

# **IBM Power Development Platform**

## **Frequently asked question user guide**

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# Frequently asked questions

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## General FAQs:

### 1. How long do Business Partners get access to the machines in the PDP program?

A: The Business Partner would get access to the machines for up to 14 days.

### 2. Is there a charge to use the PDP if I'm a Business Partner and have a Partner World ID?

A: No, there is no charge to use the PDP if you are a Business Partner and have a registered Partner World ID.

### 3. How many Power Development Platform reservations can I have at one time?

A: Power Development Platform will allow up to ten active or future reservations booked in the reservation system at a time under a particular company. These ten concurrent engagements are applicable to all default reservations with standard configurations and duration (up to 14 days).

Note: Reservations made using promotional codes are subject to specific configurations and may not allow over 5 concurrent reservations.

### 4. What architecture, operating systems, and version does Power Development Platform run?

A: To know the details about the architecture, operating systems, and version of the systems which PDP provide, please visit the following link and check "Technologies Support"

[http://www.ibm.com/partnerworld/wps/servlet/ContentHandler/stg\\_com\\_sys\\_power-development-platform](http://www.ibm.com/partnerworld/wps/servlet/ContentHandler/stg_com_sys_power-development-platform)

### 5. Where can I get more information on porting and testing resources?

A: Please visit the [IBM PartnerWorld](#) web site for the latest porting and testing resources.

### 6. How do I get the access to the HMC?

A: PDP does not offer access to HMC.

### 7. How can I reserve a PDP system with more disk space and for longer duration?

A: If your PDP system configuration requirements are out side the scope of the default PDP offering, you can request for a promo code. Promotional code will help you to reserve a PDP system with more disk space and for longer duration than the default offering.

More details about promo code can be obtained from the '**Programs**' tab of the PDP web site, under the 'Make a Reservation' title.

### 8. What are the various states of a PDP reservation?

A: Committed Reservation State: The Committed status means that the user has made a reservation on the PDP and will be provisioned at a future date.

Idle Reservation State: The Idle status means that the Reservation is currently being worked upon by the PDP Administration and will be available shortly. The user will receive an e-mail from the PDP once their Reservation is active.

Processing Reservation State: The Processing status means that the Reservation is currently in the process of being provisioned and will be available shortly. The user will receive an e-mail from the PDP once their Reservation is active.

**Active Reservation State:** The Active status means that the Reservation has successfully provisioned and is available for use. The user should have received an e-mail from the PDP notifying them that their Reservation is active.

**Error Reservation State:** The Error status means that the Reservation encountered an error during the provisioning process and/or de-provisioning process. The PDP Administration is working on the issue and the Reservation will be available shortly.

**Provisioned Reservation State:** The Provisioned status means that the Reservation is in the last steps of the provisioning process and will be available shortly. The user will receive an e-mail from the PDP once their Reservation is active.

**Completed Reservation State:** The Completed state means that the reservation has ended.

**9. Why is my PDP reservation presently in "Error" state? What should I do now?**

A. The provisioning of the reserved PDP system is an automated process. At times when any of the processes fail or if there is any hardware failure the PDP reservation may turn to ERROR state. The best approach would be informing the PDP support team by providing details about the problem and your PDP reservation through 'PDP support' tab on the PDP web site or for quick resolutions please reach them over live chat support.

**10. Why do I not see VPN passwords for my reservation on the PDP web site?**

A. The VPN passwords are made available to the user only when the reservation turns ACTIVE. Probably your reservation is not ACTIVE. Please wait till you receive an automation email stating that your reservation is ACTIVE.

**11. Which ports and protocols do I need to allow through Cisco VPN Client if it's behind a firewall or router running access control lists?**

A: This chart lists ports and protocols for Cisco VPN Client:

Service	Protocol Number	Source Port	Destination Port
PPTP Control Connection	6 (TCP)	1023	1723
PPTP Tunnel Encapsulation	47 (GRE)	N/A	N/A
ISAKMP/IPSec Key Management	17 (UDP)	500	500
IPSec Tunnel Encapsulation	50 (ESP)	N/A	N/A
IPSec NAT Transparency	17 (UDP)	10000 (default)	10000 (default)

Note: The Network Address Translation (NAT) Transparency port is configurable to any value in the 4001 through 49151 ranges. You can enter up to 10 comma-separated TCP ports (1 - 65535). If this option is configured, make sure that these ports are allowed in your firewall or router running access-control lists.

**12. Why does my putty client disappear after changing the password for the first time?**

A. As a part of our recent changes and improvements in PDP, we have made certain changes to access the reserved PDP system. When you are accessing your reserved PDP system for the first time and changed the password, the putty client will be disappeared. You have to re-launch the putty client to access your reserved PDP system.

### 13. How do I reduce the timeout issues connecting to the loaner machine with PuTTY?

A: To decrease the timeout of PuTTY session:

From Category -> Connection

Seconds between keepalives -> set to 10

### 14. Why is that, I am unable to view my saved image for restoring it as new reservation?

A. There can be few factors for unable to view the saved image.

1. The saved image might be corrupted.
2. You are trying to restore the saved image immediately after the current reservation went to completed state. We would request you to give 2-4 hrs of time for the automated PDP system to make the saved image available for restoring.
3. The saved image might be related to a different company ID.

### 15. Why is my Reservation stuck in the "Processing" state when I try to make a save image?

A: If you try to save more than one image per User ID on the same day, you must wait for the first save to complete before the second save will start.

### 16. What are the differences between "Save now" and "Save when reservation ends"?

A: The "Save Now" and "Save when reservation ends" functions protect your environment. The "Save Now" will allow you to save at multiple times during the reservation period so that you do not lose any data in the event of a system crash or reservation termination.

The "Save when reservation ends" will save the environment at the end of the reservation duration so that, you have a copy of the environment exactly as you last left it. Please note that there is a 35 GB limit of saved image storage space.

You will not be allowed to save multiples images that are larger than 35 GB of total size. You will have to first delete any old saved images to free up space and then submit the Save Now function for it to be successful. Also, any temporary disk space will NOT be saved in the "Save Now" or "Save when reservation ends" functions.

#### Notes:

It is recommended not to use same name while saving the image. Also, if you have additional disk space (tempvg) for the reservation it would not be considered while saving the image.

You can only save an image for an Active reservation, and you must be logged off of the system in order to complete the save image routine. The "Save when reservation ends" will save your image after the reservation has ended and your connection terminated.

You cannot select an image to use on a new reservation until the existing reservation that created the image has ended. This is due to IP address contention. Once the current reservation has ended then the images you created in that reservation will appear as an operating system choice in the "Choose an operating system:" box

### 17. How does "Save when reservation ends" work and what is it for?

A: If you have selected "Save when reservation ends" for your first reservation, when you go back to make a new reservation (after the first one has completed), the saved image name will be listed along with the other OS options. You should see "Your saved image name"...etc. The image name you created will be listed. The image cannot be restored (or saved) once a reservation has been made. It needs to be selected at the time the reservation is created.

#### 18. Why am I unable to restore a saved image?

A: If the reservation from which the image was saved is ACTIVE, you can not restore the saved image. To avoid an IP address conflict, we have constrained our automation system with the above condition.

#### 19. Why is the save image operation failing?

A: The following are the possible causes.

1. The name of the saved image should be unique compared to the existing saved images.
2. The image size should not exceed 35GB. We request you download the software in to the /tmp directory and install them on to your reserved PDP system. Delete unnecessary files and logs from your reservation.
3. The user has a program running that needs to be terminated before the save function can complete.
4. If the operating system is AIX, the user cannot have a local nimserver running that their PDP server is pointed to. They must remove all links pointing to that nimserver so that the PDP automation can save their image correctly.
5. File system 100% full - /tmp full

#### 20. How do I enable X11 using PuTTY?

A: Using PuTTY, you can enable X11:

From Category -> select SSH -> X11

Check Enable X11 forwarding

For X display location -> set to localhost:0

On the reserved PDP system:

/etc/ssh/ssh\_config

Uncomment ForwardX11 yes

#### 21. Does the Power Development Platform provide LTO or 3590e tape devices?

A: No, the Power Development Platform does not provide Linear Tape-Open (LTO) or 3590e tape devices.

#### 22. How can I display how many CPUs my Power Development Platform reservation has?

A: To know the number of CPUs running on the system, view the /proc/cpuinfo file. Power Development Platform LPARs are simultaneous multithreading (SMT), so you will see double the processors you requested.

#### 23. Where can I download Java (32-bit and 64-bit) for AIX and Linux system?

A: Please visit the following link to download [Java for AIX and Linux](#)

#### 24. How do I enable X server on Windows or AIX/Linux from a client machine?

A: **On Windows:**

Download and install [Cygwin](#)

- Follow the user's guide

- Select bash executable

Start the X server

- startx

- You should see a large X at bottom right hand side
- Using Putty, enable X11 forwarding
- Under SSH category
  - Click tunnels
  - Click Enable X11 forwarding
  - Enter in X display location "localhost:0"
- UNIX environment and OpenSSH on Windows

<http://www.larsavery.com/blog/how-to-install-sshd-secure-shell-server-on-windows-using-cygwin/>  
<http://cygwin.wikia.com/wiki/Sshd>

### **On AIX and Linux:**

Run command:

- ssh -X ip\_address -l username

If you see the error "Can't display host"

- within /etc/ssh/sshd\_config, change X11Forwarding to yes.

Test the X server with the GUI tool, like xclock.

Note: Once you log into system and then onto root access, use only "su", the "su -" reset your environment which gives you access denied.

### **25. Can I extend the duration of my PDP reservation?**

A. The duration of the PDP reservation would be for 5 days unless specified explicitly, while making the reservation.

The maximum duration that one can reserve the PDP system is for 14 days without using a promotion code.

A reservation can be extended only once and for duration of 20% of the actual PDP reservation duration. For example, the user is able to extend a 5 day reservation by up to 1 additional day (5 days \* 20% = 1 day). This one time extension can be made from the Programs tab's "Virtual Server access" section on the PDP Web Site.

### **26. What are the recommendations to enhance the connectivity performance to a reserved PDP system?**

A: 1) Network bandwidth - PDP recommends at least 700kbps of upload/download speed (to PDP system) if user wants to upload/download files of size 1GB or more.

- Check with your local Internet Service Provider (ISP) for available upload/download speeds
- Ask your provider for dedicated bandwidth connection - this will greatly improve performance over the Internet
- Upload and download performance may depend on partition type (AIX/Linux/IBM i)

2) Cygwin SCP may give better results instead of software like winscp. Users can install cygwin and reference user guides from <http://cygwin.com/>

### **27. How will I know if the PDP will have a scheduled outage?**

A: There will be a note on the PDP summary Web page and we will send a notice to everyone that has a current active engagement.

## **Power Development Platform - AIX FAQs**

### **1. What does the acronym AIX stand for?**

A: **A**dvanced **I**nteractive **eX**ecutive.

## 2. Where can I find out more information about AIX tips, hints, and white papers?

A: Please go to the [Technical support knowledge base](#) for more AIX helpful information.

## 3. How can I copy the contents of one file system to another?

A: Use the cp command with the recursive flag set. (cp -R)

## 4. How do I enable telnet sessions on my reserved PDP system?

A: By default telnet is disabled on the reserved PDP system. Please use the following commands to start/stop the telnet service.

```
startsrc -s telnet
```

```
stopsrc -s telnet
```

## 5. Is there a menu driven way to configure AIX, install programs, etc?

A: Yes, type in the command smit or smitty to access the menu driven AIX configuration utility.

## 6. What is the purpose of proc file system in the root directory?

A: The proc file system is a mounted file system used to trace a process system call, receive signals, and incurred machine faults.

## 7. Where can I get more AIX "How To"?

A: Visit the User "How-To" section of the Information Center.

<http://publib.boulder.ibm.com/infocenter/aix/v7r1/index.jsp>

## 8. Where can I get more Application Developer help online?

A: Please visit the Software Products section of the IBM Web site.

<http://www-01.ibm.com/software/sw-bycategory/>

## 9. Are there Linux tools I can run on the AIX system?

A: Yes, the Linux Toolbox for AIX is located in the /stage/middleware/AIX/linux\_tools directory. They can be installed with the rpm command.

## 10. Where can I read more about AIX and Linux Interoperability?

A: Please refer to the IBM Redbook [AIX and Linux Intomeroperability](#).

## 11. Where can I read more about running Linux Applications on AIX?

A: Please refer to the IBM Redbook [Linux Applications on System p](#)

## 12. Where can I read reference material on AIX troubleshooting and problem solving?

A: Please refer to the IBM Redbook [Problem Solving and Trouble shooting in AIX](#)

## 13. Why Can't I Kill My Process?

A: To kill a process

Sometimes it is necessary to eliminate a process entirely. This is the purpose of the kill command. The syntax of the kill command, which is actually a general purpose process signaling utility, is as follows:

```
kill [-signal] PID
```

The kill command (or kill -15 which is the default signal) sends a SIGTERM signal to a process. This signal can be trapped, thus ignored by a process.

The kill -9 command sends a SIGKILL command to the process. If the process is currently in USER mode, this signal cannot be caught or trapped and the process will terminate.

Occasionally, processes will not die even after being sent the kill signal. The majority of such processes fall into one of the following categories:

**Zombies.** A process in the zombie state (displayed as Z status in BSD ps displays and as under System V). A zombie process is one in which all its resources have been freed, but the parent process's acknowledgment has not occurred. Zombies are always cleared the next time the system is booted and do not adversely affect system performance.

Processes in kernel mode waiting for unavailable resources. There are two modes a process can be in, USER mode and KERNEL mode.

The process goes into kernel mode anytime it needs to access system functions via a system call routine. While in the kernel mode, signals are ignored until the system call exits back to user mode. At that time, any pending signals are handed to the user process.

If while in kernel mode, the process goes to sleep while waiting on a resource and the resource never becomes available, the process will never exit kernel mode.

The only way to kill a process that is "ignoring" or "sleeping" in kernel mode is to restart the system.

Note: Signals are defined in the /usr/include/signal.h file and the command, kill -l may be used to generate a list of their symbolic names, delivery of signals to a system call.

The kernel delays the delivery of all signals, including SIGKILL, when starting a system call, device driver, or other kernel extension. The signal takes effect upon leaving the kernel and returning from the system call. This happens when the process returns to the user protection domain, just before running the first instruction at the caller return address.

#### 14. Will my 64-bit application run on the 32-bit kernel?

A: Most likely. The environment in which the application was built has no bearing on where it can run. Compiler switches are available to create either a 32-bit or a 64-bit executable program from program source code when compiled on either the 32-bit kernel or the 64-bit kernel. In addition, 32-bit programs and 64-bit programs can both be run on either the 32-bit kernel or the 64-bit kernel. However, if your application needs the use of a kernel extension (a program that extends the kernel and may, for example, provide a new system call for the application) which is not supported on both the 32- and 64-bit kernels, your application will only run with the kernel supported by the kernel extension.

#### 15. How do I install applications from the /stage/middleware directory?

A: Some of the applications are in the AIX lppsource format and they can be installed with "smitty install". You can tell if it is this type of install if there is a ".toc" file in the directory. If the application is in the tar format, you must move it to another directory to uncompress and untar the files. Then you can install the application. You need to have root authority to do this.

#### 16. Is there a program I can use to monitor system performance?

A: Yes, the NMON program works for AIX and LINUX. You can find out more information and download it from IBM Developer works.

#### 17. Error "Could not chdir to home directory /home/u000XXXX: The file access permission does not allow the specified action." What is the resolution?

A: Make sure the directory ownership is correct on the /home/u000XXXX as u000XXXX:staff

```

root@lpar7ml162f_pub[/] > ls -ltr /home
total 14
drwxr-xr-x  2 guest  usr      512 Aug 04 2004  guest
drwx-----  2 wsutton staff   512 Sep 08 2004  wsutton
drwxr-xr-x  2 dradmin staff   512 Aug 10 2005  dradmin
drwx-----  2 zabbix  staff   512 Jan 12 2006  zabbix
drwx-----  2 root    system  512 Aug 17 23:48 lost+found
drwx-----  6 guest   system  512 Aug 18 19:27 u0005094
drwx-----  2 ram    usr     512 Aug 20 08:41 ram
root@lpar7ml162f_pub[/] > █

```

If not, you can correct it by using the command `chown <u000XXXX:staff> </home/u000XXXX>`. You should be a root user while performing this command.

```

u0005094@lpar7ml162f_pub[/home/u0005094] > su - root
root's Password:
root@lpar7ml162f_pub[/] > chown u0005094:staff /home/u0005094
root@lpar7ml162f_pub[/] > ls -ltr /home
total 14
drwxr-xr-x  2 guest  usr      512 Aug 04 2004  guest
drwx-----  2 wsutton staff   512 Sep 08 2004  wsutton
drwxr-xr-x  2 dradmin staff   512 Aug 10 2005  dradmin
drwx-----  2 zabbix  staff   512 Jan 12 2006  zabbix
drwx-----  2 root    system  512 Aug 17 23:48 lost+found
drwx-----  6 u0005094 staff   512 Aug 18 19:27 u0005094
drwx-----  2 ram    usr     512 Aug 20 08:41 ram
root@lpar7ml162f_pub[/] > █

```

### 18. How to configure temp space on the reserved PDP System?

A: The temp space is already configured as a volume group and labeled as tempvg. To create a filesystem on this volume group follow the below directions:

1. Type `smitty jfs` or `smitty jfs2`, depending upon which type of filesystem you want to configure.

```

root@lpar7ml162f_pub[/] > smitty jfs █

```

2. Select Add a Journaled File System.

```

                                     Journaled File Systems
Move cursor to desired item and press Enter.
Add a Journaled File System
Add a Journaled File System on a Previously Defined Logical Volume
Change / Show Characteristics of a Journaled File System
Remove a Journaled File System
Defragment a Journaled File System

```

3. Select Add a Standard Journaled File System and press Enter.

```
                                Add a Journaled File System

Move cursor to desired item and press Enter.

Add a Standard Journaled File System
Add a Compressed Journaled File System
Add a Large File Enabled Journaled File System
```

4. You should see 2 Volume Groups to choose from, rootvg and tempvg. Select tempvg and press Enter.

```
                                Volume Group Name

Move cursor to desired item and press Enter.

rootvg

F1=Help          F2=Refresh      F3=Cancel
F8=Image        F10=Exit       Enter=Do
/=Find          n=Find Next
```

5. Change Unit Size from Megabytes to Gigabytes by pressing the Tab key.

```
SIZE of file system
  Unit Size          Megabytes
* Number of units   []
* MOUNT POINT       []
Mount AUTOMATICALLY at system restart? no
PERMISSIONS        read/write
Mount OPTIONS      []
Start Disk Accounting? no
```

6. In the "Number of units" section, enter how many Gigabytes you would like this filesystem to be. i.e. if you want this to be a 30 GB filesystem, you would enter 30.

```
SIZE of file system
  Unit Size          Megabytes
* Number of units   [30]
* MOUNT POINT       []
Mount AUTOMATICALLY at system restart? no
PERMISSIONS        read/write
Mount OPTIONS      []
Start Disk Accounting? no
Fragment Size (bytes) 4096
```

7. Change "Mount AUTOMATICALLY at system restart?" to Yes by pressing the Tab Key.

```

SIZE of file system
      Unit Size           Megabytes
*      Number of units   [ ]
* MOUNT POINT           [ ]
Mount AUTOMATICALLY at system restart? yes
PERMISSIONS             read/write
Mount OPTIONS           [ ]
Start Disk Accounting? no
Fragment Size (bytes)   4096
Number of bytes per inode 4096
Allocation Group Size (MBytes) 8
Logical Volume for Log

```

8. Press Enter and it should configure the Filesystem for you.

### 19. How do I increase the size of an AIX filesystem?

A: To increase the size of filesystem, use the command line option chfs.

`chfs -a size=+'blocks' /'FS'`

where blocks equals 2048 X number\_MB

and

Where FS is the name of filesystem.

Example: To increase the filesystem of /usr/temp01 with 512MB, calculate  $2048 \times 512\text{MB} = 1048576$

The command would be:

`chfs -a size=+1048576 /usr/temp01` (or) `chfs -a size=+1G /usr/tmp01`

```

root@lpar7ml162f_pub[ / ] > df
Filesystem      512-blocks      Free %Used      Iused %Iused Mounted on
/dev/hd4        524288          411624  22%        3698    3% /
/dev/hd2        6815744         867400  88%       86052   11% /usr
/dev/hd9var     524288          484808   8%         618    1% /var
/dev/hd3        524288          490616   7%         120    1% /tmp
/dev/hd1        524288          507488   4%          31    1% /home
/proc           -                -         -           -     - /proc
/dev/hd10opt    524288          194504  63%         4346   7% /opt
192.168.1.12:/stage/middleware 197263360 35973208 82%    41009    2% /stage/mi
ddleware
192.168.1.12:/userdata/20005094 20971520 20263392 4%      57      1% /home/u0
005094
root@lpar7ml162f_pub[ / ] > chfs -a size=+1048576 /tmp
Filesystem size changed to 1572864
root@lpar7ml162f_pub[ / ] > df
Filesystem      512-blocks      Free %Used      Iused %Iused Mounted on
/dev/hd4        524288          411624  22%        3698    3% /
/dev/hd2        6815744         867400  88%       86052   11% /usr
/dev/hd9var     524288          484808   8%         619    1% /var
/dev/hd3        1572864         1506264  5%         120    1% /tmp
/dev/hd1        524288          507488   4%          31    1% /home
/proc           -                -         -           -     - /proc
/dev/hd10opt    524288          194504  63%         4346   7% /opt
192.168.1.12:/stage/middleware 197263360 35973208 82%    41009    2% /stage/mi
ddleware
192.168.1.12:/userdata/20005094 20971520 20263392 4%      57      1% /home/u0
005094
root@lpar7ml162f_pub[ / ] > █

```

### 20. When using smitty can I see what the command line equivalent is from the smit panel?

A: Yes, press the F6 (Function Key + 6) to see the corresponding command.

```
Select System User Interface
Type or select values in entry fields.
Press Enter AFTER making all desired changes.

Select System Login User Interface          [Entry Fields]
                                           CDE 1.0          +

SHOW COMMAND STRING
Press Enter or Cancel to return to the
application.
/usr/dt/bin/dtconfig '-e'

F1=  F1=Help          F2=Refresh         F3=Cancel
F5=  F8=Image        F10=Exit          Enter=Do
F9=
```

### 21. Are there Linux tools I can run on the AIX system?

A: Yes, the Linux Toolbox for AIX is located in the /stage/middleware/linux\_tools directory. They can be installed with the rpm command.

### 22. Does OpenSSH come with AIX?

A: OpenSSH is a free software tool that supports SSH1 and SSH2 protocols. It's reliable and secure and is widely accepted in the IT industry to replace the r-commands, telnet, and ftp services, providing secure encrypted sessions between two hosts over the network. OpenSSH version 3.4p1, is available in the AIX 5L Power v5.1 and 5.2 Bonus packs in October 2002.

### 23. How do I start a CDE session using the VPN?

A: To start a CDE (common desktop environment) session on AIX using the VPN client, you need to follow these steps:

1. Start the VPN appliance and log in with your User ID and Password. You should see a icon on the bottom right hand corner of your screen to show that you are connected.
2. Bring up a terminal emulator such as PuTTY and SSH to your Reserved PDP Server.
3. Start the VNC Server on your AIX PDP Server by typing VNC server. It will prompt you for a VNC password. Type VNC server again and it will start the VNC server (normally on: 1).
4. Go ahead and stop the VNC server so you can do some configuration steps. Type VNC server kill :1.
5. Check the file /.vnc/xstartup, to ensure "#twm &" line is commented, and you have:  
# This line gives you a CDE desktop when you sign on to VNC  
/usr/dt/bin/dtsession &

Now start your VNC server and it will pick up the changes you just made. Type: vncserver  
Start up your VNC Viewer client such as RealVNC or TightVNC. In the Server or destination field, type the IP address of your Reserved PDP Server:port number. For example: 172.29.13X.XXX:1. The VNC Viewer client will ask you for you VNC password enter your VNC password and your desktop will start with the CDE desktop. It may take a few seconds to load.

#### 24. How do I use GCC (Gnu C Compiler) to create a 64-bit binary?

A: In order to create a 64-bit binary, you should use GCC with the `-m64` argument. For example, `gcc -m64`.

#### 25. Why do the file `/var/log/lastlog` consume so much disk space?

A: When you log in to a UNIX system, the file shows who last logged in. That information is stored in a binary file called `lastlog`. Each user has their personal record; UID 8 is at record 8, UID 239 at record 239, and so on. This is a feature of UNIX called "sparse file". The `/var/log/lastlog` file main purpose includes spooling directories and files, administrative and logging data, and transient and 20 temporary files. Run `du` on it to see how much actual disk space it occupies. The file can be removed.

#### 26. Why do I receive errors about `libc.a(aio.o)` while running `db2start` on AIX?

A: The asynchronous I/O is turned off and you may encounter the following error when you try to run `db2start`:

```
0509-130 Symbol resolution failed for /usr/lib/threads/libc.a(aio.o) because:
0509-136 Symbol kaio_rdw (number 0) is not exported from dependent module /unix.
0509-136 Symbol listio (number 1) is not exported from dependent module /unix.
0509-136 Symbol acancel (number 2) is not exported from dependent module /unix.
0509-136 Symbol iosuspend (number 3) is not exported from dependent module /unix.
0509-136 Symbol aio_nwait (number 4) is not exported from dependent module /unix.
0509-192 Examine .loader section symbols with the 'dump -Tv' command.
```

To turn on asynchronous I/O:

Run `smitty chgaio` and set STATE to be configured at system restart from defined to available.

Press Enter.

Do one of the following:

Restart your system.

Run `smitty aio` and move the cursor to Configure defined Asynchronous I/O. Then press Enter.

#### 27. How can I NFS mount my local CD-ROM to my PDP system?

A: Following are the steps required to mount a CD-ROM as a `cdrom` filesystem, export the NFS filesystem from the server, and NFS mount the filesystem on the client. This assumes the server with the CD-ROM is an AIX system with 6.1 or above.

This also assumes that the PDP target system can reach the server with the CD-ROM on the network, for some this would be via the VPN-VPN connection or the server must be reachable from the Public Internet.

##### Using Smitty:

On the server where the CD-ROM will be physically mounted:

Check the status of `portmap` and the NFS daemons:

Enter `lssrc -s portmap`.

Enter `lssrc -g nfs`.

If they are not active, start them by running `startsrc -s portmap` and then `startsrc -g fs`.

Mount the CD-ROM:

Enter `mkdir /cdrom` to create a mount point, if one does not already exist.

Load the CD into the CD-ROM drive.

Enter `smitty cdrfs`.

Select Add a CD-ROM File System.

Select your CD-ROM device from the F4 list.

Enter the mount point you just created for MOUNT POINT (/cdrom).

If you want the filesystem to mount on a reboot, change Mount AUTOMATICALLY at system restart to yes. Note: If you specify yes for Mount AUTOMATICALLY at system restart, you must have media in the CD-ROM drive when you reboot or the mount will fail.

Enter # mount /cdrom.

To add the filesystem for NFS exporting:

Enter smitty mknfsexp.

Enter the PATHNAME of the directory to export (for example, /cdrom).

Change the MODE of export directory to read-only.

Enter the HOSTS & NETGROUPS allowed client access (the IP address of the PDP target system).

Enter HOSTS allowed root access (the IP address of the PDP target system).

Press Enter to export the filesystem.

Note: If you are going to be installing on the client machine, you must enter the client name for HOSTS allowed root access.

Verify that the filesystem is exported:

Enter showmount -e and find it in the list.

On the PDP Target System Client:

Check the status of portmap and the NFS daemons:

Enter lssrc -s portmap.

Enter lssrc -g nfs.

If they are not active, start them by running startsrc -s portmap and then startsrc -g nfs.

Verify that the server has the filesystem exported:

Enter showmount -e . Note: will be the hostname of the server above.

Create the directory you will be using to access the software.

Enter

# mkdir /cdrom.

To NFS mount the filesystem on the client:

Enter smitty mknfsmnt.

Enter the PATHNAME of the mount point (for example, /cdrom).

Enter the PATHNAME of the remote directory (for example, /cdrom).

Enter the HOST (server IP address from above) where the remote directory resides.

Note: HOST will be the hostname of the server.

Change the MODE for this NFS file system to read-only.

Press enter to NFS mount the filesystem.

To swap CD-ROM's:

:-# umount /mnt (to unmount the NFS filesystem)

:

: Change CD-ROM disk

:

:-# mount /cdrom /mnt

:

:-Repeat for each CD-ROM disk to installed

To save repeated swapping of disks, all of the CD-ROMS contents could be copied to a directory on the servers local disk and then doing step 3 on the server to nfs export that directory. Then mount that nfs exported directory on the PDP target system. The steps are the same except after you create the /cdrom mount point

Using commands from Command Line:

On the server with the CDRom drive

# mount /cdrom (assuming the cdrfs mount has been configured: see above notes)

```
# mknfsxp -d /cdrom -t ro -c -r -N
```

The next two steps must be done everytime a CD-ROM is swapped from the drive:

On the PDP target system

```
# mount ./cdrom /mnt
```

Perform the necessary task on CDROM

```
# umount /mnt (to unmount the NFS filesystem)
```

Change CD-ROM disk

Repeat

When finished On the server with the CDROM drive (apollo)

```
# rmnfsxp -d /cdrom -B
```

Troubleshooting:

Look for the following errors:

```
mount: 1831-011 access denied for ...
```

```
mount: 1831-008 giving up on ...
```

If they occur, try the following suggestions:

Make sure that the client's hostname and IP address are resolvable by the server. Also, make sure that the server's hostname and IP address are resolvable by the client. You can do so by running the following:

On the server:

```
host host
```

The output of these lines has to match exactly.

On the client:

```
host host
```

The output of these lines has to match EXACTLY.

On the client, enter netstat -in. If there is more than one network interface, make sure all IP addresses of the client are resolvable by the server. You can do this by running (on the server): host

Execute this command for each IP address listed in the netstat -in output.

If you are still getting errors:

On the server, enter smitty rmnfsxp.

Enter the PATHNAME of the exported directory (for example, /cdrom).

Press Enter to remove the directory from the exports list.

Enter umount /cdrom.

Enter rmdir /cdrom.

Return to step 1 of the section "On the server". If you still cannot get the CD-ROM NFS mounted, contact your AIX support center for further assistance.

**28. How do I resolve the following error I get when running db2start? "exec(): 0509-036 cannot load program db2start because of the following errors: 0509-130 Symbol resolution failed for /usr/lib/threads/libc.a(aio.o)"**

A: The error you see was caused by AIX asynchronous I/O not being enabled. Please do the following:

1. smitty aio.

```
root@lpar7ml162f_pub[/] > smitty aio
```

2. Change / Show Characteristics of Asynchronous I/O.

```

Asynchronous I/O (Legacy)

Move cursor to desired item and press Enter.

Change / Show Characteristics of Asynchronous I/O
Remove Asynchronous I/O; Keep Definition
Configure Defined Asynchronous I/O
Generate Error Report
Trace Asynchronous I/O

```

3. Set "STATE to be configured at system restart" to "available".

```

Change / Show Characteristics of Asynchronous I/O

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                [Entry Fields]
MINIMUM number of servers          [1] #
MAXIMUM number of servers per cpu  [10] #
Maximum number of REQUESTS         [4096] #
Server PRIORITY                    [39] #
STATE to be configured at system restart available +
State of fast path                  enable +

```

4. Apply the changes, reboot the AIX box.

```

root@lpar7ml162f_pub[ / ] > shutdown -r

```

29. How can I tell if the pSeries hardware supports the 64 bit kernel? How do I tell which version of the kernel I am running?

A: bootinfo -y -- 64 -- The hardware supports 64 bit kernel.  
bootinfo -K --> 32 - The AIX kernel is 32 bit.  
bootinfo -K --> 32 - 64 The AIX kernel is 64 bit.

30. How can I change between the 32-bit kernel and 64-bit kernel on my AIX machine?

A: By default, AIX is set to a 32-bit kernel. To switch between a 32-bit mode and 64-bit mode, type these commands at the command line:

```

# ln -sf /usr/lib/boot/unix_64 /unix
# ln -sf /usr/lib/boot/unix_64 /usr/lib/ boot/unix
# bosboot -ad /dev/ipldevice
# shutdown -Fr
# bootinfo -K should now show 64
# ln -sf /usr/lib/boot/unix_mp /unix
# ln -sf /usr/lib/boot/unix_x_mp /usr/lib/boot/unix
# bosboot -ad /dev/ipldevice
You now need to reboot your machine:
# shutdown -Fr
# bootinfo -K should now show 32

```

31. What command can I use to increase or decrease the amount of paging space provided to the AIX Operating System? Can I do this dynamically?

A: You can increase and decrease paging space dynamically in AIX 6.1 and further release. The command is “chps - d” to decrease the amount of paging space. Use “chps -s” to increase the amount of paging space.

i.e # chps -s 2 hd6

### 32. /var filesystem is full due to a very large file in /var/spool/mail/\*. Can I delete it?

A: Files in /var/spool/mail are flat text files that serve as the user’s mailbox. You can just move them out of the way or zero them out, if not needed.

### 33. A fileset needs to be installed from a command line. How do I do this?

A: When installing from local directory, execute:

```
installp -acgNX
```

### 34. All of the filesets in a directory are not showing up when I try to install them via smit, how do I fix this?

A: In the directory that contains the filesets issue the command:  
inutoc. (The dot refers to the current directory.)

### 35. How do I remove a cron job?

A: Log in as the user running the cron job and run crontab -e. This screen will look like a page opened using the vi editor. Remove or comment out the job you do not want to run and save your changes.

### 36. How can I tell if I have a JFS2 (enhanced journal file system)?

A: Run one of the following commands:

```
# lsfs (or) # mount
```

```
root@lpar7ml162f_pub[/] > mount
node          mounted      mounted over  vfs      date      options
-----
/dev/hd4      /            /              jfs      Aug 20 08:22 rw,log=/dev/hd8
/dev/hd2      /usr         /              jfs      Aug 20 08:22 rw,log=/dev/hd8
/dev/hd9var   /var         /              jfs      Aug 20 08:22 rw,log=/dev/hd8
/dev/hd3      /tmp         /              jfs      Aug 20 08:22 rw,log=/dev/hd8
/dev/hd1      /home        /              jfs      Aug 20 08:22 rw,log=/dev/hd8
/proc         /proc        /              procfs   Aug 20 08:22 rw
/dev/hd10opt  /opt         /              jfs      Aug 20 08:22 rw,log=/dev/hd8
192.168.1.12 /stage/middlew /stage/middlew nfs3     Aug 20 08:22 ro,bg,soft,
intr,sec=sys
192.168.1.12 /userdata/20005094 /home/u0005094 nfs3     Aug 20 08:22 bg,hard,int
r,rw
root@lpar7ml162f_pub[/] >
```

### 37. How can I verify how much real memory is on the system?

A: Use the bootinfo command, which displays the system’s physical memory in kilobytes. Enter:  
bootinfo -r

```
root@lpar7ml162f_pub[/] > bootinfo -r
2097152
root@lpar7ml162f_pub[/] >
```

### 38. How can you determine which process is using up the most CPU time?

A: You can check the CPU time by piping the ps output through the sort command.

For example: `ps -ef | sort -n +3`

```
root@lpar7ml162f_pub[/] > ps -ef | sort -n +3
  UID   PID   PPID  C   STIME   TTY   TIME CMD
  root     1     0   0   Aug 20   -   0:00 /etc/init
  root  4382     1   0   Aug 20   -   0:00 /usr/sbin/uprntfd
  root  4776 13466   0   Aug 20   -   0:00 /usr/sbin/rpc.lockd -d 0
  root  5050     1   0   Aug 20   -   0:00 /usr/ccs/bin/shlap
  root  6630 13466   0   Aug 20   -   0:02 /usr/sbin/rsct/bin/IBM.CSMAgentRM
  root  7258     1   0   Aug 20   -   0:00 /usr/sbin/cron
  root  7806 17174   0 09:12:52 pts/0 0:00 ps -ef
  root  8012     1   0   Aug 20   -   0:00 /usr/lib/errdemon
  root  8536     1   0   Aug 20   -   0:27 /usr/sbin/syncd 60
  root  9164 13466   0   Aug 20   -   0:15 /usr/sbin/rsct/bin/rmcd -a IBM.LP
  root  9376 13466   0   Aug 20   -   0:00 /usr/sbin/qdaemon
  root 10180     1   0   Aug 20   -   0:38 /usr/sbin/getty /dev/console
  root 12442 13466   0   Aug 20   -   0:00 /usr/sbin/biod 6
  root 12660 13466   0   Aug 20   -   0:00 /usr/sbin/aixmibd
  root 12964 13466   0   Aug 20   -   0:00 /usr/sbin/portmap
  root 13244 13466   0   Aug 20   -   0:00 /usr/sbin/writesrv
  root 13466     1   0   Aug 20   -   0:00 /usr/sbin/srcmstr
  root 13688 13466   0   Aug 20   -   0:00 /usr/sbin/inetd
  root 13946 13466   0   Aug 20   -   0:00 /usr/sbin/syslogd
  root 14222 13466   0   Aug 20   -   0:00 /usr/sbin/muxatmd
  root 14504 13466   0   Aug 20   -   0:01 /usr/sbin/sshd -D
  root 15036 13466   0   Aug 20   -   0:00 /usr/sbin/hostmibd
```

### 39. How do I get NFS-mounting with AIX to work?

A: Linux, by default, requires any NFS mount to use a reserved port below 1024. AIX, by default, uses ports above 1024. Use the following command to restrict AIX to the reserved port range:

```
# /usr/sbin/nfso -o nfs_use_reserved_ports=1
```

For more information on this topic, refer to the [AIX Enterprise Edition System Administration Guide](#)

```
root@lpar7ml162f_pub[/] > /usr/sbin/nfso -o nfs_use_reserved_ports=1
Setting nfs_use_reserved_ports to 1
root@lpar7ml162f_pub[/] >
```

### 40. How do I increase the factor size for a Volume group?

A: AIX V4 and later versions relaxed the limitation of 1016 physical partitions per physical volume, by introducing the concept of a volume group factor. When creating a volume group, you can specify your own PP/PV limitation, in multiples of 1016 (that is, 1016, 2032, 3048, etc). This is done via the `-t` flag on `mkvg`.

For example, the following command will create a volume group that will allow up to 2032 PPs/PV with the default PP size of 4MB at AIX V4. In AIX V5, `mkvg` automatically determines the PP size if one is not specified.

```
mkvg -y VGname -t 2 hdisk1
```

The disadvantage is that increasing the number of PPs allowed per disk will limit the number of disks allowed in the volume group. If the 1016 PP/PV limit is maintained, you can add up to 32 physical volumes in a standard volume group or up to 128, if it is a “BIG” volume group.

The `chvg` command also has a `-t` flag to allow you to change the max PPs/PV limit on an existing volume group, so that a larger drive could be added at that point.

Example:

chvg -t 2 VGname

Only volume groups that have been created with a factor size other than 1, or that have been to a new factor size, can exceed the 1016 PP/PV limit.

Any volume group created outside the default factor size or changed to a different factor cannot be used on systems prior to AIX 4.3.1, even if the factor size is later changed back to 1. An example of the error received when accessing the volume group will look like the following:

0516-002 lqueryvg: The volume group version is incompatible with this level of the operating system and cannot be activated.

Note: These options are only available from the command line, not from SMIT.

#### 41. How do you change the system time?

A: Enter: Smitty

Select System Environments.

```
System Management
Move cursor to desired item and press Enter.

Software Installation and Maintenance
Software License Management
Devices
System Storage Management (Physical & Logical Storage)
Security & Users
Communications Applications and Services
Print Spooling
Advanced Accounting
Problem Determination
Performance & Resource Scheduling
System Environments
Processes & Subsystems
Applications
Installation Assistant
Cluster Systems Management
Using SMIT (information only)

F1=Help          F2=Refresh      F3=Cancel      F8=Image
F9=Shell         F10=Exit       Enter=Do
```

Select Change/Show Date, Time, and Time Zone.

```

System Environments

Move cursor to desired item and press Enter.

Stop the System
Assign the Console
Change / Show Date and Time
Manage Language Environment
Change / Show Characteristics of Operating System
Change / Show Number of Licensed Users
Broadcast Message to all Users
Manage System Logs
Change / Show Characteristics of System Dump
Change/Show Documentation Services
Web-based System Manager
Change System User Interface
Enable 64-bit Application Environment
Manage Remote Reboot Facility
Manage System Hang Detection

F1=Help          F2=Refresh       F3=Cancel        F8=Image
F9=Shell         F10=Exit         Enter=Do

```

Select Change/Show Date and Time.

```

Change / Show Date and Time

Move cursor to desired item and press Enter.

Change / Show Date & Time
Change Time Zone Using System Defined Values
Change Time Zone Using User Inputted Values

```

Change your values accordingly and hit Enter to commit your changes.

```

Change / Show Day and Time

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[Entry Fields]
YEAR (00-99)      [08] #
MONTH (01-12)    [08] #
DAY (1-31)       [21] #
HOUR (00-23)     [09] #
MINUTES (00-59) [26] #
SECONDS (00-59) [08] #

F1=Help          F2=Refresh       F3=Cancel        F4=List
F5=Reset         F6=Command       F7=Edit          F8=Image
F9=Shell         F10=Exit         Enter=Do

```

42. How do you check the maximum number of processes per user?

A: Use the lsattr command. Enter: lsattr -El sys0

keylock	normal	State of system keylock at boot time	False
log_pg_dealloc	true	Log predictive memory page deallocation events	True
max_capacity	0.25	Maximum potential processor capacity	False
max_logname	9	Maximum login name length at boot time	True
maxbuf	20	Maximum number of pages in block I/O BUFFER CACHE	True
maxmbuf	0	Maximum Kbytes of real memory allowed for Mbufs	True
maxpout	0	HIGH water mark for pending write I/Os per file	True
maxuproc	128	Maximum number of PROCESSES allowed per user	True
min_capacity	0.25	Minimum potential processor capacity	False
minpout	0	LOW water mark for pending write I/Os per file	True
modelname	IBM,9117-570	Machine name	False
ncargs	6	ARG/ENV list size in 4K byte blocks	True
nfs4_acl_compat	secure	NFS4 ACL Compatibility Mode	True
pre430core	false	Use pre-430 style CORE dump	True
pre520tune	disable	Pre-520 tuning compatibility mode	True
realmem	2007152	Amount of usable physical memory in Kbytes	False

43. I installed a rpm package, and files were successfully installed, but rpm -qa did not list the package. How do I solve this issue?

A: If you know that the package is installed, you can run:

```
# rpm -U—justdb
```

This will only update the rpm database and not install any new files. You can then verify the database was updated.

```
# rpm -qa
```

(Check to see if the package is now listed.)

Also check for package integrity.

```
# rpm -V
```

44. What do I do with defunct processes?

A: Defunct processes, also called zombies, can accumulate in your process table when an application forks several child processes and does not exit. If this becomes a problem, the simplest solution is to modify the application so its sigaction subroutine ignores the SIGCHLD signal. The child processes will then exit normally when they are finished and will not accumulate as defunct processes in your process table.

For more information, see the [sigaction subroutine description in AIX](#)

Reference: Base Operating System and Extensions, Volume 2.

45. What file shows executed cron jobs?

A: The file /var/adm/cron/log shows all executed cron jobs.

46. What is the maximum number of servers allowed for asynchronous I/O?

A: The maximum number of servers for asynchronous I/O is 1000.

47. Why am I seeing high CPU utilization for the KPROC process named wait?

A: The wait process runs when there are no processes available for execution, or when the CPU is waiting for I/Os to disk. If there are no I/Os pending to a local disk, all time charged to the wait process is classified as idle time.

On a uniprocessor system, the process ID for the single wait process is 516. On a SMP system, one wait process exists for each processor.

If the ps report shows a high aggregate time for this process, it simply means there were significant periods of time when no other process was ready to run on the CPU, or the system was spending time waiting for pending disk I/Os.

For more information on this topic, see the pSeries Information Center.

#### 48. Why am I unable to run the Visual Age compilers? Why can't I run xlc or xlc\_r7?

A: You need make sure your path is set to include /usr/vac/bin.

```
export PATH=$PATH:/usr/vac/bin
```

This should be in your profile in your home directory as well. When running "cc" it should invoke the c++ compiler. Also, gcc is installed as well. All of the compilers are lower case (i.e. xlc, xlc\_r7). You may also add /usr/vacpp/bin to your PATH to enable the use of the older style naming conventions (i.e. xlc, xlc\_r7).

## Linux FAQs:

### 1. How do I get NFS-mounting with Linux to work?

A: Linux, by default, requires any NFS mount to use a reserved port below 1024. AIX, by default, uses ports above 1024. Use the following command to restrict AIX to the reserved port range:

```
# /usr/sbin/nfsd -o nfs_use_reserved_ports=1
```

For more information on this topic, refer to the AIX 5L Version 5.2 System Management Guide: Communications and Networks, select Network File System and SMBFS, then select SMBFS.

```
root@lpar7ml162f_pub[ ] > /usr/sbin/nfsd -o nfs_use_reserved_ports=1
Setting nfs_use_reserved_ports to 1
root@lpar7ml162f_pub[ ] > █
```

### 2. Where can I get the latest AIX toolbox for Linux Applications?

A: Visit the AIX Toolbox for Linux Applications Web site.

<http://www-03.ibm.com/systems/p/os/aix/linux/toolbox/download.html>

### 3. How do I run Java Applets from within Mozilla browsers?

A: The following Web sites provide the download and documentation to install the Java plug-in for Linux browser:

<http://support.mozilla.org/en-US/kb/how-allow-java-trusted-sites>

<http://www.mozdev.org/faq.html#mozilla>

### 4. How many VNC session can i have on my RHEL reserved PDP system?

A. On a RHEL reserved PDP system you can have only 2 VNC sessions running, anything above two session IDs cannot be used to access the VNC server. You may have to kill the existing sessions completely and then start new sessions to access the VNC server.

### 5. Do I have only one home directory for all my reservations which are made on same OS? (Linux/Aix)

A: Yes, if all the reservations are made using same OS.

### 6. Is my NFS /home directory shared across all my reservations? Can I transfer files from one reservation to another using FTP or SCP? (Linux/Aix)

A: Yes, /home directory are shared for all your reservations if they are in Aix or Linux Environment, as reservations share files. You can also do FTP from one reservation to other provided FTP service is running on that PDP system.

```

root@172_29_139_69:~
[root@172_29_139_69 ~]# ftp 172.29.140.24
Connected to 172.29.140.24.
220 lpar7ml162f_pub FTP server (Version 4.2 Sat Jun 16 07:20:05 CDT 2007) ready.
502 authentication type cannot be set to GSSAPI
502 authentication type cannot be set to KERBEROS_V4
KERBEROS_V4 rejected as an authentication type
Name (172.29.140.24:root): u0005094
331 Password required for u0005094.
Password:
230-Last unsuccessful login: Wed Aug 20 08:26:41 CDT 2008 on ssh from 172.29.131.16
230-Last login: Wed Aug 20 08:26:45 CDT 2008 on ssh from 172.29.131.16
230 User u0005094 logged in.
Remote system type is UNIX.
Using binary mode to transfer files.
ftp> ls
227 Entering Passive Mode (172,29,140,24,128,69)
150 Opening data connection for /bin/ls.
total 541648
-rw----- 1 u0005094 20005094      338 Jun 12 10:04 .bash_history
-rw-r--r-- 1 u0005094 usr          24 Jun 10 14:21 .bash_logout
-rw-r--r-- 1 u0005094 usr         191 Jun 10 14:21 .bash_profile
-rw-r--r-- 1 u0005094 usr         124 Jun 10 14:21 .bashrc
-rw-r--r-- 1 u0005094 usr       5619 Jun 10 14:21 .canna
-rw-r--r-- 1 u0005094 usr        383 Jun 10 14:21 .emacs
-rw-r--r-- 1 u0005094 usr         120 Jun 10 14:21 .gtkrc
drwxr-sr-x 3 u0005094 usr         512 Jun 10 14:21 .kde
-rwx----- 1 u0005094 staff       357 Aug 18 00:36 .profile
-rw----- 1 u0005094 staff       882 Aug 20 08:58 .sh_history
drwx----- 2 u0005094 staff       512 Aug 18 01:39 .ssh
drwxr-sr-x 2 u0005094 usr         512 Jun 10 14:21 .xemacs
-rw-r--r-- 1 u0005094 usr         658 Jun 10 14:21 .zshrc
-rw-r--r-- 1 u0005094 20005094    304162 Jun 12 12:47 LotusInstall.log
-rw-r--r-- 1 u0005094 20005094    31009725 Jun 11 16:43 ShaareChuattor1.DAT
-rw-r--r-- 1 u0005094 20005094    10705410 Jun 11 15:58 VPNCLIENT_50020090.exe
-rw-r--r-- 1 u0005094 staff        7216 Aug 18 01:31 core
-rw-r--r-- 1 u0005094 20005094   235226942 Jun 12 09:54 khichdi.zip
drwxrwx--- 2 u0005094 usr         512 Oct 17 2007 lost+found
226 Transfer complete.
ftp>

```

7. What happens to all the files stored in my /home directory if there are no reservations made? (Linux/Aix)

A: You will have them on the NFS server for a period of 6 months from the completion date of the reservation.

8. Error "Could not chdir to home directory /home/u000XXXX: The file access permission does not allow the specified action." What is the resolution? (Linux)

A: Make sure the directory ownership is correct on the /home/u000XXXX as u000XXXX:bin If not, you can correct it by using the command `chown <u000XXXX:bin> </home/u000XXXX>`. You should be a root user while performing this command.

```

[root@172_29_139_69 proc]# ls -ltr /home
total 4
drwx----- 2 root users 512 Jun 21 10:43 u0005009
[root@172_29_139_69 proc]# chown u0005009:bin /home/u0005009
[root@172_29_139_69 proc]# ls -ltr /home
total 4
drwx----- 2 u0005009 bin 512 Jun 21 10:43 u0005009
[root@172_29_139_69 proc]#

```

9. Do I have access to IBM middleware and software? (Linux/Aix)

A: You can download for our PDP SAC or /stage/middleware database, please be informed that you need to have AIX or Linux reservations to access these databases. For additional information on how to connect to SAC you can go to our "How to" tab in PDP website.

```

root@lpar7ml162f_pub[/] > cd /stage/middleware
root@lpar7ml162f_pub[/stage/middleware] > ls -ltr
total 5011600
drwxrwx--- 2 root    staff    512 Feb 25 2004  lost+found
drwxrwx--- 5 root    staff    512 Dec 27 2005  CHIPHOPPER
drwxr-xr-x 7 root    system   512 Mar 16 2007  Tivoli
drwxr-xr-x 2 root    system   512 Aug 07 2007  temp
drwxr-xr-x 2 246    staff    44544 Sep 17 2007  RPMS.ppc
-rw-r----- 1 246    staff    2565756928 Sep 18 2007  RHEL4-U5-re20070421.0-p
pc-AS-DVD-ftp.iso
drwxrwxr-x 5 root    staff    512 Apr 01 10:13  i5OS
drwxrwx--- 27 root    staff    1024 Jun 04 15:25  AIX
drwxrwx--- 9 root    staff    1024 Jun 06 10:47  LINUX
root@lpar7ml162f_pub[/stage/middleware] >

```

10. In order to work in X11 mode, can we change the runlevel to 5 in Linux? Is this supported in PDP? (Linux)

A: Yes, but changing setting would be a tidies process instead we would recommend you to make a reservation with SLES which by default would be at runlevel 5.

11. Can I create other account with root access? Will there be only one root access per reservation? (Linux/Aix)

A: You can create a user with root permission. However, it is strictly not recommended on any UNIX environment as this leads to security problems.

12. What happens if I use shutdown command by mistake? Will that affect other NFS mounted directories? (Linux/Aix)

A: Shutdown command with out the option '-r' will not bring back the system, It is always recommended to use the option so that you can use your PDP system. No, it will not affect the other NFS mounted as they are predefined in the configuration file of the system.

```

root@lpar7ml162f_pub[/] > df -s
Filesystem      512-blocks    Free*  %Used    Iused  %Iused Mounted on
/dev/hd4        524288        412120  22%      3697   3% /
/dev/hd2        6815744       867400  88%      86052  11% /usr
/dev/hd9var     524288        484944  8%        604   1% /var
/dev/hd3        524288        490616  7%        118   1% /tmp
/dev/hd1        524288        507488  4%        31    1% /home
/proc           -              -        -          -     - /proc
/dev/hd10opt    524288        194504  63%      4346  7% /opt
192.168.1.12:/stage/middleware 197263360 35973208 82%      41009 2% /stage
/middleware
192.168.1.12:/userdata/20005094 20971520 20263504 4%        41    1% /home
/u0005094
root@lpar7ml162f_pub[/] > shutdown -r

```

13. Can I increase the file size of a Linux system?

A: Yes, you can always increase the file size of the Linux system with in the range that is been allocated to you at the time of reservation i.e 35GB is the max size limit.

```
[root@172_29_139_69 ~]# df -h /home
Filesystem      Size  Used Avail Use% Mounted on
/dev/sda3       18G   2.2G   15G   14% /
[root@172_29_139_69 ~]# df -h /home/u0005009
Filesystem      Size  Used Avail Use% Mounted on
192.168.1.12:/userdata/20005009
768M   38M   731M   5% /home/u0005009
[root@172_29_139_69 ~]#
```

14. Is there any firewall on my PDP system? If yes how can I disable that? (Linux)

A: Yes, by default the firewall is in enabled state. You can disable it by using the command “service iptables stop” or /etc/init.d/iptables stop.

```
[root@172_29_139_69 proc]# service iptables stop
Flushing firewall rules: [ OK ]
Setting chains to policy ACCEPT: filter [ OK ]
Unloading iptables modules: [ OK ]
[root@172_29_139_69 proc]# /etc/init.d/iptables start
Applying iptables firewall rules: [ OK ]
Loading additional iptables modules: ip_conntrack_netbios_n[ OK ]
[root@172_29_139_69 proc]#
```

15. How can I know the version on Linux system I am using? (Linux)

A: cat /etc/redhat-release or uname -a will display you the results.

```
[root@172_29_139_69 proc]# cat version
Linux version 2.6.18-92.el5 (brewbuilder@js20-bc1-11.build.redhat.com) (gcc vers
ion 4.1.2 20071124 (Red Hat 4.1.2-41)) #1 SMP Tue Apr 29 13:21:29 EDT 2008
[root@172_29_139_69 proc]# cat /etc/redhat-release
Red Hat Enterprise Linux Server release 5.2 (Tikanga)
[root@172_29_139_69 proc]# cat /proc/version
Linux version 2.6.18-92.el5 (brewbuilder@js20-bc1-11.build.redhat.com) (gcc vers
ion 4.1.2 20071124 (Red Hat 4.1.2-41)) #1 SMP Tue Apr 29 13:21:29 EDT 2008
[root@172_29_139_69 proc]# uname -a
Linux 172_29_139_69.dal-ebis.ihost.com 2.6.18-92.el5 #1 SMP Tue Apr 29 13:21:29
EDT 2008 ppc64 ppc64 ppc64 GNU/Linux
[root@172_29_139_69 proc]#
```

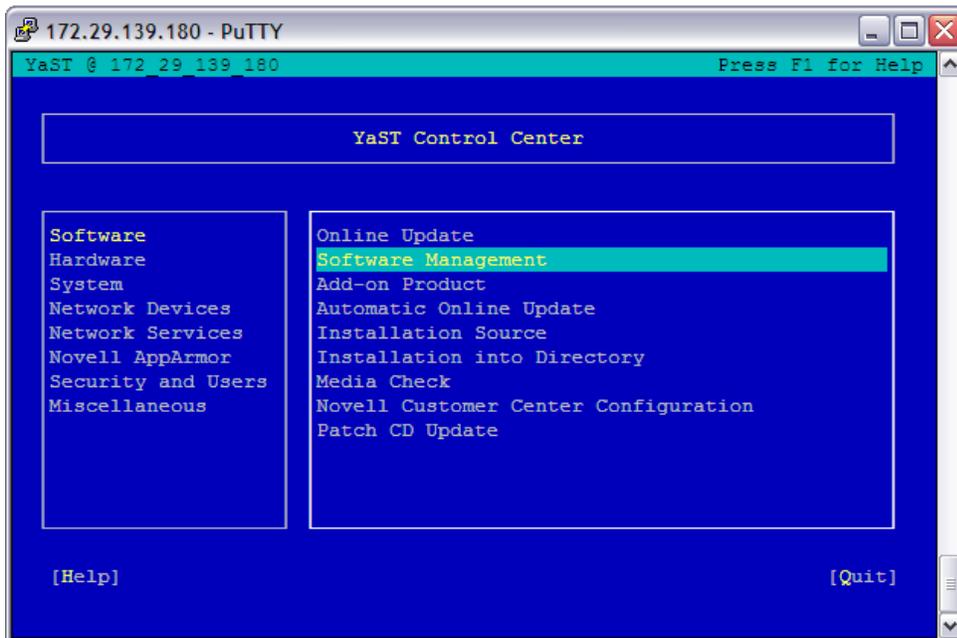
16. How can I install new software on my SLES PDP reserved system? (SLES)

We have a menu driven application tool in SUSE SLES by name ‘YaST or yast2’

1. In order to install or check the availability of the required software from SLES, first login as user and switch user to root and then run the command ‘yast2’

```
172_29_139_180:~ # yast2
```

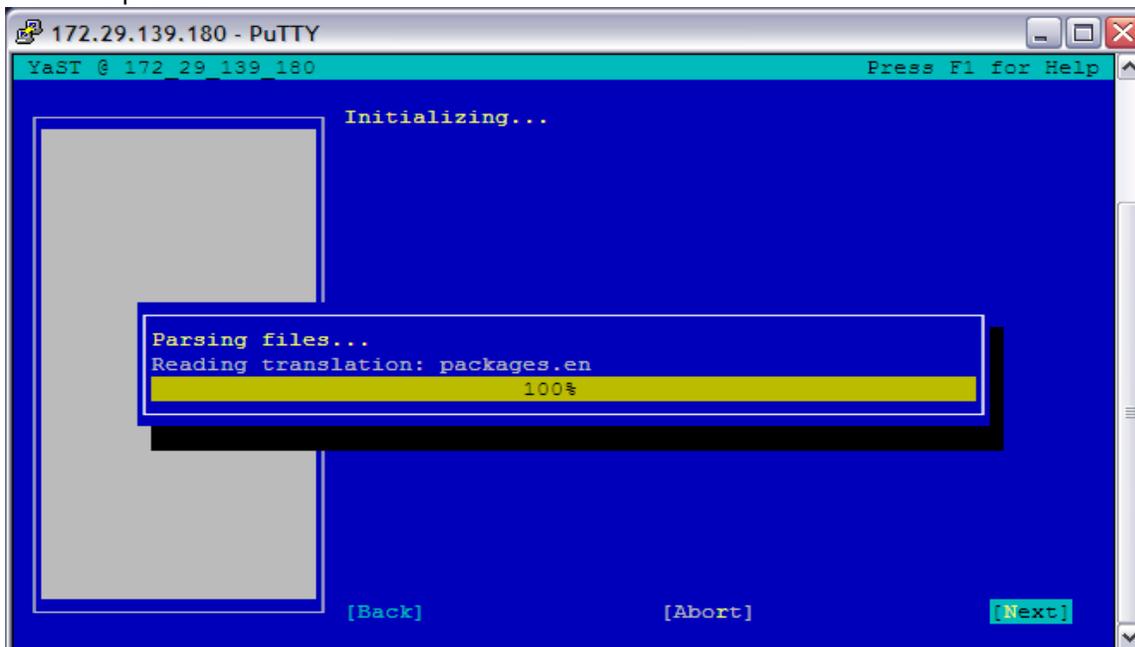
2. After you type the command press enter and you will be redirected to a blue menu driven screen call ‘YaST Control Center’.



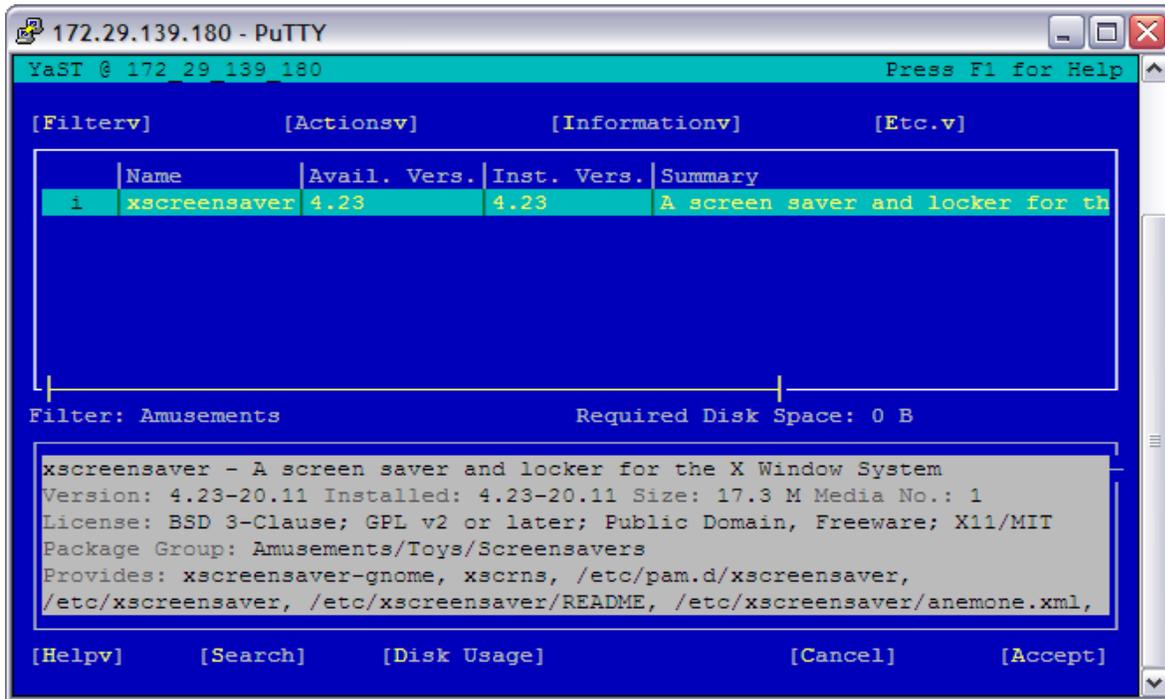
3. As shown in the above screen, by default software would be selected and to move to other section of the screen. Please press tab key on your keyboard.

4. Highlight the 'Software Management' option and click on enter.

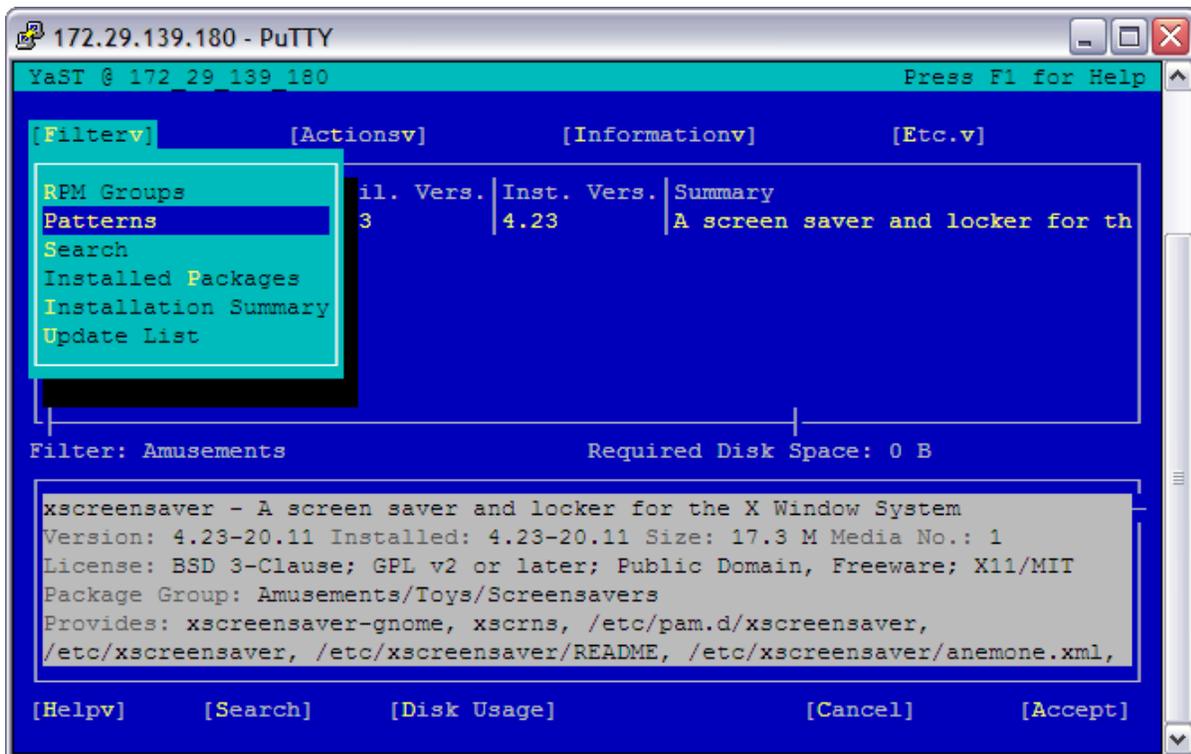
5. Once you hit enter, Initialization of package database would be made and access to that database would be provided.



6. After initialization, you will be able to view the following screen.



7. Products can be filtered by RPM, Patterns, Installed packages and you can also search the product.



8. Please go to Patterns and press enter, you will be able to view the package category listed.  
Note: The 'i' before the listed packages represents that particular package is installed.

```

172.29.139.180 - PuTTY
YaST @ 172_29_139_180 Press F1 for Help

Package Categories
-----
i  Server Base System
Common Code Base
i  Novell AppArmor
High Availability
i  64Bit Runtime Environment
i  Documentation
i  GNOME Desktop Environment for Server
KDE Desktop Environment for Server
i  X Window System
File Server
i  Print Server
Mail and News Server
Web and LAMP Server
Internet Gateway

[+] Select  [-] Delete  [>] Update
[OK]

[Etc.v]
-----
Inst. Vers.
2.0.13
0.9
3.4_SVNr142
10
2006.5.19
2.2.41
1.6.1

Space: 0 B

M Media No.: 1

openIPMIcmdlang.so.0,
IPMIposix.so.0,

[Cancel]  [Accept]

```

```

172.29.139.180 - PuTTY
YaST @ 172_29_139_180 Press F1 for Help

[Filterv]  [Actionsv]  [Informationv]  [Etc.v]

a+  Name  Toggle  [SPACE]  .  Inst. Vers.  Summary
a+  cim-schema  Select  [+]  .  .  Common Information M
a+  openwbem  Delete  [-]  .  .  Web Based Enterprise
a+  openwbem-ba  Update  [>]  .  .  Linux Instrumentatio
a+  openwbem-sm  Taboo Yes  [!]  .  .  A Novell instrumenta
a+  yast2-cim  Taboo No  [%]  .  .  YaST2 - CIM Bindings
All Listed Packages...

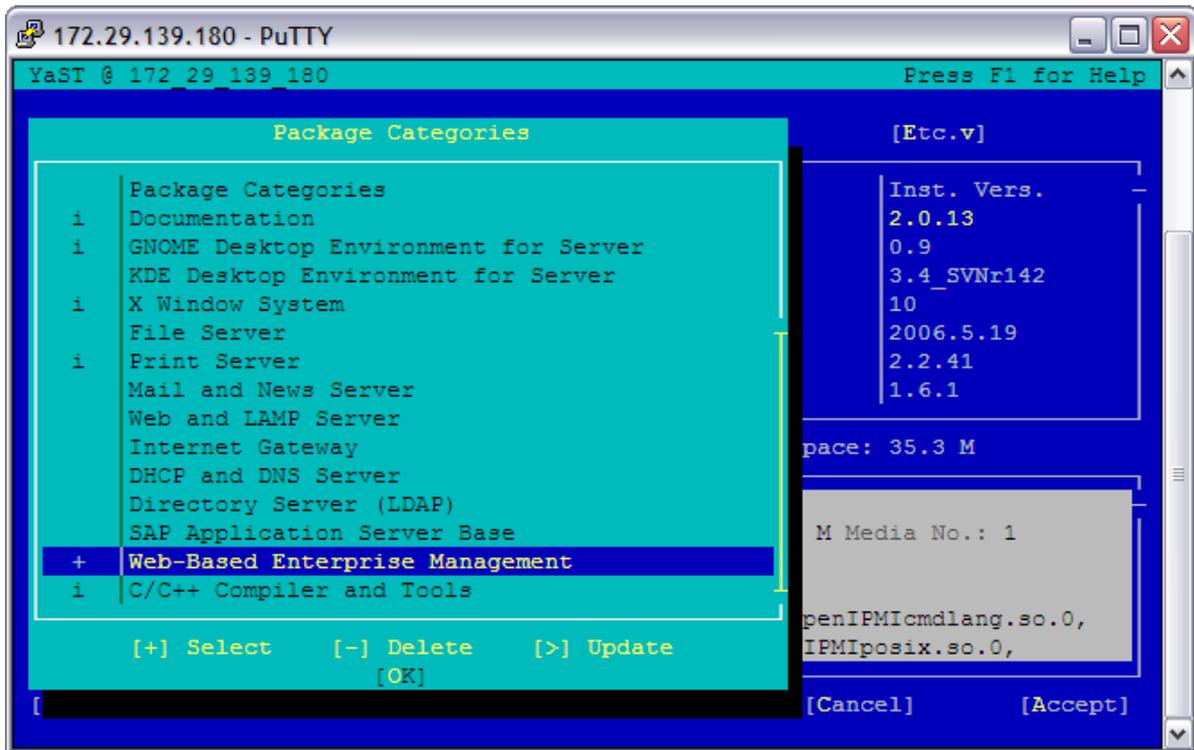
Filter: Web-Based Enterprise Management Required Disk Space: 35.3 M

cim-schema - Common Information Model (CIM) Schema
Version: 2.17-0.3 Size: 4.8 M Media No.: 1
License: Any permissive
Package Group: System/Management
Provides: cim-schema == 2.17-0.3, /usr/bin/rmmof.sh, /usr/bin/loadmof.sh
Authors:

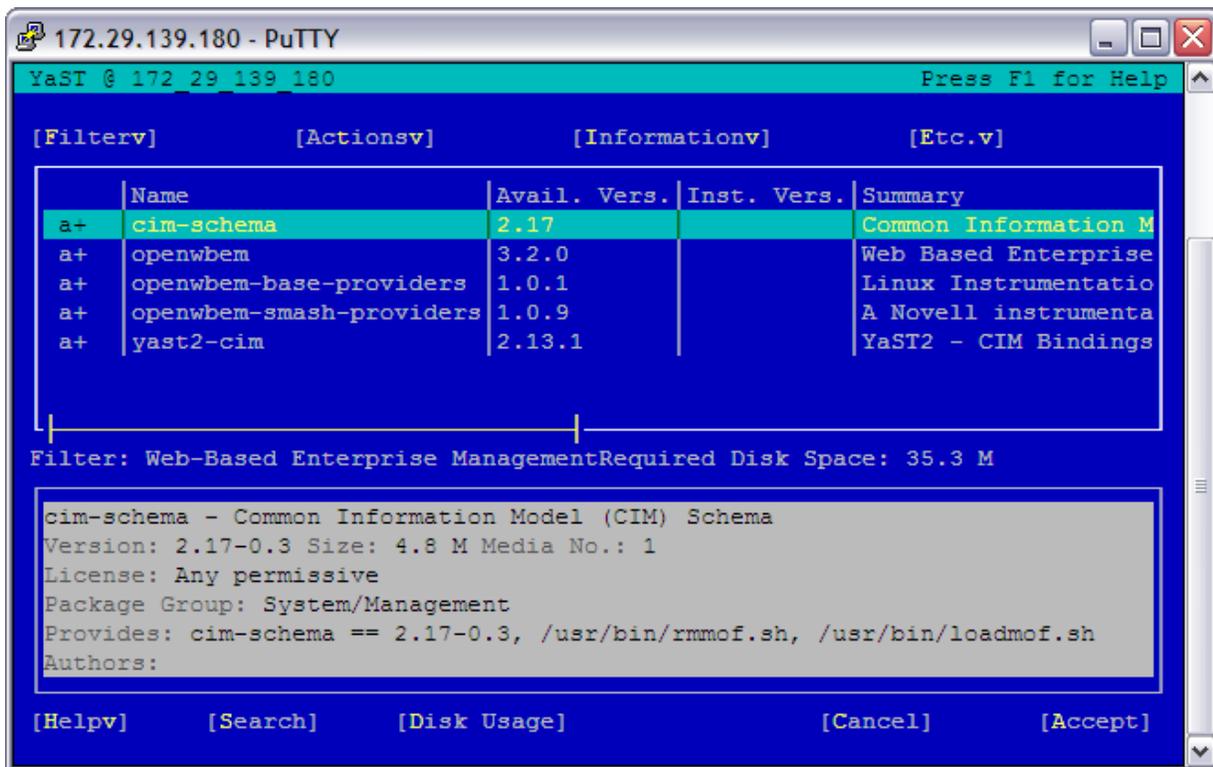
[Helpv]  [Search]  [Disk Usage]  [Cancel]  [Accept]

```

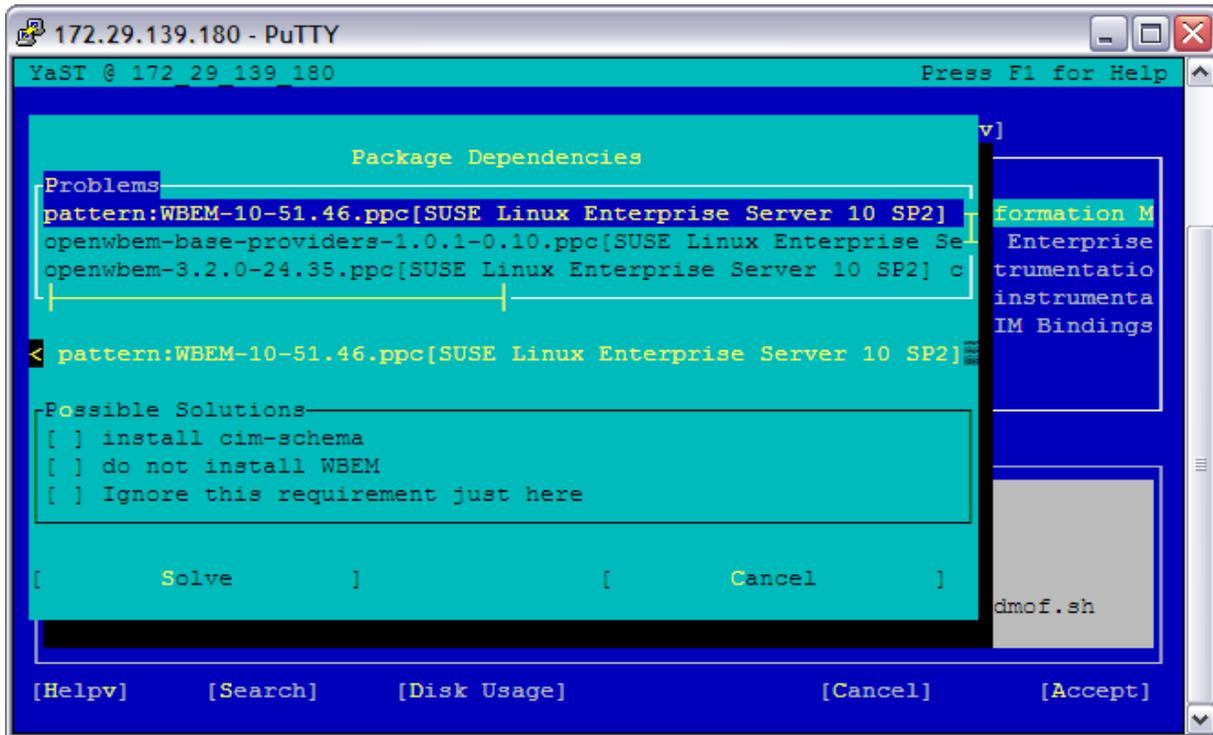
9. In order to select the package, press space bar and you should see '+' sign next to that particular package.



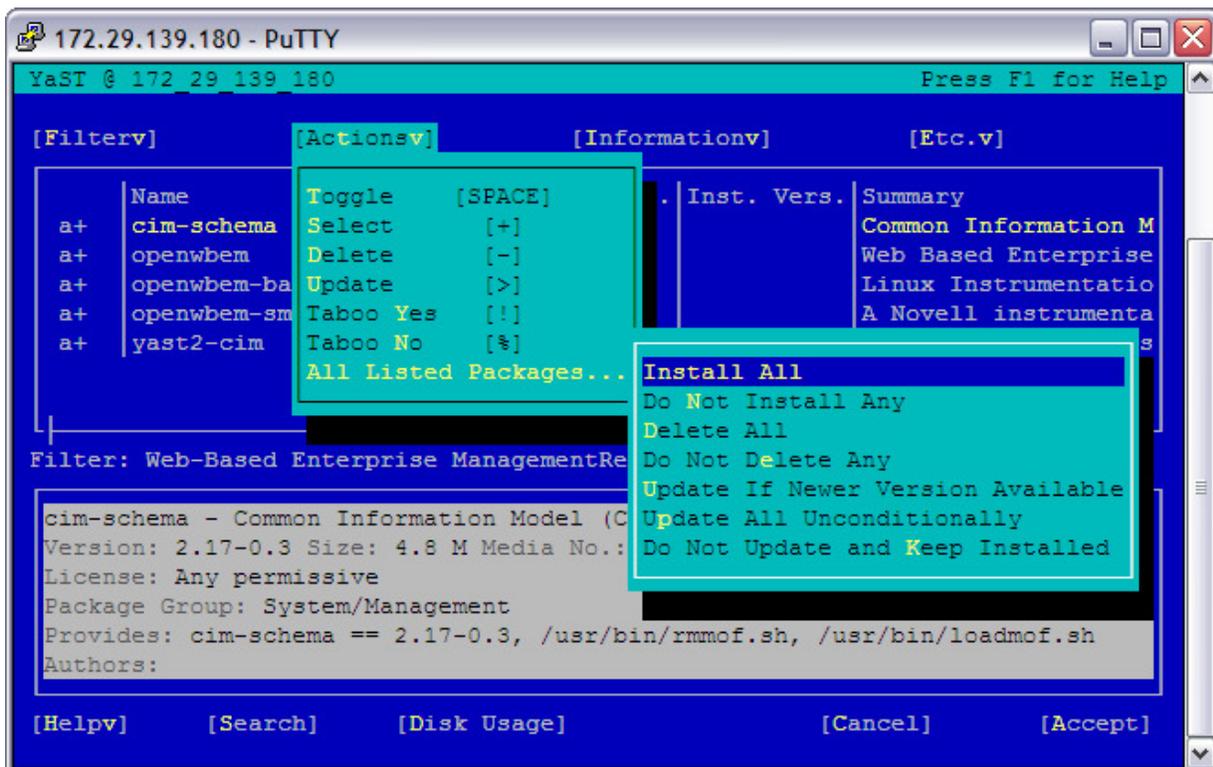
10. Once you have '+' sign press enter and you should be listed with all the required RPM's for that package. You can also select and un-select specific RPM's using (spacebar)



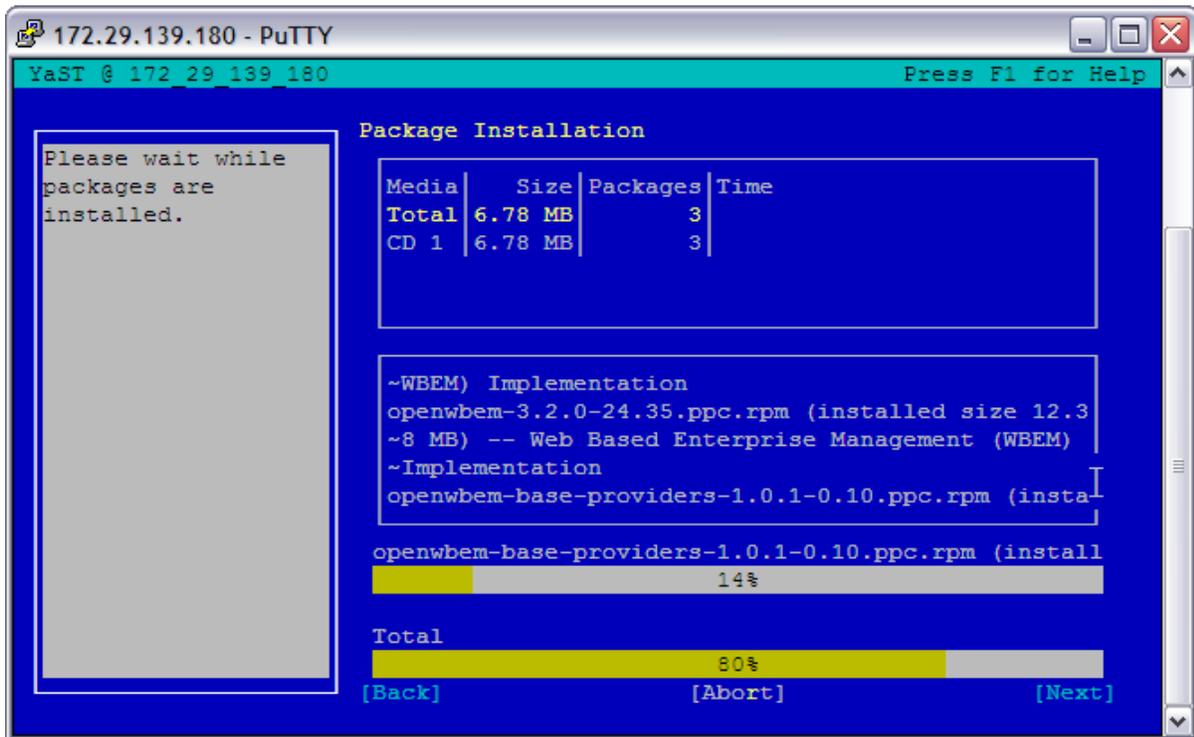
11. You have the option of selecting the package dependencies also.



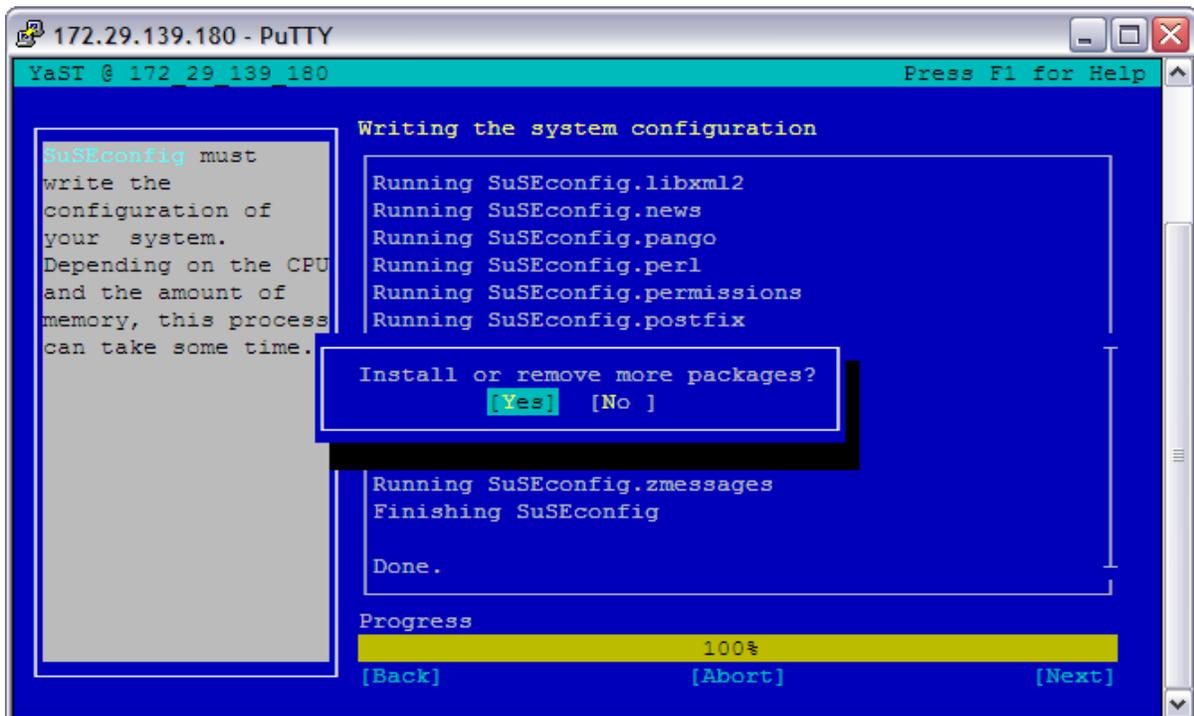
12. In order to install the RPM, Go to Actions> All Listed Packages> Install ALL and press Enter.



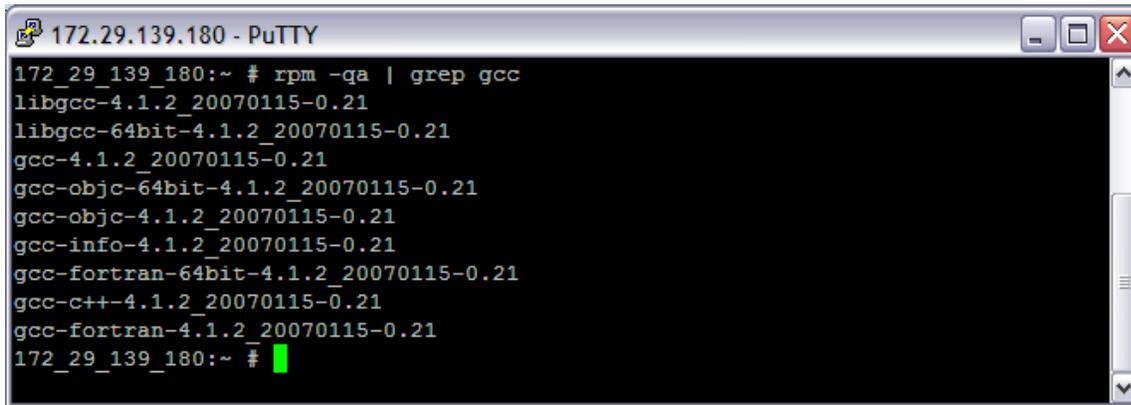
13. Now go to Accept option and press Enter.



14. All the packages would be gathered and would be installed on to your reserved PDP system and you will be prompted if you would like to install more packages.



15. In order to check the installed packages. Run the command 'rpm -qa | grep <rpm name>



```
172.29.139.180 - PuTTY
172_29_139_180:~ # rpm -qa | grep gcc
libgcc-4.1.2_20070115-0.21
libgcc-64bit-4.1.2_20070115-0.21
gcc-4.1.2_20070115-0.21
gcc-objc-64bit-4.1.2_20070115-0.21
gcc-objc-4.1.2_20070115-0.21
gcc-info-4.1.2_20070115-0.21
gcc-fortran-64bit-4.1.2_20070115-0.21
gcc-c++-4.1.2_20070115-0.21
gcc-fortran-4.1.2_20070115-0.21
172_29_139_180:~ #
```

Note: To navigate fast while using YaST, you can use the option of ALT+<(the letter which is yellow in color). Please ensure that you are accessing the system with your root id.

### 17. How do I access VNC server from SLES reserved PDP system?

A. VNC on SLES operating system works differently. The command vncserver will not work in SLES as it would work for AIX or RHEL Operating systems.

We request you to follow the below provided steps to access VNC server and download the software on to your reserved PDP system from our PDP-SAC.

1. You have to login as root and you have to switch to runlevel 5 using the command: init 5.
2. Once you have changed the runlevel. Then please try to connect to the VNC server at port 5901.
3. The logon display screen that you see will ask for your username and password. Please provide your u0002919 and respective password.
4. Port numbers 5801 and 5901 are open by default because these are the ports SLES uses for its VNC server.
5. SLES calls their usage of VNC "remote administration" which acts like a Windows Terminal Server.
6. Once you have the VNC screen try accessing PDP-SAC and download the software on to your reserved PDP system.

## IBM i (i5OS) FAQs:

### 1. Can I configure an independent auxiliary storage pool (IASP) on my reserved PDP system having IBM i as the operating system?

A: No. The Power Development Platform does not have the ability to configure or use independent auxiliary storage pools (IASP) on System i hardware.

### 2. How can I obtain the System i Navigator when using an IBM i system on the Power Development Platform?

A: The System i Navigator function is available to install from your i5OS system on the Power Development Platform.

1. Start a Virtual Private Network (VPN) Connection to access your i5 system.
2. Through a 5250 session to your i5OS system (Over the PDP-VPN CONNECTION), issue the command 'strtcpsvr \*netsvr'. This starts the i5 netserver function that provides the i5/OS support for mapping network drives. You can then sign off the 5250 session, but leave the terminal session active, for example, at the signon panel.  
This keeps the VPN session from timing out.

3. On your Windows system (Windows Explorer, Tools, Map Network Drive), map a network drive to [\\\(172..IP\)\QIBM](#), where (172..IP) is the 172 based IP address of your reserved i5/OS system.

4. Go to the mapped drive in Window Explorer and open the path  
x:\ProdData\Access\Windows\Install\Image

5. From this directory, execute the SETUP.EXE program. This will install the System i Access product, including the System i Navigator. The Setup program will do the install on your Windows system. You will need to respond to questions during the install. This can take several hours to install over the network so be patient.

### 3. How do I use DB2 Connect for Windows, to connect to my reserved PDP System having IBM i as operating system?

A. First of all, you will need to make sure that you are connected to the VPN gateway.

1. Now, log into your Reserved PDP Server with a TN5250 emulator. Type: go cmdrdm.
2. Select option 3 to display rdb directory entries.
3. Press enter to show all entries.
4. It should give you the Relation Database Name, write this name down since this is what you will be using to setup your DB2 Connection.
5. You can also change the name to an easier name if you like by removing the old connection and then creating a new connection.
6. Now, bring up DB2 connect, Start, Programs, IBM DB2, Set-up Tools, Configuration Assistant.
7. This brings up the Configuration Assistant, then goes to the menu bar and pick Selected, Add Database Using Wizard.
8. Select Manually configure a connection to a database; hit Next, Select TCP/IP, hit Next.
9. In the Host Name box, enter the IP address of your Reserved PDP Server (172.29.13x.xxx), in the Port Number box, enter 446,
10. Hit Next.
11. Type in the Database Name and alias, hit next.
12. Type the Database name (name you wrote down earlier) in the Data Source Name box, hit next.
13. Select the operating System of OS/400; put your Database name in the Remote instance name box, hit next.
14. You will now see a dialog box showing the system options, review this information and make sure the information is correct, hit next.
15. In the Specify the Security options page, select Server Authentication (SERVER), hit Finish.
16. Now the Test Connection dialog box show up, select the Standard and CLI checkboxes in the Connection type area.
17. Type in the User id and password provided by PDP. User id is QSECOFR, and the password can be found on the PDP Website.
18. Select Test connection. It should now show you "Standard connection tested successfully." You now can bring up the Command Line Processor.
  1. Go to Start, Programs, IBM DB2, Command Line Tools and Command Line Processor.
  2. You can then type, connect to (database name) user QSECOFR.
  3. It will prompt you for your password. Enter your password available on the PDP website.
  4. It will then connect you to the database on your Server.

### 4. How do I FTP large files (over 2GB) across VPN Client and prevent the VPN Client from timing out?

A. To prevent VPN from timing out:

- Start a 5250 terminal session from the system with VPN Client to the Server (loaner machine).
- Leave this connection running while transferring the large file.

## 5. How can I map a network drive from my Windows system to my reserved PDP system having IBM i as operating system?

A. To map a drive, you can use the Windows Explorer function on your Windows system. You do not need to install System i Navigator to map a drive that is already shared by the NetServer on the i5 system, for example, \QIBM. However, if you need to define additional folders on your i5 System as shared, you will need the navigator to add the share.

1. Start a VPN Connection to access your i5 system.
2. Through a 5250 session to your i5/OS system (Over the PDP-VPN CONNECTION), issue the command 'strtcpsvr \*netsvr'. This starts the i5 netserver function that provides the i5/OS support for mapping network drives. You can then terminate the 5250 session.
3. On your windows system (Windows Explorer, Tools, Map Network Drive), map a network drive to `\\(PDP System 172.. IP)\SharedDriveName`.

## 6. How do I install additional options of the products on the IBM i reserved PDP system?

A. To load additional options, the i5/OS standard stack media is located on an NFS server within the PDP infrastructure in /stage/middleware/i5OS.

The following procedure would help you in installing the required options.

```
ADDTCPHTE INTNETADR('192.168.1.12') HOSTNAME('p650')
MKDIR '/stage'
MKDIR '/stage/middleware' MOUNT TYPE(*NFS)
MFS('192.168.1.12:/stage/middleware') MNTOVRDIR('/stage/middleware')
DLTDEVD DEVD(VOPT01)
CRTDEVOPT DEVD(VOPT01) RSRNAME(*VRT)
VRYCFG CFGOBJ(VOPT01) CFGTYPE(*DEV) STATUS(*ON)
CRTIMGCLG IMGCLG(TEMP) DIR('/temp_isos') CRTDIR(*YES)
ADDIMGCLGE IMGCLG(TEMP)
FROMFILE('/stage/middleware/i5OS/V6R11/B2924_01.iso')
```

You can use GO LICPGM or RSTLICPGM command to install the required options.

Note: For additional information on the media labels, please visit the i5OS infocenter.

<http://publib.boulder.ibm.com/infocenter/systems/scope/i5os/index.jsp?topic=/rzahc/rzahcswsmedialabel.htm>

## 7. How to download a PTF from fix central to PDP System i partition?

The following steps need to be followed to download a PTF from fix central to an System i partition:

1) Open the fix central with the following link:

<http://www-933.ibm.com/eserver/support/fixes/>

2) In the Product Group caption, expand the list. You shall see a list of following products:

### Product Group

Select one

Select one

**Hardware**

- PureSystems
- System Networking
- System Storage
- Systems
- All Hardware

**IBM Operating Systems**

- AIX
- IBM i**

**Software**

- Algorithmics
- Clarity Systems
- Cluster software

3) From the above Product family select IBM i and click continue.

4) You will get the following page.

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### Identify fixes

Select the latest Cumulative PTF package, browse for group PTFs, or search for PTFs by ID or description.

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<input checked="" type="radio"/> <b>Cumulative and group PTFs</b>	Browse Cumulative and group PTFs for the selected IBM i release.
<input type="radio"/> <b>Individual fix IDs</b>	Search for PTFs by entering one or more PTF IDs each separated by a comma or whitespace. (e.g., SF99504, SI19202). PTFs can be from any release.
<input type="radio"/> <b>Text</b>	Search for PTFs by entering text from the PTF title or ID. PTFs from releases V5R3 and greater will be searched.

---

Select the version or search for individual fix or use PTF as shown in above screen.

5) Select a PTF from the list and click on Continue. If haven't signed in with your partnerworld id you will be prompted to sing on and you will see the following screen.

## Select download options

Provide a name to identify this order for viewing at a later time

Order name

Select the options for receiving your fixes.

To customize your order, you can connect to the system for which you are ordering fixes and validate your download list against the inventory of the system. PTFs already installed on the system or for products not supported on the system will be removed from your order.

 [Customize your order](#)

Download individual fixes directly to my system  
(requires Java enabled browser)

Download individual fixes to my PC for installation using Systems Director  
(requires Java enabled browser)

Download virtual images using Download Director  
(requires Java enabled browser)

 [What is this?](#)

Download virtual images using FTP

Email address

Directory name

Base file name

Order fixes on physical media (requires Software Maintenance Agreement)

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 Requisites are always included when ordering cumulative or group PTFs.

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**Continue**

**Back**

6) Click on Continue and after few minutes of processing you should see the order number and details.

7) You would receive an e-mail with the product you have ordered for along with the detailed instructions to download the PTF, as well as install it onto your partition. Follow the instructions in the e-mail would help you in installing the PTF on the reserved PDP system.

### **NOTE**

If you still need any further information or assistance on PDP, please be informed that you can always raise a PMR using our “**Support**” tab from our PDP web site. Please use the following link for PDP web site: [www.ibm.com/partnerworld/pdp](http://www.ibm.com/partnerworld/pdp)