



# Unit 4

## AIX software installation and maintenance



# Unit objectives

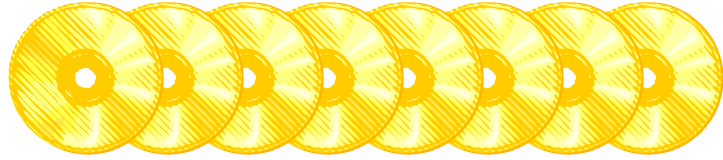
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After completing this unit, you should be able to:

- Define the package definitions and naming conventions
- Identify how software products and updates are installed and managed on the system

# AIX product offerings

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**AIX**



**LPPs**



**AIX documentation**



**Expansion Pack**



**Bonus Pack Web**

(not available in AIX 6.1)

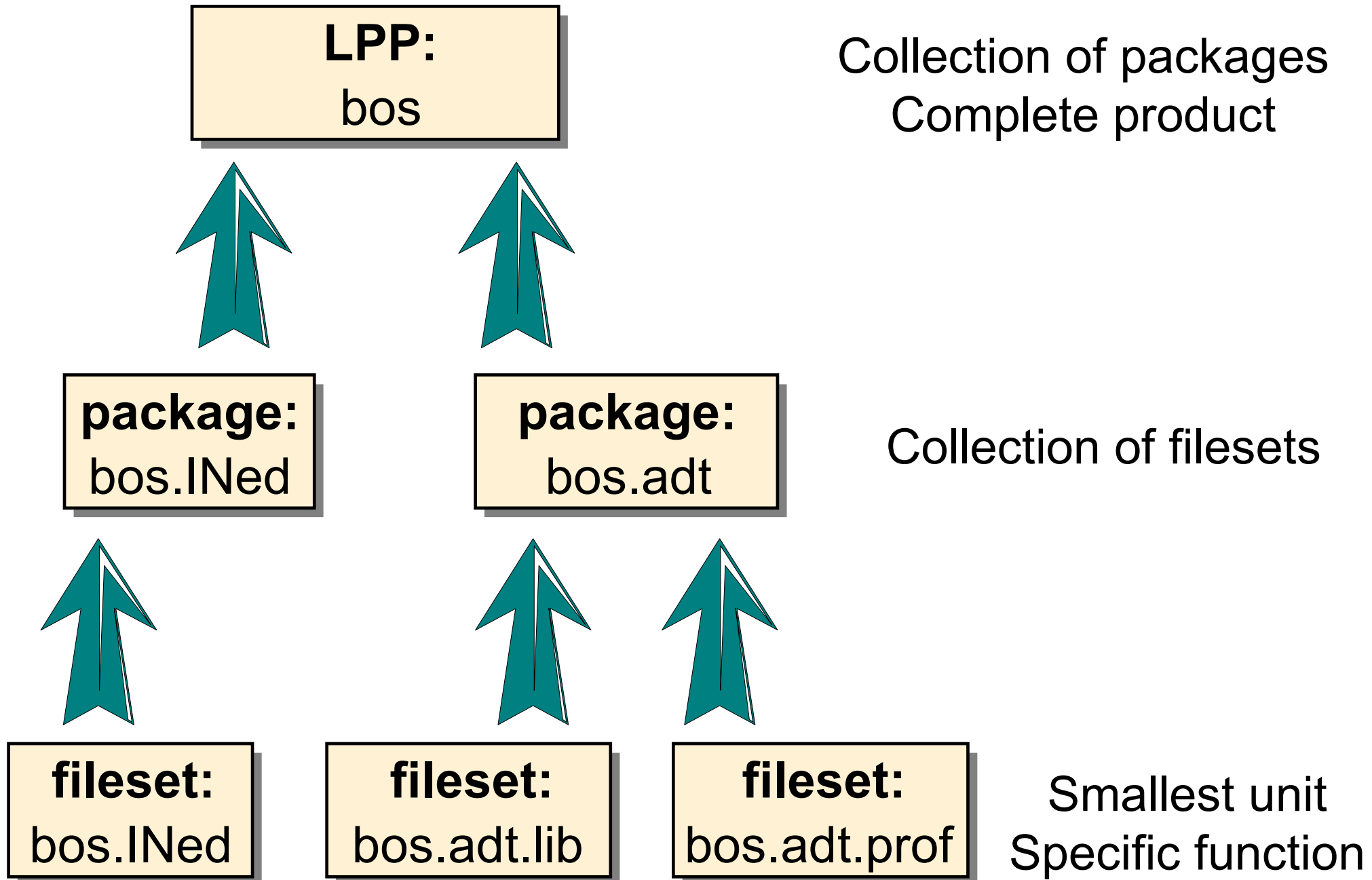


**AIX Toolbox for Linux**

(included in AIX 6.1 Expansion pack)

# Packaging definitions

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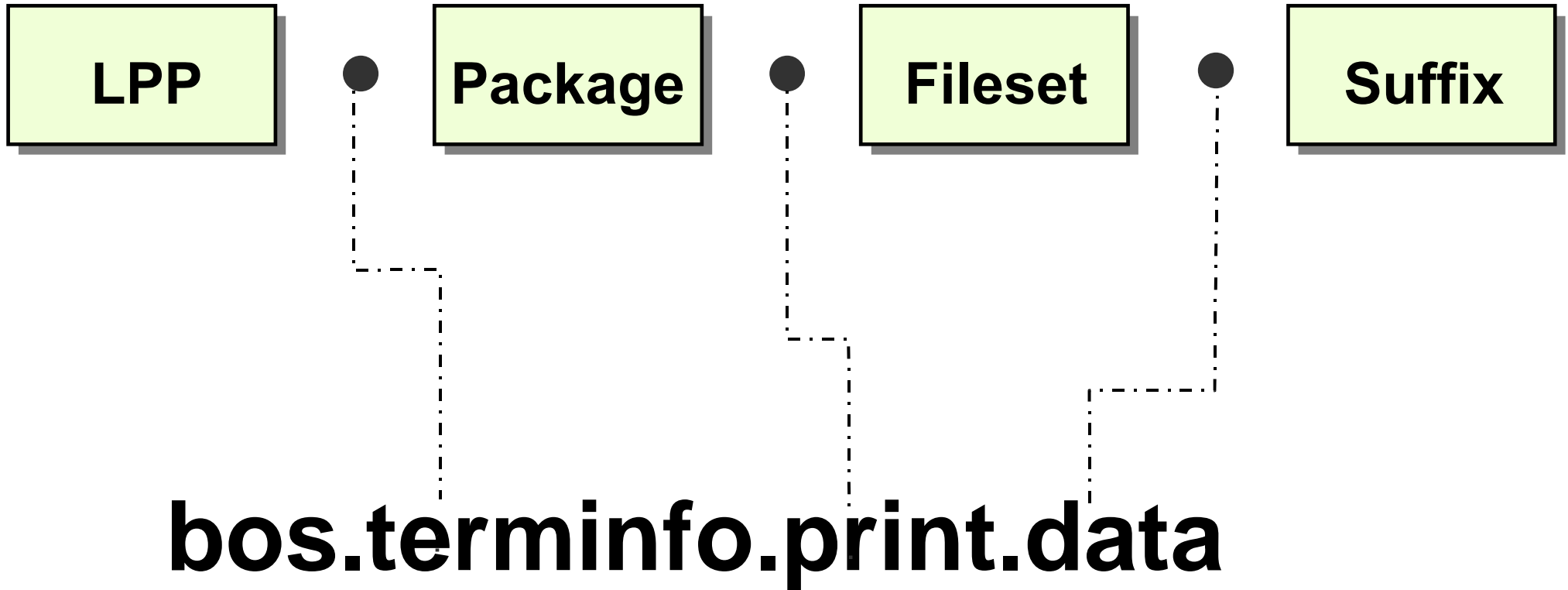
# Bundles

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- A *bundle* is a collection of packages and filesets suited for a particular environment
- Predefined system bundles in AIX include:
  - AllDevicesKernels
  - Alt\_Disk\_Install
  - App-Dev
  - CC\_Eval.Graphics
  - CDE
  - GNOME
  - Graphics
  - KDE
  - Kerberos\_5
  - Media-Defined
  - Mozilla
  - PerfTools
  - Server
  - cas\_client and cas\_server
  - Devices
  - Infocenter
  - openssh\_client and openssh\_server
  - wsm\_remote

# Fileset naming

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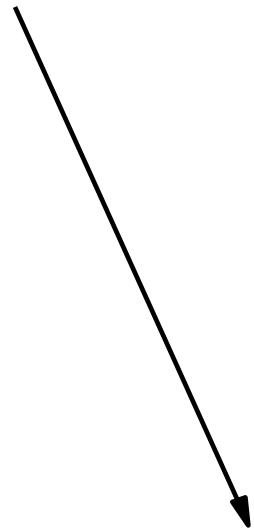
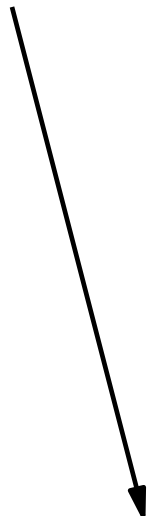
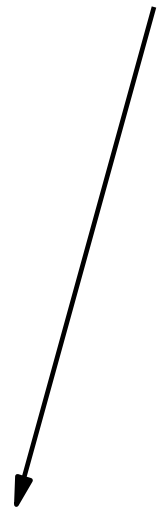
Message convention:

`LPP.msg[.lang].package.fileset`

# Software updates

# oslevel

6 . 1 . 0 . 0



Version

Release

Modification

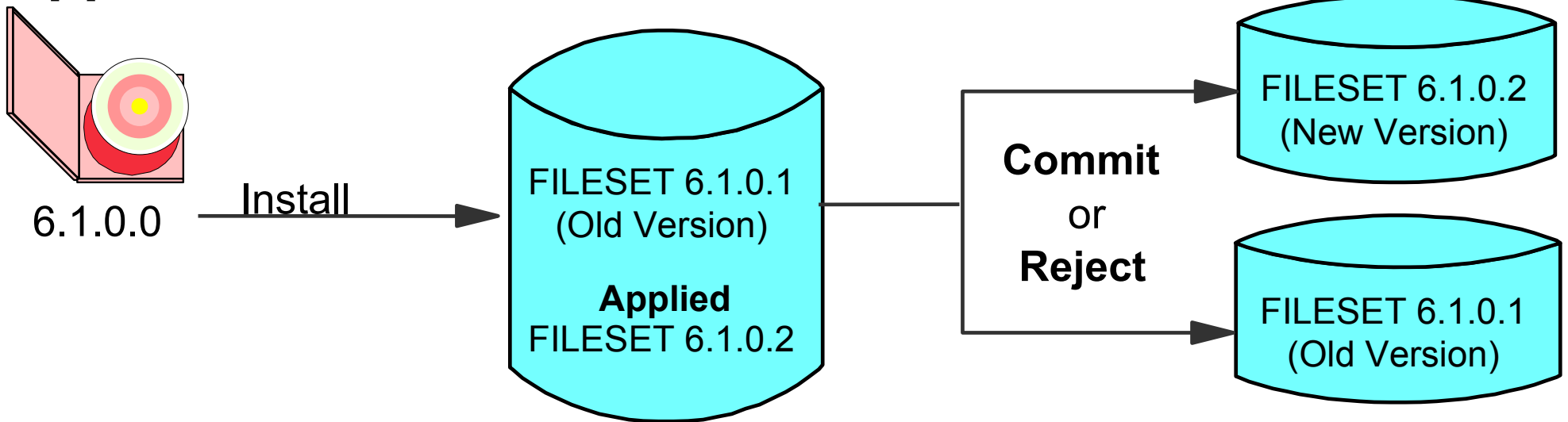
Fix

**MIGRATION**

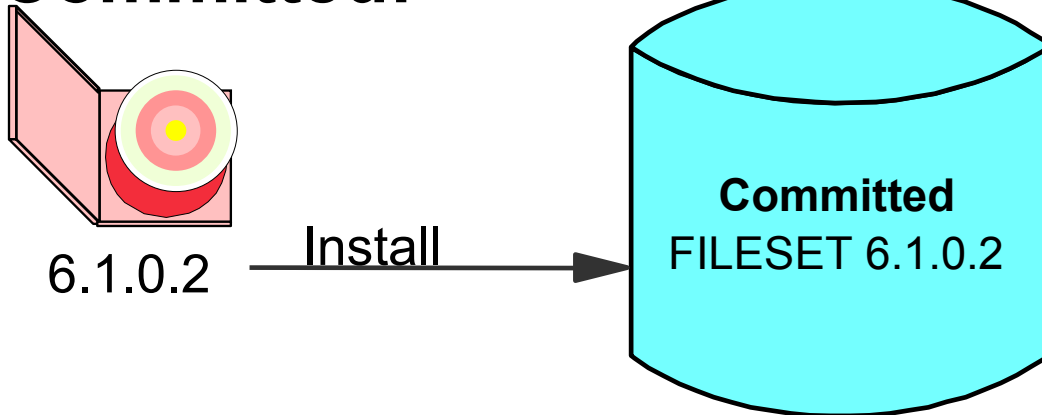
`smit update_all`

# Software states

## Applied:



## Committed:





# Software Installation and Maintenance

## Software Installation and Maintenance

Move cursor to desired item and press Enter.

Install and Update Software  
List Software and Related Information  
Software Maintenance and Utilities  
Software Service Management  
Relocatable Software Installation and Maintenance  
Network Installation Management  
EZ NIM (Easy NIM Tool)  
System Workload Partition Software Maintenance  
System Backup Manager  
Alternate Disk Installation  
EFIX Management  
Thin Server Maintenance

F1=Help

F2=Refresh

F3=Cancel

F8=Image

F9=Shell

F10=Exit

Enter=Do

# Install and Update Software

## Install and Update Software

Move cursor to desired item and press Enter.

Install Software

Update Installed Software to Latest Level (Update All)

Install Software Bundle

Update Software by Fix (APAR)

Install and Update from ALL Available Software

F1=Help

F9=Shell

F2=Refresh

F10=Exit

F3=Cancel

Enter=Do

F8=Image

# Install Software

## Install Software

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

	[Entry Fields]	
* INPUT device / directory for software	/dev/cd0	
* SOFTWARE to install	[_all_latest]	+
PREVIEW only? (install operation will NOT occur)	no	+
COMMIT software updates?	yes	+
SAVE replaced files?	no	+
AUTOMATICALLY install requisite software?	yes	+
EXTEND file systems if space needed?	yes	+
OVERWRITE same or newer versions?	no	+
VERIFY install and check file sizes?	no	+
Include corresponding LANGUAGE filesets?	yes	+
DETAILED output?	no	+
Process multiple volumes?	yes	+
ACCEPT new license agreements?	no	+
PREVIEW new LICENSE agreements?	no	+

F1=Help

F2=Refresh

F3=Cancel

F4=List

F5=Reset

F6=Command

F7=Edit

F8=Image

F9=Shell

F10=Exit

Enter=Do

# Software inventory

## # smit list\_installed

List Installed Software and Related Information

Move cursor to desired item and press Enter.

List Installed Software

List Installed Software by Bundle

List Applied but Not Committed Software Updates

Show Software Installation History

Show Fix (APAR) Installation Status

List Fileset Requisites

List Fileset Dependents

List Files Included in a Fileset

List Fileset Containing File

Show Installed License Agreements

F1=Help

F2=Refresh

F3=Cancel

F4=List

F5=Reset

F6=Command

F7=Edit

F8=Image

F9=Shell

F10=Exit

Enter=Do

**lslpp** command:

-L Lists the installed software

-h Shows the history of a software product

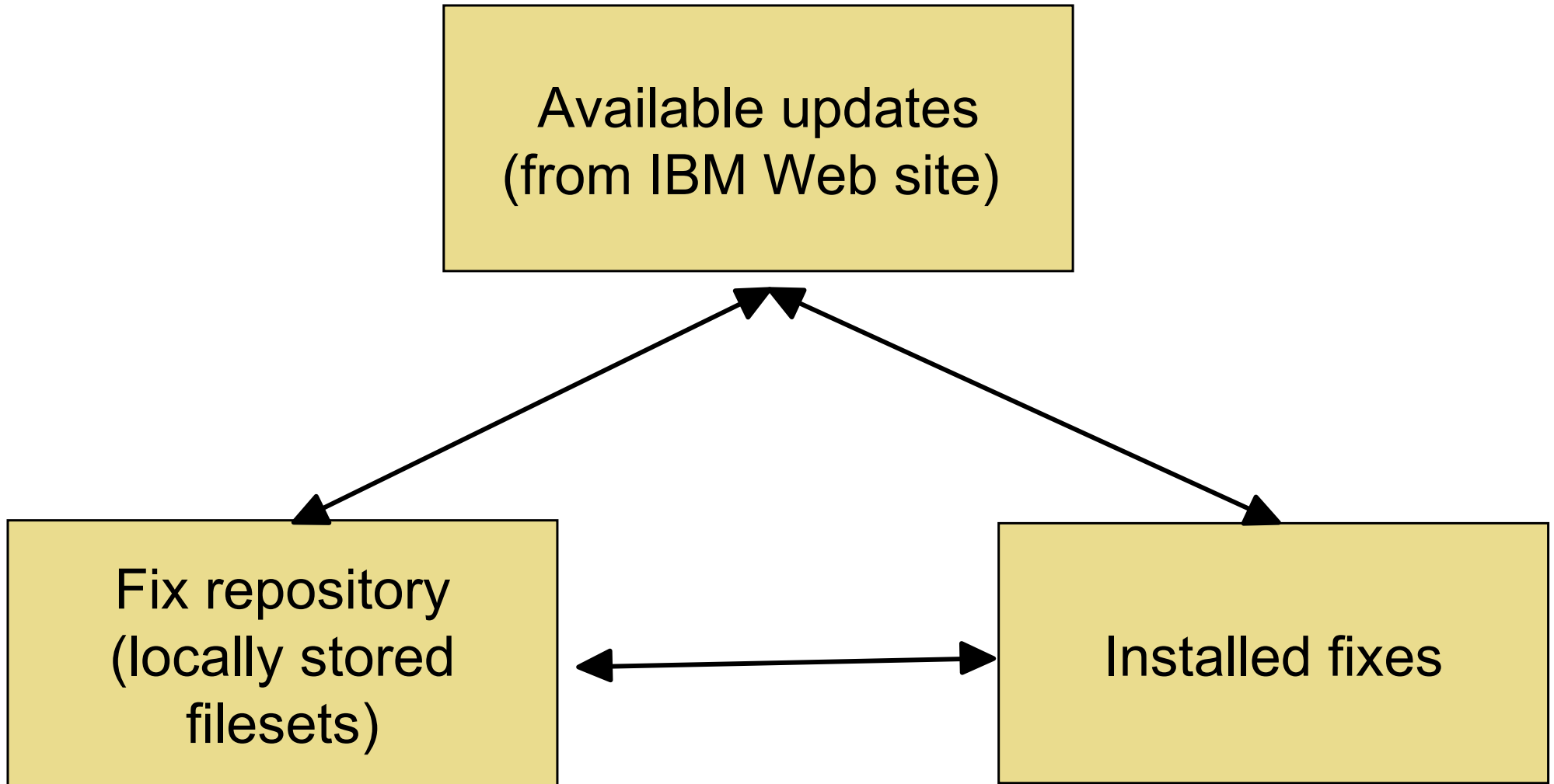
# List installed software

```
# lslpp -l "bos.*"
```

Fileset	Level	State	Description
-----			
Path: /usr/lib/objrepos			
bos.64bit	6.1.0.10	COMMITTED	Base Operating System 64 bit Runtime
bos.acct	6.1.0.10	COMMITTED	Accounting Services
bos.adt.base	6.1.0.10	COMMITTED	Base Application Development Toolkit
bos.adt.include	6.1.0.11	COMMITTED	Base Application Development Include Files
bos.adt.lib	6.1.0.10	COMMITTED	Base Application Development Libraries
bos.alt_disk_install.boot_images			
	6.1.0.10	COMMITTED	Alternate Disk Installation Disk Boot Images
bos.alt_disk_install.rte			
	6.1.0.10	COMMITTED	Alternate Disk Installation Runtime
bos.cdmount	6.1.0.0	COMMITTED	CD/DVD Automount Facility
bos.content_list	6.1.0.0	COMMITTED	AIX Release Content List
bos.diag.com	6.1.0.10	COMMITTED	Common Hardware Diagnostics
bos.diag.rte	6.1.0.10	COMMITTED	Hardware Diagnostics
bos.diag.util	6.1.0.10	COMMITTED	Hardware Diagnostics Utilities
... (rest of output omitted) ...			

# Fix repository

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# Fix Central Web site

The screenshot shows a Microsoft Internet Explorer browser window displaying the IBM Fix Central website. The browser's address bar shows the URL <http://www-912.ibm.com/eserver/support/fixes/fixcentral>. The website's navigation menu includes links for Home, Products, Services & industry solutions, Support & downloads, and My account. The main content area is titled "Fix Central" and provides a description: "Fix Central provides fixes and updates for your system's software, hardware, and operating system." Below this description are four dropdown menus for filtering search results: "Product family" (set to "System p"), "Product" (set to "AIX"), "Version" (set to "6.1"), and "Fix type" (set to "Fix packs"). A "Continue" button is located at the bottom of the filter section. On the right side of the page, there are two promotional boxes: "Best practice" with the text "Administrative guidance for servers." and "Subscribe to" with the text "Sign up for notification of PEs, security advisories, fixes." The browser's toolbar includes standard navigation buttons (Back, Forward, Stop, Refresh, Home), a search field, and various utility icons like SnagIt and Bluetooth.

# More fix services screen (from Fix Central)

IBM Support: Fix Central - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Recycle Bin Mail Print Fax SnagIt

Address <http://www-912.ibm.com/eserver/support/fixes/fixcentral/p> Go Links

Home | Products | Services & industry solutions | Support & downloads | My account

← Systems support

Fix Central  
Feedback

## Fix packs

for AIX 6.1 operating system

AIX updates are provided as Technology Level packages or Service Packs. These generally available updates have been tested to operate best when all updates in a fix pack are installed. IBM recommends installing the complete fix pack.

**Select a Technology Level**

All 6.1

**What is a fix**

A fix pack is a combination of single fixes, components, dependent components, and related on-line documentation. It can include new features, full enhancements, and bug fixes.

[More support](#)

Fix packs			
Name	Type	Prereqs	Date
<a href="#">6100-00-01-0748</a>	Service Pack		November 2007



# Software Service Management

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```
# smit service_software
```

## Software Service Management

Move cursor to desired item and press Enter.

Service Update Management Assistant (SUMA)

Comparison Reports

Rename Software Images in Repository

Clean Up Software Images in Repository

F1=Help

F9=Shell

F2=Refresh

F10=Exit

F3=Cancel

Enter=Do

F8=Image

# Comparison Reports

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```
# smit compare_report
```

## Comparison Reports

Move cursor to desired item and press Enter.

Compare Installed Software to Fix Repository

Compare Installed Software to List of Available Updates

Compare Fix Repository to List of Available Updates

F1=Help

F2=Refresh

F3=Cancel

F8=Image

F9=Shell

F10=Exit

Enter=Do

# Software Maintenance and Utilities

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```
# smit maintain_software
```

## Software Maintenance and Utilities

Move cursor to desired item and press Enter.

```
Commit Applied Software Updates (Remove Saved Files)
Reject Applied Software Updates (Use Previous Version)
Remove Installed Software
```

```
Rename Software Images in Repository
Clean Up Software Images in Repository
```

```
Copy Software to Hard Disk for Future Installation
Copy Software Bundle to Hard Disk for Future Installation
```

```
Check Software File Sizes After Installation
Verify Software Installation and Requisites
```

```
Clean Up After Failed or Interrupted Installation
```

```
Service Update Management Assistant (SUMA)
```

F1=Help

F2=Refresh

F3=Cancel

F8=Image

F9=Shell

F10=Exit

Enter=Do

# instfix command

---

- Installs a fix:

```
# instfix -k IY58143 -d /dev/cd0
```

- Searches for a fix:

```
# instfix -ik IY58143
```

```
All filesets for IY58143 were found.
```

- Searches for a fix by keyword:

```
# instfix -s SCSI -d /dev/cd0
```

- Lists which AIX BOS maintenance levels are partly or fully installed:

```
# instfix -i | grep ML
```

```
All filesets for 6.1.0.0_AIX_ML were found.
```

```
All filesets for 6100-01_AIX_ML were found.
```

- Lists which filesets are missing in a partly installed AIX BOS maintenance level:

```
# instfix -ciqk 6100-01_AIX_ML | grep :-:
```

# Checkpoint

1. Which of the following states can your software be in, in order for you to be able to use it? (Select all that apply)
  - a. Applied state
  - b. Removed state
  - c. Install state
  - Commit state
2. What command is used to list all installed software on your system? \_\_\_\_\_
4. Which of the following can you install as an entity? (Select all that apply)
  - a. Fileset
  - b. LPP
  - c. Package
  - d. Bundle
- What is the difference between the SMIT menus: **Install Software** and **Update Installed Software to Latest Level (Update All)**?  
\_\_\_\_\_  
\_\_\_\_\_

# Checkpoint solutions

1. Which of the following states can your software be in, in order for you to be able to use it? (Select all that apply)

- Applied state
- Removed state
- Install state
- Commit state

• What command is used to list all installed software on your system?

lslpp -l

3. Which of the following can you install as an entity? (Select all that apply)

- a. Fileset
- b. LPP
- c. Package
- d. Bundle

• What is the difference between the SMIT menus: **Install Software** and **Update Installed Software to Latest Level (Update All)**?

Install Software by default installs everything from the installation media (except printer and devices) onto the system.

Update Installed Software to Latest Level (Update All) installs only updates to filesets already installed on your system.

# Exercise 4: AIX software installation

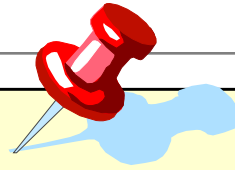
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- List and install AIX software
- Working with AIX fixes (optional)

# Unit summary

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- AIX package naming conventions include the following terms:
  - LPP
  - Package
  - Fileset
  - Suffix
- The easiest way to install software is to use SMIT. The `geninstall` and `installp` commands are also available.
- Use the `ls1pp` command, SMIT or the Web-based System Manager to list all software products installed on the system.