12.1.7 Asset Management Facts

Asset management is the process of tracking and managing the lifecycle of an organization's assets. An *asset* is any resource that has value to the organization. Assets take many forms, including:

- Information assets, such as files or databases that contain valuable information.
- Infrastructure assets or physical devices, such as routers, firewalls, bridges, and servers.
- Support services of all types.

Asset Management Benefits

Using an asset management process provides several important benefits. A process:

- Enables IT equipment inventory control. You know exactly what you own, how much it costs to purchase, how long you have owned it, and when it will need to be replaced.
- Reduces costs. Because you know what you already have, you avoid accidentally purchasing duplicate assets.
- Ensures that your organization remains in compliance with software and operating system license agreements.
- Ensures that obsolete equipment is accounted for and disposed of properly after it is taken out of service.
- Helps you plan IT budgets. You can estimate when assets will need to be replaced and how much they will cost.

IT Asset Lifecycle

The asset management process relies upon the IT asset lifecycle, which is divided into the phases described in the following table.

Phase	Description
Procurement	The *procurement* phase defines processes that should be followed when a new asset needs to be purchased. Several questions should be answered before a new asset is bought: - Why is the asset being purchased? - What business need will it address? - Will it replace an existing asset, or is it a new implementation? - What impacts will the new asset have on the existing network and users? For example, a decommissioned server from an organization's headquarters may be redeployed at a branch office location. - How long is it expected to last before replacement is necessary? - Which vendors sell the asset? After procurement, an asset is implemented in the network during the *deployment* phase of its lifecycle. - What kind of support is provided by the vendor? - How much will it cost? - What funds will pay for the device? - Who has to approve the expenditure?

Deployment	During this phase, several key actions occur:
	- The asset is added to an asset management database. Important information about the asset is recorded, such as:
	  - Make
	  - Model
	  - Serial number
	  - Vendor
	  - Warranty
	  - Location
	  - License information (if applicable)
	  - Configuration information (such as the asset's IP address)
	  - Name of the person responsible for managing the asset
	- The asset is tested in a sandbox environment to ensure that it won't adversely affect the production network.
	After deployment, the asset enters the *operations* phase of its lifecycle, where it is used in the production environment.
	- The asset is configured and installed in the production environment.

Operations	This is usually the longest phase in the asset lifecycle. Use the information in the asset management database to keep track of the asset's lifecycle. This helps predict when the asset will need to be replaced and how much a replacement will cost. During the operations phase, the asset will require periodic maintenance, including: - Applying updates and patches, such as installing operating system updates on a server. - Performing preventative maintenance, such as implementing an uninterruptible power supply.

	▪ Repairing problems as they occur, such as replacing a malfunctioning network interface. ▪ Applying upgrades as they become necessary. For example, you may install a bigger hard drive in a server. ▪ Keeping the asset management database updated any time one of these events occurs. At this point, the asset enters the *decommissioning* phase of its lifecycle, during which the asset is removed from the production environment.
Decommissioning	Eventually, you will need to replace an asset because it is obsolete, worn out, or no longer required. Several important tasks should occur. ▪ Determine if the asset needs to be replaced, if its functions can be reassigned to another existing asset, or if it has become unnecessary. For example, a server's hard disk needs to be wiped using disk wiping software to erase any trace of the information it used to store. ▪ Identify whether you can redeploy the asset somewhere else in the organization. ▪ Remove the asset from the production network. ▪ Record the removal in the asset management database.

Disposal	After a device has been decommissioned, it needs to be disposed of properly. Several important tasks should be addressed during the *disposal* phase:
	▪ Ensure that any sensitive or proprietary information is thoroughly and permanently removed from the asset before disposal.
	▪ Determine whether the asset can be:
	  ▪ Sold to the public as surplus
	  ▪ Destroyed
	  ▪ Disposed of in the common trash
	  ▪ Recycled
	▪ Verify that the asset was disposed of in a responsible manner and in compliance with all local laws. For example, assets such as CRT monitors and notebook batteries must be recycled.

MTTR and MTBF Facts

Managing assets also requires you to be familiar with mean time to repair (MTTR) and mean time between failures (MTBF).

- MTTR is the time it takes to repair or replace a failed product or subsystem of a product after the occurrence of a failure. It could also represent the average time required to repair a system and bring it back online . MTTR in IT systems tends to be measured in hours rather than days.
- MTBF is the amount of time elapsed between a failure and the next time it happens. These periods of time can be calculated by using the formula 'MTBF = total operational uptime between failures / number of failures'.

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