SYSTEM ADMINISTRATOR

In servicing os, system administration plays a pivot role. This is the case when a system is accessed by multiple users. The primary task of a system administrator is to ensure that the following happens:-

a) The top management is assured of efficiency in utilization of the system's resources.

b) The general user community gets the service which they are seeking. शोधना, तलाशना

So, system administrator will ~~keep~~ ensure that there is very little to complain about the system's performance or service availability.

Most major administrative tasks require that the system administrator operates in the superuser mode with root privileges. These tasks include:

→ starting up a system
→ shutting down a system
→ openning an account for a new user
→ Giving the new user a proper working set-up.
→ installation of new s/w
→ distributing user disk space
→ taking regular back-ups
→ keeping system logs
→ ensuring security operations
→ providing network services and web access

Unix administration tasks :-

Below lists most of the tasks which system
administrator performs.???

~~1. System startup and shutdown~~

2.

Users share resources like disk space, etc. So
there has to be some allocation policy of the
-disk space. A system administrator needs to
implement such a policy. System administration
also helps in setting up user's working environment
The management is usually keen to ensure that
the resources are used properly and efficiently.

They seek to monitor the usage and keep an
account of system usage. Management's main
concern include performance and utilisation of
resources to ensure that Operations of the
organisation do not suffer.

ADMINISTRATION TASKS LIST :-

1. System startup and shutdown.

2. Opening and closing user accounts. In unix an
   administrator is both a user and a super user.
   Usually, an administrator has to switch to the
   super-user mode with root privilages to open
   or close user accounts.

...ping users to set up their working environment:-

Unix allow any user to customize his working environment. This is usually achieved by using .rc files. Many users need help with an initial set-up of their .rc files. Later the user modify his .rc files to suit ~~Their~~ his requirements.

④ Maintaining user services:-

User require service for printing, mail web access and chat. (We[X] shall deal with mail and[X]) These services include spooling of print jobs, provisioning of print quota etc...

⑤ Allocating the disk space and re-allocating quotas when the need grows:-

Usually there would be a default allocation. However, in some cases it may be imperative to enhance the allocation.

⑥ Installing and maintaining s/w:-

This include installing s/w patches from time to time. Most os's are released with some bugs still present. Often with usage these bugs are identified and patches released. Also, one may have some s/w installed which satisfies a few of the specialized needs of the user community. As a convention this is installed in the directory /usr/local/bin.

✓

⑦ Installing new devices and upgrading the configuration:-

As a demand, on the system grows, additional devices may need to be installed. The system administrator will have to edit configuration files to identify these devices.

⑧ Provisioning the mail and internet services:-

Users connected to any host shall seek Main and internet web access. Almost every machine shall be a resource within a local area network. So for resource the machine shall have an IP address. In most cases it would be accessible from other machine as well.

⑨ Ensuring security of the system:-

The internet makes the task of system administration both interesting and challenging. The administrators need to keep a check on spoofing and misuse.

⑩ Maintaining system logs and profiling The user:-

A system administrator is required to often determine the usage of resources. This is achieved by analysing system logs. The system logs also help to profile the users. In fact user profiling helps in identifying security

...in identifying security breaches as was explained in the module entitled OS. and security.

11) **System accounting:-**

This is usually of interest to the management. Also, it helps system administrators to tune up an operating system to meet the user requirements. This also involves maintaining and analysing logs of the system operation.

12) **Reconfiguring the kernel whenever required:-**

Sometimes when new patches are installed or a new release of the OS is received, then it is imperative to compile the kernel. Linux users after need to do this as new releases and extensions become available.

STARTING AND SHUTTING DOWN:-

Unix system on being powered on, usually require that a choice be made to operate either in single or in multiple - user mode. Most systems operate in multi-user mode. However, system administrator use single - user mode when they have some serious reconfiguration or installation task to perform. family of unix systems emanating from system V usually operate with a run level.

7

The single user mode is identified with run S, otherwise there are levels from 0 to 6. The run level 3 is the most common for multi user mode of operation.

On being powered on, Unix usually initiates the following sequence of tasks:-

1. The Unix performs a sequence of self-tests to determine if there are any h/w problems.

2. The unix kernel gets loaded from a root device.

3. The kernel run and intializes itself.

4. The kernel starts the init process. All subsequent processes are spawned from init process.

5. The init process executes a system boot fsck. checks out using

6. The " " executes a system boot script

7. The init process spawns a process to check all the terminals from which the system may be accessed. This is done by checking the terminals defined under /etc/ttytab or a corresponding file. For each terminal a getty process is launched. This reconciles communication characteristics like baud rate and type for each terminal.

getty process intiates a login process to enable a prospective login from a terminal. During the start up we notice that fsck checks out the integrity of the file system. In case The fsck throws up message of some problem, the system administrator has to work around to ensure that There is a working configuration made available to The users. It will suffice here to mention. That one may monitor disk usage and reconcile the disk integrity. The starting up of systems is a routine activity. The most important thing to note is that on booting, or following a startup, all the temporary files under tmp directory are cleaned up. All zombies are ^ System cleaned up. Administrators report to booting when there are a number of zombies and often a considerable disk space is blocked in the tmp directory.

SHUTTING DOWN THE SYSTEM :-

Most unix systems require invoking the shutdown utility. The shutdown utility offers options to either halt immediately, or shutdown after a pre-assigned period. Usually The system administrator choose to shutdown with a preassigned period. Such a shutdown results in sending a message to all the terminal that the system shall be

going down after a certain interval of time, say 5 minutes. This cautions all the users and give them enough time to close their files and terminate their active processes.

The most commonly used shutdown command is:-

shutdown -h time (message)

Here the time is the period and message is optional, but often it is intended to advise users to take precautions to terminate their activity gracefully. This mode also prepares to turn power off after a proper shutdown.