

Copy Company Disk Space Check

Ibcos have decided for v7.11 of Gold to introduce a disk space check to the copy company routine.

This is to encourage dealers to regularly run house-keeping on their server and to prevent dealers running out of disk space and causing the server to crash.

There are a number of reasons why the best practice guidelines recommend that at least 20% of disk space is left unused. Please see the section on Best Practice at the end of this factsheet for more information.

System Management – File Utilities – Company Copy/Delete

In Gold, when running a copy company there is now a warning when the available disk space is less than 20% (i.e. the disk is over 80% full).

“Your /u file system is 8x% full”

If this warning is received it is a good idea to free up some space by deleting unused files and removing unused copy companies.

Gold will still allow a copy company to be taken at this stage.

If this is not done and the disk continues to fill up a new warning has been introduced when the available space is less than 10% (i.e. the disk is over 90% full).

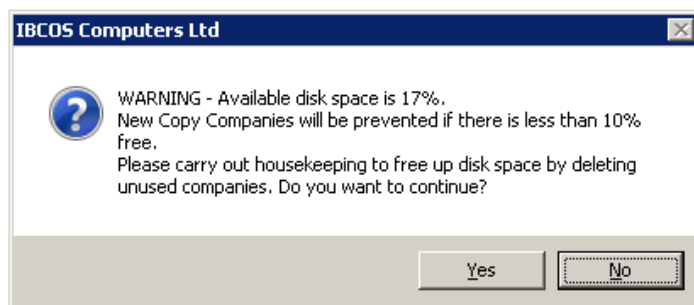
“Your /u file system is 9x% Full”.

No new copy companies may be created but you may delete old companies to save space.

No new copy companies will be permitted until the available disk space has been increased to at least 10%.

Super User Login

As an added level of warning, when a super user logs in to Gold the disk space is checked and a warning displayed if less than 10% available. This will allow measures to be taken proactively to increase the available space.



Best Practice industry guidelines recommend, depending on the application and server in question somewhere between 10% and 20% of disk space should be left unused.

There are a number of reasons for this:

1 - Disk Fragmentation

Large files are not stored as a continuous file on the disk as you might think. Rather they are scattered about the disk depending on where the free space lives at the time of writing the file. This means that when a file is accessed (either read or write) the head of the hard disk has to jump around to collect the data. This is known as fragmentation.

This is heavier, both in terms of disk wear and performance compared to if the file was continuous. Modern servers try to minimise this by automatically re-aligning the data during times where the server is not busy. This is known as auto defragmentation. However, it cannot, for example clear a line of continuous space without having somewhere to move the data currently in that space, so if the disk is full or near full, this process may never complete. If the disk has plenty of space free, the files may never get fragmented in the first place.

2 - Wear levelling

This is an issue with newer SSD drives. In this case, areas of the drive have a finite number of write cycles. In order to maximise lifespan, if you write a file, it tries to use areas of the disk that have been previously used less, so that there are less 'hot' areas that get worn out before the rest of the drive. It cannot do this if there is little free space.

3 - Bad sectors

This is mainly an issue with older drives, or SSDs where wear levelling has not been possible. This is where an area of the disk is bad and can no longer be written to. In this case the disk can detect this and mark the area as bad so that it avoids it in the future. Most disks have the odd few, but a rising bad sector count is a sign that the disk is on the way out and should be replaced.

However, if you don't have much space and the drive suddenly finds a bunch of bad sectors, the ability for the drive to at least keep you running without data corruption whilst you source a new disk is dramatically reduced.

4 - Ability to do housekeeping tasks

There are times where as a system administrator, you need to make copies, backups or do other tasks that have a short term need for more disk space. Copy company is one of those sorts of things but there are plenty of reasons outside Gold. If you are constantly not able to do this without risking corruption then this costs time and hence money more than the cost of increasing the storage.

We chose to have a warning at 20% then a hard stop at 10% to take account of these sorts of scenarios. For optimal performance, it is actually better to try to stay below 60% which would likely mean that you don't suffer fragmentation at all.