# Backup Manually

There are multiple kinds of backups. Backups may run at the region level, or at the grid level, which includes regions. Also remember there are always two or more databases on a grid: the grid's robust database, and the region’s Opensim database. There can be more than one Opensim database, as a grid can consist of more than one machine.

## Region Level OAR

OARs can be created on the fly - look in Content Save Oars and you can do them all with one click. You can also set up OARS to be created on a schedule. - 24 hours is an excellent choice.

## Grid level IAR

IARs are time consuming. But you should make them on occasion anyway. Just in case. They take a long time and can lag a grid when running. If you are on OsGrid or Metro, I HIGHLY RECOMMEND you get an IAR backup often! I have at various times lost data at both these major grids.

## Grid level SQL

SQL backup is also slow, but very thorough. It saves outfits, logins, and usernames; everything but region UUID's and settings. With this you can fix problems in MySQL that are known to have developed. This is a monthly thing to do.

## Robocopy:

Robocopy is included in Windows. It is a fast and flexible back up program.

This example is for backing up the AutoBackup folder to the X: drive.

robocopy C:\DreamGrid\OutworldzFiles\AutoBackup X:\Destination /E /TBD /J /M  /MOT:90  /LFSM:50M

/E - Everything including empty folders.

/M –Modified files are copied that have the A bit set, then clears the bit.

/TBD - Wait for share names to be defined by the network.

/J – Use Unbuffered IO for large files.

/MOT:90   Wait 90 minutes and scan for changes in a loop.

You can add the LFSM switch on Windows 10. Do not do this Server or Windows 7.  
  
/LFSM:50M – Will operate in low free space mode, enabling copy pause and resume. Robocopy will pause whenever a file copy would cause the destination volume's free space to go below 50 Megabytes.

## What to back up

This is what DreamGrid backs up if you check all the boxes:

·         OutworldzFiles\Apache\htdocs\jOpensim\ folder  
OutworldzFiles\Opensim\WifiPages-Custom\ folder

·         OutworldzFiles\Settings.ini file

·         OutworldzFiles\XYSettings.ini file

·         OutworldzFiles\Opensim\bin\LocalUserStatistics.db database of traffic and viewers.

·         OutworldzFiles\Photo.png - Custom Hyperica Photo

·         OutworldzFiles\NewBlack.png - Custom Theme

·         OutworldzFiles\NewWhite.png - Custom Theme

·         OutworldzFiles\NewCustom.png - Custom Theme

·         OutworldzFiles\Opensim\bin\Regions - All the region Ini files

·         Mysql Robust as .sql - a portable database of Robust

·         Mysql Opensim as .sql - a portable database of Opensim regions

And any other databases in MySQL.

·         Opensim\bin\FsAssets - All the assets, which must be backed up last on a live machine.

## Mass copy

It can be difficult to backup fsassets remotely as it holds about a million compressed files and folders.

One suggestion is to set your backup program to use the Archive bit. This bit changes when a file is new or has been updated.

This Perl program can speed things up. You first need to run the command line ‘cpan Proc::Background;’ to install the necessary modules.

#Make a text file, save this in it, and edit the lines for $src and $dest to your folder structure  
use Proc::Background;

my $counter = 0;

my $src = 'f:/FSAssets/Data/';

my $dest = '\\\\mach/C/Grid/FsAssets/Data/';

while ($counter < 256) {

my $v = sprintf("%02X", $counter);

my $x = "robocopy $src"

. $v

. " $dest"

. $v

. " /E /Z /J /LOG:File-$counter.txt";

print "$x\n";

my $proc1 = Proc::Background->new($x) || die "failed";

$counter++;

}