 4.1.0.97

Documentation for this agent is available from the following Web sites:

http://www-03.ibm.com/systems/storage/software/center/limited/index.html
http://www.redbooks.ibm.com/abstracts/sg247560.html?Open

- **chkdev** command

The **chkdev** command was added to help you check devices for virtual provisioning capability.

- Performance manager

Performance manager was added to collect various statistics on the system and put that information in ESA readable format. Commands wkldout, topas, cfgsvc, lssvc, startsvc, and stopsvc have been updated to accommodate the Performance manager. A new **postprocesssvc** command was added to cover extended operation for the performance manager.

- Subsystem Device Driver Path Control Module (SDDPCM) Version 2.4.0.3

The latest SDD/SDDPCM released package information can be obtained from:

http://www-01.ibm.com/support/docview.wss?uid=ssg1S4000201

Chapter 3. Software license agreements

There are instances where the software license agreements might not be displayed correctly. In this event, the license agreements can be viewed in all languages at the following Web site:

http://www.ibm.com/software/sla/sladb.nsf

Chapter 4. Online documentation for VIOS

For online documentation, see *Using the Virtual I/O Server* at the following Web site:

http://publib.boulder.ibm.com/infocenter/eserver/v1r3s/topic/iphb1/iphb1kickoff.htm

For additional documentation, including Redbooks®, go to the following Web site:

http://www14.software.ibm.com/webapp/set2/sas/f/vios/documentation/home.html

Appendix. Notices

This information was developed for products and services offered in the U.S.A.

IBM® may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law: INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation
Dept. LRAS/Bldg. 003
11400 Burnet Road
Austin, TX 78758-3498
U.S.A.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

IBM World Trade Asia Corporation
Licensing
2-31 Roppongi 3-chome, Minato-ku
Tokyo 106, Japan

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

Trademarks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at Copyright and trademark information at www.ibm.com/legal/copytrade.shtml

Java and all Java-based trademarks and logos are registered trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

Linux is a trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Other company, product, or service names may be trademarks or service marks of others.

IBM ®

Printed in U.S.A.