Hardware Information

Creating a virtual computing environment

ESCALA POWER5

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Hardware Information

Creating a virtual computing environment

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Creating a virtual computing environment

Creating a virtual computing environment involves bringing together the physical and logical resources, such as memory, processors, networks, and storage into a single, manageable virtual environment. Creating and using a virtual computing environment allows you to consolidate the management and utilization of your system's resources.

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Printable PDF

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To view or download the PDF version of this document, select Creating a virtual computing environment (about 252 KB).

You can view or download these related topics:

- Planning (about 10.8 MB) contains the following topics:
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- Partitioning for AIX (about 403 KB) contains the following topics:
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- Managing the Integrated Virtualization Manager (about 160 KB) contains the following topics:
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Parent topic: Creating a virtual computing environment

Virtualization overview

Use this topic to learn what virtualization is, the benefits of using virtualization, and the steps to follow when creating a virtual computing environment.
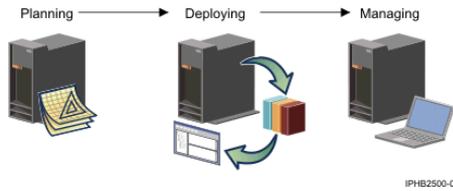
Virtualization is the creation of substitutes for real resources, that is, substitutes that have the same functions and external interfaces as their counterparts, but that differ in attributes, such as size, performance, and cost. These substitutes are called virtual resources, and their users are typically unaware of the substitution. Virtualization is commonly applied to physical hardware resources by combining multiple physical resources into shared pools from which users receive virtual resources. With virtualization, you can make one physical resource look like multiple virtual resources. Virtual resources can have functions or features that are not available in their underlying physical resources.

Virtualization can provide the following benefits:

- Consolidation to reduce hardware cost
  - ♦ Virtualization enables you to efficiently access and manage resources to reduce operations and systems management costs while maintaining needed capacity.
  - ♦ Virtualization enables you to have a single server function as multiple virtual servers.
- Optimization of workloads
  - ♦ Virtualization enables you to respond dynamically to the application needs of its users.
  - ♦ Virtualization can increase the use of existing resources by enabling dynamic sharing of resource pools.
- IT flexibility and responsiveness
  - ♦ Virtualization enables you to have a single, consolidated view of, and easy access to, all available resources in the network, regardless of location.
  - ♦ Virtualization enables you to reduce the management of your environment by providing emulation for compatibility, improved interoperability, and transparent change windows.

When creating a virtual computing environment, you must carefully plan how your virtual computing environment will be configured based on workload requirements and available hardware. Sufficient planning can help you create your virtualized computing environment with minimal disruption to your existing systems, and it allows you to set up your virtualized environment on an incremental basis. For example, you can start by virtualizing a single system, and then move on to virtualizing multiple systems.

The following figure shows the key steps to creating a virtual computing environment: planning, deploying, and managing. Versions of this figure are used throughout this topic to help you understand to what phase the documentation applies.

Planning considerations, deployment steps, and management procedures are summarized and referenced from this topic.

- **Virtualization resources**
  Use this topic to learn about the different virtualization resources that are available.

Parent topic: Creating a virtual computing environment

Virtualization resources

Use this topic to learn about the different virtualization resources that are available.

Virtualization resources provide virtualization intelligence in the processor, memory, I/O, and network. The different virtualization resources that are available are described in this topic.

The POWER hypervisor is a layer of system firmware that supports virtualization technologies, logical partitioning, and dynamic resource movement across multiple operating system environments, including AIX 5L and Linux . With support for dynamic resource movement across multiple environments, you can move processors, memory, and I/O between partitions on the system as you move workloads among the environments.

The hypervisor supports many advanced functions, including sharing of processors, virtual I/O, high-speed communications between partitions using Virtual LAN, and concurrent maintenance. It also enforces partition security and can provide virtual LAN channels between logical partitions, reducing the need for physical Ethernet adapters and releasing I/O adapter slots.

- **Power On Demand**
  Use this topic to learn about the benefits that Power On Demand offers and the different Power On Demand options.
- **Logical partitions**
  Using logical partitions enables you to distribute resources within a single system to make it function as if it were two or more independent servers. Use this topic to learn more about logical partitions and how they operate in a virtual computing environment.
- **Multiple operating system support**
  In a virtual computing environment, a singe server can run multiple operating systems simultaneously. Use this topic to learn how multiple operating-system support contributes to a virtual computing environment.
- **Advanced POWER Virtualization**
  Advanced POWER Virtualization is a separately-orderable feature that includes the Virtual I/O Server, enablement for Micro-Partitioning, and the Partition Load Manager. Use this topic to learn what the Advanced POWER Virtualization features do and which features area available for different hardware platforms.
- **Simultaneous multi-threading**
  Use this topic to learn about how simultaneous multi-threading can help fully utilize the POWER5 processor.

Parent topic: Virtualization overview

Power On Demand

Use this topic to learn about the benefits that Power On Demand offers and the different Power On Demand options.

Power On Demand allows system resources, such as processors and memory, to be activated on an as-needed basis. This flexibility allows resources to be added to and removed from your computing environment, based on fluctuating computing needs. Power On Demand provides the ability to dynamically modify the number of processors or available memory in response to changing system workload requirements.

The following Power On Demand options are available:

- Power On Demand
- On/Off Power On Demand
- Reserve Power On Demand
- Trial Power On Demand

Parent topic: Virtualization resources

Related information

Power On Demand

Logical partitions

Using logical partitions enables you to distribute resources within a single system to make it function as if it were two or more independent servers. Use this topic to learn more about logical partitions and how they operate in a virtual computing environment.

Logical partitioning is the ability to make a server run as if it were two or more independent servers. When you logically partition a server, you divide the resources on the server into subsets called logical partitions. Processors, memory, and input/output devices are examples of resources that you can assign to logical partitions. You can install software on the logical partition, and the logical partition runs as an independent logical server with the processor, memory, and I/O resources that you have allocated to it. Some of the software that you can install and run on logical partitions include the AIX Linux operating systems, and Virtual I/O Server software.

Logical partitions share a few system attributes, such as the system serial number, system model, and processor feature code. All other system attributes can vary from one logical partition to another.

You must use tools to partition your servers. The tool that you use to partition each server depends upon the server model and the operating systems and features that you want to use on the server. You can use the following tools to partition your server. Each of these tools is discussed in more detail later in this topic.

- Hardware Management Console (HMC)
- Integrated Virtualization Manager

Benefits of partitioning

Some of the benefits of logical partitioning might include the following:

Consolidating servers
> A logically partitioned server can reduce the number of servers that are needed within an enterprise. You can consolidate several servers into a single logically partitioned system. This eliminates the need for, and expense of, additional equipment.

Sharing resources

You can quickly move hardware resources from one logical partition to another as needs change. Features such as Micro-Partitioning allow for processor resources to be shared automatically among logical partitions that use the shared processor pool. Other features, such as dynamic logical partitioning, allow for resources to be moved to, from, and between running logical partitions manually without shutting down or restarting the logical partitions.

Maintaining independent servers

Dedicating a portion of the resources (disk storage unit, processors, memory, and I/O devices) to a partition achieves logical isolation of software. If configured correctly, logical partitions also have some hardware fault tolerance. Batch and 5250 on-line transaction processing (OLTP) workloads, which might not run well together on a single machine, can be isolated and run efficiently in separate partitions.

Merging production and test environments

Partitioning enables separate partitions to be allocated for production and test servers, eliminating the need to purchase additional hardware and software. When testing has been completed, the resources allocated to the test partition can be returned to the production partition or elsewhere as required. As new projects are developed, they can be built and tested on the same hardware on which they will eventually be deployed.

Running integrated clusters

Using high-availability application software, your partitioned server can run as an integrated cluster. You can use an integrated cluster to protect your server from most unscheduled failures within a partition.

This topic gives more information about specific technologies that enable logical partitioning and the sharing of physical resources between partitions. Understanding the concepts of Micro-Partitioning, Dynamic LPAR, virtual storage, and virtual networking will help you plan for and deploy a virtual computing environment.

- **Micro-Partitioning**
  Micro-Partitioning allows multiple logical partitions to share the system's processing power. Use this topic to learn more about Micro-Partitioning and how it functions in a virtual computing environment.
- **Dynamic LPAR**
  Dynamic LPAR allows hardware resources to be moved between logical partitions. Use this topic to learn about dynamic LPAR and how it helps to create a virtual computing environment.
- **Virtual storage**
  Virtual storage technology allows multiple logical partitions to share storage adapters and devices. Use this topic to understand the concepts related to virtual storage and how it relates to virtualization.
- **Virtual networking**
  Virtual networking allows logical partitions in a single system to communicate with each other without requiring physical network adapters. Additionally, for communication with partitions and servers outside the system, related virtual networking technologies allow multiple logical partitions to share a single physical adapter. Use this topic to learn about virtual networking and how this technology enables a virtual computing environment.

Parent topic: Virtualization resources

Micro-Partitioning

Micro-Partitioning allows multiple logical partitions to share the system's processing power. Use this topic to learn more about Micro-Partitioning and how it functions in a virtual computing environment.

Micro-Partitioning enables you to allocate processors to logical partitions in increments of .1. For example, one partition might have .6 of a processor, while another partition might have 1.4 processors. Such partitions are referred to as *shared processor partitions*. You can choose between dedicated processor partitions and shared processor partitions using Micro-Partitioning.

Micro-Partitioning allows for increased overall use of system resources by automatically applying only the required amount of processor resource needed by each partition. You can configure the POWER hypervisor to continually adjust the amount of processor capacity that is allocated to each shared processor partition based on workload. Tuning parameters provide the system administrator with extensive control over the amount of processor resources that each partition can use.

Parent topic: Logical partitions

Related concepts

Advanced POWER Virtualization

Related information
Shared processors

Dynamic LPAR

Dynamic LPAR allows hardware resources to be moved between logical partitions. Use this topic to learn about dynamic LPAR and how it helps to create a virtual computing environment.

The introduction of logical partitioning has expanded the options for deploying applications and workloads. Logical partitioning provides more flexibility by making it possible to run multiple, independent operating system images concurrently on a single server. Dynamic LPAR allows partition resources to be moved from one logical partition to another without requiring a reboot of the system or affected partitions. The following are some example situations in which dynamic LPAR is useful:

- Move processors from a test partition to a production partition in periods of peak demand, then move them back again as demand decreases.
- Move memory to a partition that is doing excessive paging.
- Move an infrequently used I/O device between partitions, such as a CD-ROM for installations, or a tape drive for backups.
- Release a set of processor, memory, and I/O resources into the free pool, so that a new partition can be created from those resources.
- Configure a set of minimal logical partitions to act as backup to primary logical partitions, while also keeping some set of resources available. If one of the primary logical partitions fails, you can assign available resources to that backup logical partition so that it can assume the workload.

Parent topic: Logical partitions

Virtual storage

Virtual storage technology allows multiple logical partitions to share storage adapters and devices. Use this topic to understand the concepts related to virtual storage and how it relates to virtualization.

On most hardware systems, you can create virtual SCSI adapters and virtual serial adapters. These virtual adapters interact with the operating system like any other storage adapter, except that they are not physically present. A logical partition can use virtual SCSI to connect to a hard drive or optical device that is shared by multiple logical partitions on the system.

Virtual storage is based on a client and server relationship. The partition that owns the physical resources is the server partition, while the partitions that are sharing the resources owned by the server partition are client partitions. The server exports its physical devices as virtual devices, and using virtual SCSI adapters, the client partitions can then use those hardware resources.

Parent topic: Logical partitions

Related information

Virtual networking

Virtual networking allows logical partitions in a single system to communicate with each other without requiring physical network adapters. Additionally, for communication with partitions and servers outside the system, related virtual networking technologies allow multiple logical partitions to share a single physical adapter. Use this topic to learn about virtual networking and how this technology enables a virtual computing environment.

Virtual networking technology allows logical partitions to communicate with other logical partitions and systems without each partition requiring a dedicated network adapter. Logical partitions within a single hardware unit can use virtual Ethernet adapters to establish multiple high-speed inter-partition connections. The operating system installed on the partition interacts with the virtual Ethernet adapter as it would a physical Ethernet adapter. For such inter-partition communication, the network packets are transferred between partitions through the POWER hypervisor. While physical network cards are not required for this type of communication, a network card is required if partitions within a hardware unit need to communicate with other systems. In cases where outside communication is necessary, shared Ethernet adapters can be configured to handle the network traffic for multiple logical partitions.

You can configure a Virtual I/O Server partition partition to share physical Ethernet adapters to process the outside network traffic for logical partitions on the system. Using a client and server relationship, the Virtual I/O Server partition owns the adapter that is shared by the client logical partitions. Communication between the server and the clients is handled through virtual Ethernet adapters. Using shared Ethernet adapters, client logical partitions on the system can now send and receive network traffic from outside systems without having to have a dedicated Ethernet adapter.

Parent topic: Logical partitions

Related information

How each OS implements virtual resources

Virtual adapters Using the Virtual I/O Server

Multiple operating system support

In a virtual computing environment, a singe server can run multiple operating systems simultaneously. Use this topic to learn how multiple operating-system support contributes to a virtual computing environment.

Logical partitioning allows a single server to run multiple operating system images concurrently on the same system. After a logical partition has been created, you can install an operating system in the partition. The ability to run multiple operating systems concurrently on the system allows for more effective server consolidation. For example, a dedicated AIX server and dedicated Linux server can now be consolidated into one server by configuring an AIX and a Linux logical partition.

The POWER5 processor-based products support AIX 5L Version 5.2 or later, SUSE LINUX Enterprise Server 8, SUSE Linux Enterprise Server 9, Red Hat Enterprise Linux version 3, and Red Hat Enterprise Linux version 4.

/concept/linkpool {"- topic/linkpool "}) Parent topic: Virtualization resources **(linkpool**

Advanced POWER Virtualization

Advanced POWER Virtualization is a separately-orderable feature that includes the Virtual I/O Server, enablement for Micro-Partitioning, and the Partition Load Manager. Use this topic to learn what the Advanced POWER Virtualization features do and which features area available for different hardware platforms.

The Advanced POWER Virtualization technologies are a combination of hardware enablement that includes the following components and are available together as a separately priced feature:

- Installation image for the Virtual I/O Server software, which provides Shared Ethernet adapter and Virtual SCSI server functions. On systems without a Hardware Management Console (HMC), the Integrated Virtualization Manager is provided as part of the Virtual I/O Server.
- Firmware enablement for Micro-Partitioning
- Partition Load Manager

When you specify the Advanced POWER Virtualization hardware feature with the initial system order, the shipped firmware is activated to support Micro-Partitioning and the Virtual I/O Server. For upgrade orders, a key similar to the Power On Demand key is shipped to enable the firmware. The Virtual I/O Server and the Partition Load Manager are licensed software components of the Advanced POWER Virtualization feature. They contain one charge unit per activated processor, including software maintenance. **Parent topic:** Virtualization resources

Related information

Learning and tutorials

Simultaneous multi-threading

Use this topic to learn about how simultaneous multi-threading can help fully utilize the POWER5 processor.
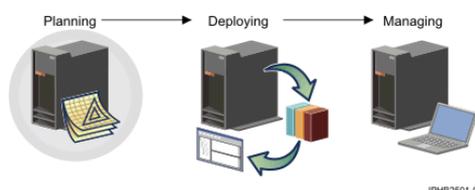
Simultaneous multi-threading is the ability of a single physical processor to simultaneously dispatch instructions from more than one hardware thread context. Because there are two hardware threads per physical processor, additional instructions can run at the same time. Simultaneous multi-threading allows you to take full advantage of the POWER5 processor by scheduling two applications at the same time on the same processor. No single application can fully saturate the processor. Simultaneous multi-threading is a feature of the POWER5 processor and is available with dedicated and shared processors. This feature is a partition attribute, and you can activate and deactivate simultaneous multi-threading for individual partitions on the system.

Parent topic: Virtualization resources

Planning for a virtual computing environment

Use this topic to learn about the planning steps that you should consider before deploying a virtual computing environment.

Planning your virtual computing environment is the first step you must take when creating a virtual computing environment. Sufficient planning helps you ensure that your virtual computing environment is configured in a way to meet your computing needs and that you are using your hardware resources effectively.

- **Physical planning**
  Use this topic to learn about physical planning as it fits into the picture of planning for a virtualized system.
- **Workload planning**
  Planning for your workload helps set the hardware and software resources you will need when you create and use a virtual computing environment. Use this topic to learn about what tools are available to help you configure your system to meet your workload demands.
- **Partition planning**
  Use this topic to learn more about planning your logical partition configuration.
- **Solution planning**
  Use this topic to learn about solution planning and why it is critical in the planning process.

Parent topic: Creating a virtual computing environment

Physical planning

Use this topic to learn about physical planning as it fits into the picture of planning for a virtualized system.

When planning for a new system, you must consider the physical characteristics of your system. Physical planning allows you to be sure that you meet such requirements as space requirements, power and electricity requirements, and cooling requirements. Physical planning also involves considerations for unpacking the system and weight requirements for lifting, whether you are going to have a rack-mounted system or stand-alone system, where in the rack to install the system, and installing the stabilizer bar in the rack.

Parent topic: Planning for a virtual computing environment

Related information

Physical site planning and preparation

Workload planning

Planning for your workload helps set the hardware and software resources you will need when you create and use a virtual computing environment. Use this topic to learn about what tools are available to help you configure your system to meet your workload demands.

Workload planning includes considering the capacity, performance, and availability requirements for your server and its logical partitions. For example, the workload requirements for your server or logical partitions can vary based on the type or importance of the work that it is performing. Several workload planning tools are available to assist you in planning for workloads.

Parent topic: Planning for a virtual computing environment

Related information

Planning for workloads

Partition planning

Use this topic to learn more about planning your logical partition configuration.

Creating logical partitions on your system can ease management of your system and help enable your system to use its resources more effectively and efficiently. Using logical partitions, you can consolidate the workloads of multiple servers onto a single server. To effectively use logical partitions, you must plan your logical partition environment, such as how many partitions you need and what types of work those partitions will be performing.

Parent topic: Planning for a virtual computing environment

Related information

Planning for logical partitions

Solution planning

Use this topic to learn about solution planning and why it is critical in the planning process.

Solution planning is the process of verifying that all your server equipment meets or exceeds the operational requirements of your solution. Before installing the hardware, software, and other equipment needed to run your hardware solution, develop a solution plan to ensure that your system meets your requirements.

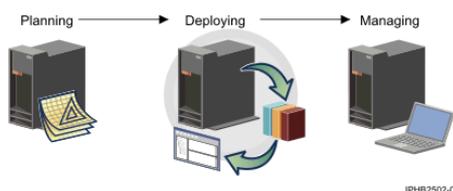**Parent topic:** Planning for a virtual computing environment

Related information

Solution planning

Deploying a virtual computing environment

Use this topic to gain an overview of the steps necessary set up a server, deploy logical partitions, and configure virtualization technologies.

After you have taken the necessary planning steps, you can begin deploying your virtual computing environment. Deploying a virtual computing environment involves setting up the hardware, creating and configuring the logical partitions, and installing the necessary software for the logical partitions.

- **Hardware setup**
  A prerequisite to deploying a virtual computing environment is to set up your hardware. Use this to gain an understanding of the tools and documentation that are available to assist you.
- **Partition setup**
  Use this topic to learn the necessary steps to set up partitions.

- **Software setup**
  Use this topic to learn what other virtualization software you can install after your partitions are configured.

Parent topic: Creating a virtual computing environment

Hardware setup

A prerequisite to deploying a virtual computing environment is to set up your hardware. Use this to gain an understanding of the tools and documentation that are available to assist you.

Deployment of your virtual system begins with appropriate hardware setup. While most of the virtualization-specific configuration procedures are performed while configuring logical partitions and installing software, correctly setting up your hardware ensures that your system is capable of starting and is functional before you perform such additional virtualization and other custom configurations.

Parent topic: Deploying a virtual computing environment

Related information

Initial server setup

Partition setup

Use this topic to learn the necessary steps to set up partitions.

Setting up logical partitions involves creating the logical partition, selecting the logical partition type (AIX or Linux or Virtual I/O Server), and assigning either physical or virtual resources to it. The number of logical partitions, what operating systems are to be installed on those partitions, and what computing resources are assigned to the partition depends on your computing requirements and available hardware resources. Plan these configurations before you begin the partition setup to ensure the virtual computing environment meets all your computing requirements.

Setting up partitions is performed using the Hardware Management Console (HMC), or Integrated Virtualization Manager. Each of these tools is described in greater detail later in this topic.

In environments where no HMC is present, use the Integrated Virtualization Manager to set up logical partitions.

Parent topic: Deploying a virtual computing environment

Related information

Partitioning the server

Software setup

Use this topic to learn what other virtualization software you can install after your partitions are configured.
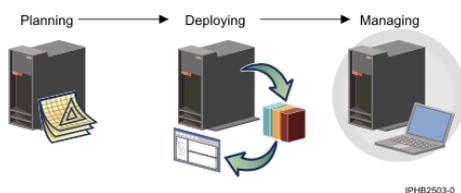
After the logical partitions are created, you are ready to install operating system software and other software on the logical partitions. Logical partitions on systems and server hardware support the AIX and Linux operating systems. The Virtual I/O Server can also be installed in one or more partitions on models, server systems that have the Advanced POWER Virtualization key enabled. On servers servers, the Virtual I/O Server is necessary to be able to set up shared Ethernet and virtual storage configurations.

/concept/linkpool {"- topic/linkpool "}) Parent topic: Deploying a virtual computing environment **(linkpool**

Managing a virtual computing environment

Use this topic to learn about the tools that are provided to manage a virtual computing environment after it has been deployed.

After you have deployed your virtual computing environment, you can manage your environment and make configuration adjustments as necessary to meet your computing requirements. This topic introduces the tools you can use to manager your virtual computing environment.

- **Managing virtual resources on a single server**
  Use this topic to learn about the tools used to manage virtual resources on a single virtualized server.
- **Managing virtual resources across an enterprise**
  Use this topic to learn about how managing a single virtual system is different from managing multiple, heterogeneous systems.

Parent topic: Creating a virtual computing environment

Managing virtual resources on a single server

Use this topic to learn about the tools used to manage virtual resources on a single virtualized server.

Various tools exist that allow you to manage virtual resources on a single server. This topic provides information about the virtualization management tools, and it can help you determine which of these tools are right for use in your environment.

- **Hardware Management Console**
  Use this topic to learn more about the HMC and the role it plays in configuring, managing, and troubleshooting virtual resources.
- **Virtual I/O Server**
  Use this topic to learn about the Virtual I/O Server in the context of managing virtual resources.
- **Integrated Virtualization Manager**
  Use this topic to learn more about the Integrated Virtualization Manager and how it can be used to manage virtual resources.
- **Partition Load Manager**
  The Partition Load Manager can provide automate resource management for select servers. Use this topic to learn more about Partition Load Manager and how it can be used to manage virtual resources.

Parent topic: Managing a virtual computing environment

Hardware Management Console

Use this topic to learn more about the HMC and the role it plays in configuring, managing, and troubleshooting virtual resources.

A Hardware Management Console (HMC) is a hardware appliance that allows you to create and manage logical partitions on a managed system. You use the HMC to specify how you want resources to be allocated among the logical partitions on the managed system. You also use the HMC to start and stop the logical partitions, update the server firmware code, and transmit service information to service and support if there are any hardware problems with your managed system.

Parent topic: Managing virtual resources on a single server

Related information

Managing the Hardware Management Console (HMC)

Partitioning with an HMC

Virtual I/O Server

Use this topic to learn about the Virtual I/O Server in the context of managing virtual resources.

The Virtual I/O Server provides virtual storage and shared Ethernet capability to client logical partitions. It allows physical adapters with attached disks or optical devices on the Virtual I/O Server logical partition to be shared by one or more client partitions. Virtual I/O Server partitions are not intended to run applications or for general user login sessions. The Virtual I/O Server is installed in its own logical partition.

Using the Virtual I/O Server facilitates the following functions:

- Sharing of physical I/O resources between partitions on the system
- Creating partitions without requiring additional physical I/O resources
- Creating more partitions than there are I/O slots or physical devices available with the ability for partitions to have dedicated I/O, virtual I/O, or both
- Maximizing physical I/O resource use on the system

Parent topic: Managing virtual resources on a single server

Related information

Using the Virtual I/O Server

Integrated Virtualization Manager

Use this topic to learn more about the Integrated Virtualization Manager and how it can be used to manage virtual resources.

The Integrated Virtualization Manager is a browser-based system-management interface that you can use to manage a single managed system that uses the Virtual I/O Server on a management partition. You can use the Integrated Virtualization Manager to create and manage AIX and Linux client logical partitions on a single managed system, manage the virtual storage and virtual Ethernet on the managed system, and view service information related to the managed system. The Integrated Virtualization Manager is supported only on server and lower models.

If you install the Virtual I/O Server on a supported server, and if there is no HMC attached to the server when you install the Virtual I/O Server, the Integrated Virtualization Manager is enabled on that server. You can then

use the Integrated Virtualization Manager to configure partitions on the managed system.

Parent topic: Managing virtual resources on a single server

Related information

Managing the Integrated Virtualization Manager

Partitioning using the Integrated Virtualization Manager

Partition Load Manager

The Partition Load Manager can provide automate resource management for select servers. Use this topic to learn more about Partition Load Manager and how it can be used to manage virtual resources.

Partition Load Manager for AIX provides automated CPU and memory resource management across logical partitions that are capable of dynamic LPAR on AIX. Partition Load Manager allocates resources to partitions within the constraints of a user-defined policy. Partitions with a high demand for resources are given resources from partitions with a lower demand, improving the overall resource utilization of the system. Resources that would otherwise be unused, if left allocated to a partition that was not utilizing them, can be used to meet resource demands of other partitions in the same system. Partition Load Manager is available only on server, server, and servers servers.

Parent topic: Managing virtual resources on a single server

Related information

Configuring resource management for AIX partitions with Partition Load Manager

Managing virtual resources across an enterprise

Use this topic to learn about how managing a single virtual system is different from managing multiple, heterogeneous systems.

If you manage virtual technologies across a single system, you can expand that across multiple, heterogeneous systems. The virtualization solutions provided through the Virtualization Engine are a companion to existing systems management solutions. They enable you to manage heterogeneous systems in a virtualized environment using a common set of interfaces and solutions, thus simplifying system management and allowing you to more effectively utilize your system resources.

Parent topic: Managing a virtual computing environment

Related information

This topic contains links to ESCALA Power5 Hardware Information topics that relate to the Creating a virtual computing environment topic.

Other information

- Hardware Information:
  - ♦ Planning
  - ♦ Solution planning
  - ♦ Partitioning the server
  - ♦ Partitioning with the Integrated Virtualization Manager
  - ♦ Planning for the Virtual I/O Server
  - ♦ Using the Virtual I/O Server
  - ♦ Power On Demand
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