

FAQ 1102: How use AIX Quota system with AS/U?

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Understanding the AIX Disk Quota System

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The disk quota system, based on the Berkeley Disk Quota System, provides an effective way to control the use of disk space. The quota system can be defined for individual users or groups, and is maintained for each journaled file system JFS. The disk quota system establishes limits based on three parameters that can be changed with the **edquota** command:

- User's or group's soft limits
- User's or group's hard limits
- Quota grace period

The soft limit defines the number of 1KB disk blocks or files below which the user should remain.

The hard limit defines the maximum amount of disk blocks or files the user can accumulate under the established disk quotas. The quota grace period allows the user to exceed the soft limit

for a short period of time (the default value is one week).

If the user fails to reduce usage below the soft limit during the specified time,

the system will interpret the soft limit as the maximum allocation allowed, and no further storage will be allocated to the user.

The user can reset this condition by removing enough files to reduce usage below the soft limit.

The disk quota system tracks user and group quotas with the **quotacheck** and **edquota** commands.

You should consider implementing the disk quota system under the following conditions:

- Your system has limited disk space.
- You require more file system security.
- Your disk-usage levels are large.

Typically, only those file systems that contain user home directories and files require disk quotas.

The disk quota system works only with the journaled file system.

Note: It is recommended that disk quotas not be established for the /tmp file system.

Implementing the Disk Quota System on AIX

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1. Enable AIX quotas for the file system with a command like:

```
chfs -a "quota = userquota,groupquota" /home
```

2. Configure AIX quotas for the user (and/or group) with a command like:

```
edquota -u <username>
```

The soft limit is the number of resource the user or group will be allowed to use during normal operations.

The hard limit is the total amount of resource the user or group will be allowed to use,

including temporary storage during a quota grace period.

3. Check the quotas with a command like:

```
quotacheck -a
```

4. Activate quotas with a command like:

```
quotaon
```

5. Report of quotas with a command like:

```
repquota -v -a
```

To turn on quotas during system startup, add the following lines at the end of the /etc/rc file:

```
echo " Enabling AIX filesystem quotas "
```

```
/usr/sbin/quotacheck -a
```

```
/usr/sbin/quotaon -a
```

Implementing the Disk Quota System on AS/U

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To use the AIX quotas right with AS/U, the following registry value must be set:

HKLM\SYSTEM\CurrentControlSet\Services\AdvancedServer\FileServiceParameters\UnixQuotas

type REG_DWORD value 0 or 1, default: 0 (no support for disk quotas)

This value specifies whether Advanced Server provides AIX system disk quota support.

This ensures that creating or writing to the file is performed under the AIX system UID

of the AIX system user to which the Advanced Server user is mapped.

Each action counts toward that user's quota; an error message is sent to the client

when the quota is exceeded.

Two quotas are supported: i-node and block quotas for JFS file systems.

Do not forget to check the mapping between the Windows NT users and the AIX users

using the **mapuname** command.

There is a conflict between the following parameters in the ASU registry:

- with "**UnixDirectoryCheck** = 1 or 2" a directory can be created with the root rights

in the case where standard Unix rights do not allow that.

- with "**IgnoreUnixPermissions** = 1" a file or directory can be created with the root rights

in the case where standard Unix rights do not allow that.

- with "**UnixQuota** = 1" the creation of a directory with the root right is logically

impossible for the AIX quota system works well.

UnixQuota parameter always wins and overwrites UnixDirectoryCheck and IgnoreUnixPermissions.

Because of the AIX quota check works, the creation of a file or directory must be done

with the user right itself, not with the root right where the quota check at creation time is

impossible. Changing the ownership of a file or directory by an application like AS/U

at creation time is a way to work around the AIX quota system, then it is not possible.

Of course, AS/U must be restarted after this registry change.

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