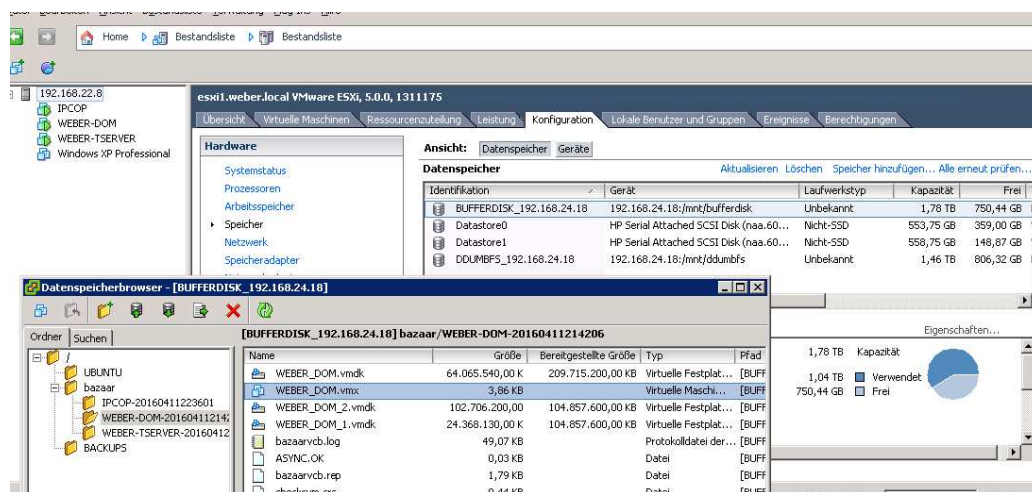


# 1 What is AmutaQ!

AmutaQ! (Mandinka Westafrica: be careful!) is a full featured backup program which is able to backup and restore ESXi-Servers. It has been tested with ESXi Servers (free Edition) from 4.xx-5xx.

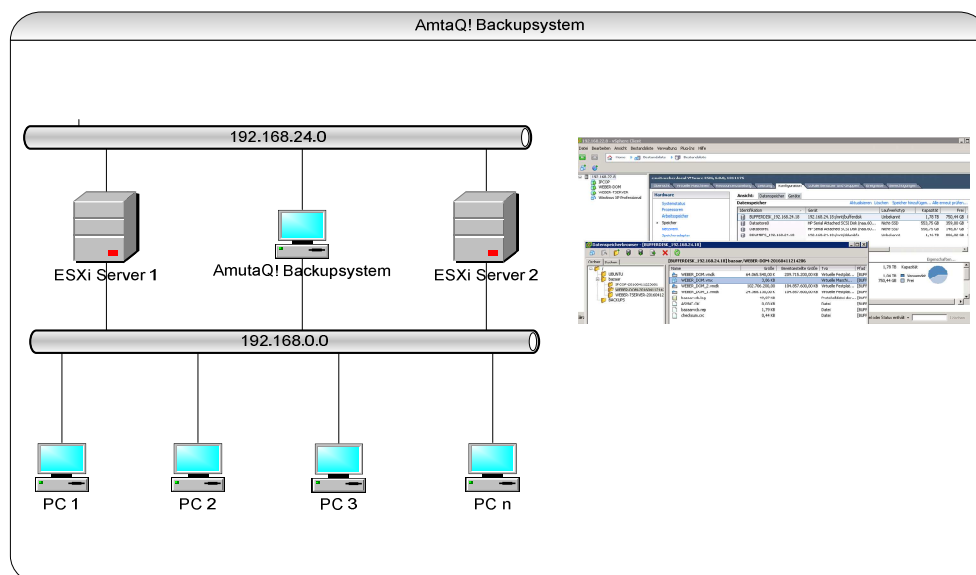
AmutaQ! should be executed on a dedicated PC which runs under Linux. A perfect OS for AmutaQ! is LINUX Mint 17 LTS. AmutaQ is the perfect solution for small and medium-sized enterprises (SME) with an data Volume up to 5000 GB.

From technical view AmutaQ! integrates into ESXi as NFS share. Backups are written to this shares and could of cause be restored from this shares, even with the official tools from VMware, like VMware vSphere Client.



*VMware vSphere Client accessing the Bufferdisk located on AmutaQ! System*

For optimal performance AmutaQ! should run in an dedicated collision domain to avoid performance and bandwidth problems in the user network. It is recommended to use it only with servers which have at least two 1GB Network adapters (one for the user network, one for the dedicated backup network).



*Recommended environment for the AmutaQ! System*

AmutaQ! itself is managed by an GUI, which is accessible via Windows integrated RDP Client (mstsc). Beside of that you'll have a simple WEB-IF with which an local administrator can run end-user tasks (like removing external USB-Disks and so forth).

AmutaQ uses deduplication, integrated in a special filesystem (ddumbfs). With this technology it is possible to store hundreds of historical versions of one and the same VM on low cost external media (USB-Harddisks).

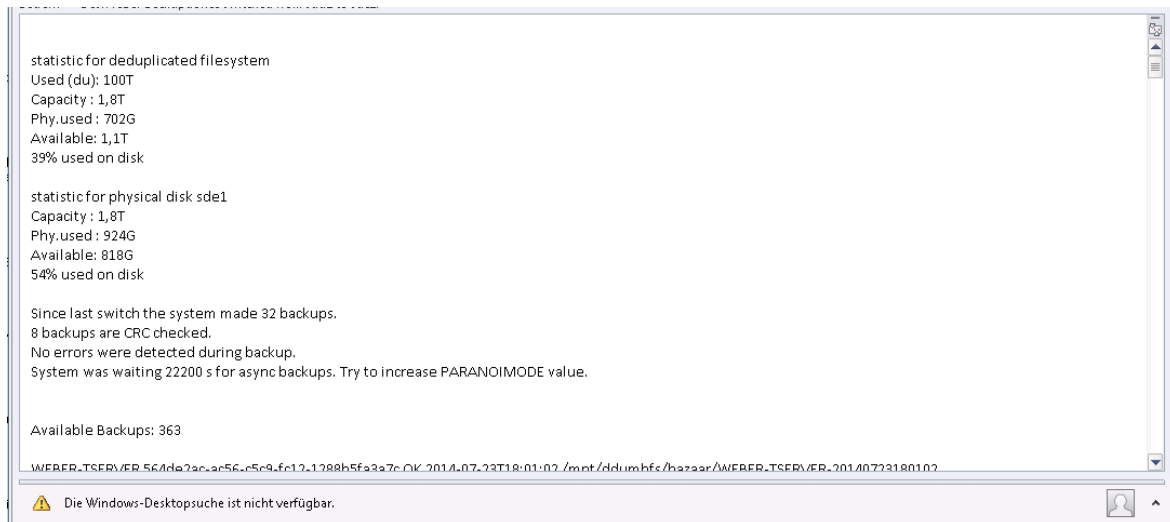
AmutaQ runs under GPL (except one third party component bazaarVCB). AmutaQ is free, there are no licence fees.

## **1.1 Features at a glance**

- Easy Setup
- Hundreds of VM's on external USB-Harddisks
- Rotation backup, runs 24H, automatically puts out one disk per day with the latest backup (to store it at a safe place)
- On native machine 200GB/H backup speed (acer pc with i3 ~ 450 euro machine)
- Indexfile handler (running indexfile from fast internal HD, saves it back to the USB-Harddisks during dismount)
- CRC check mode. Copies on definable base VM's to a (SATA-)bufferdisk, creates checksums and backup them after that to the ddumbfs filesystem. Create newerly a checksum to compare it with the original (paranoiamode)
- Mail after backup. Mail with statistic data after disk change
- GTK menu driven restore
- Webmin interface (just to check which disk is free)
- GTK driven format of external USB-Harddisks (plug and play installation)
- Access to vmdk files (requires installed DDK from VMware)
- SMB server / NFS server. Exposing raw backups to ESXI servers (for mounting) or mounted vmdk files to windows machines (to restore single files)

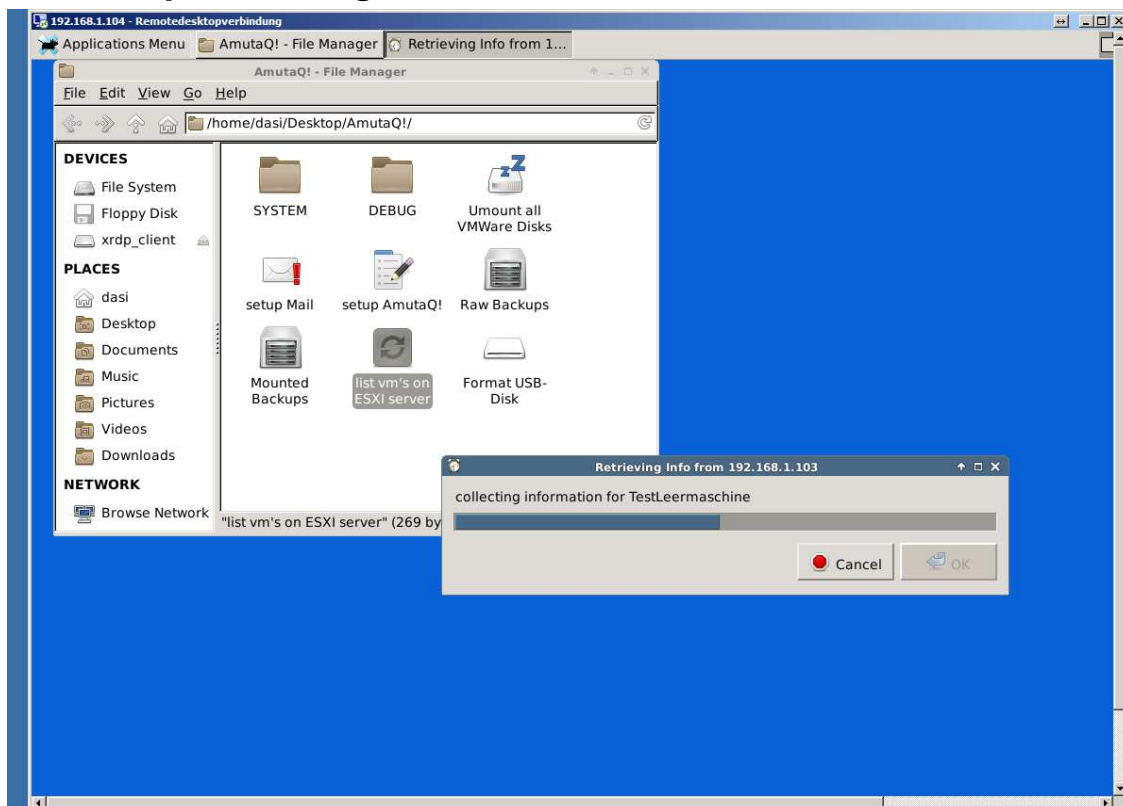
## 2 Screenshots

### 2.1 Mail reports

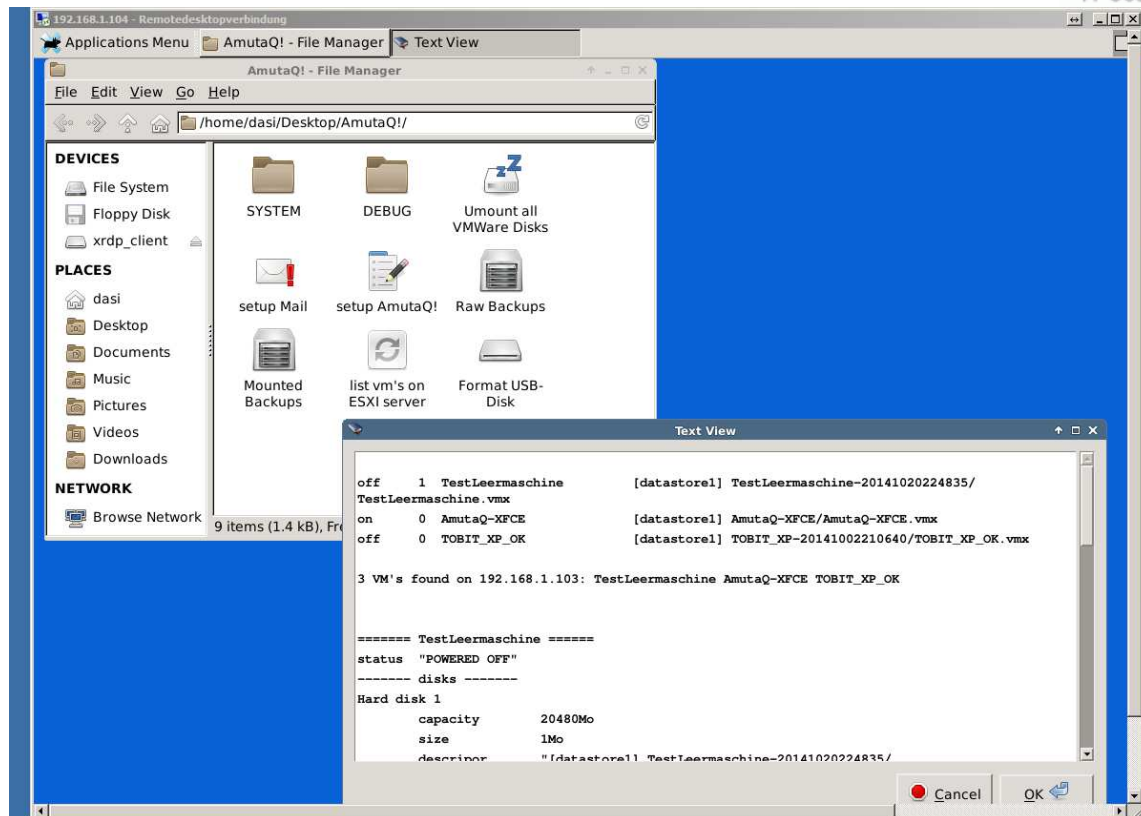


Statistic Mail generated by the AmutaQ! System

### 2.2 Setup and using AmutaQ! GUI

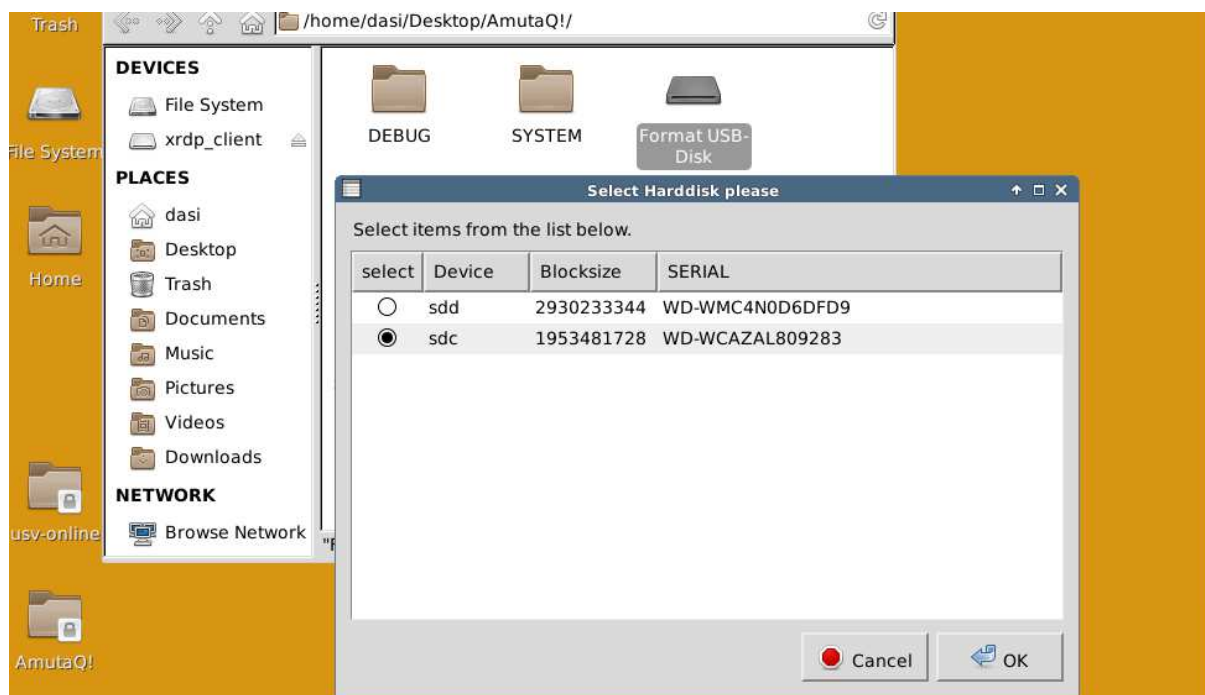


AmutaQ! GUI: listing running systems

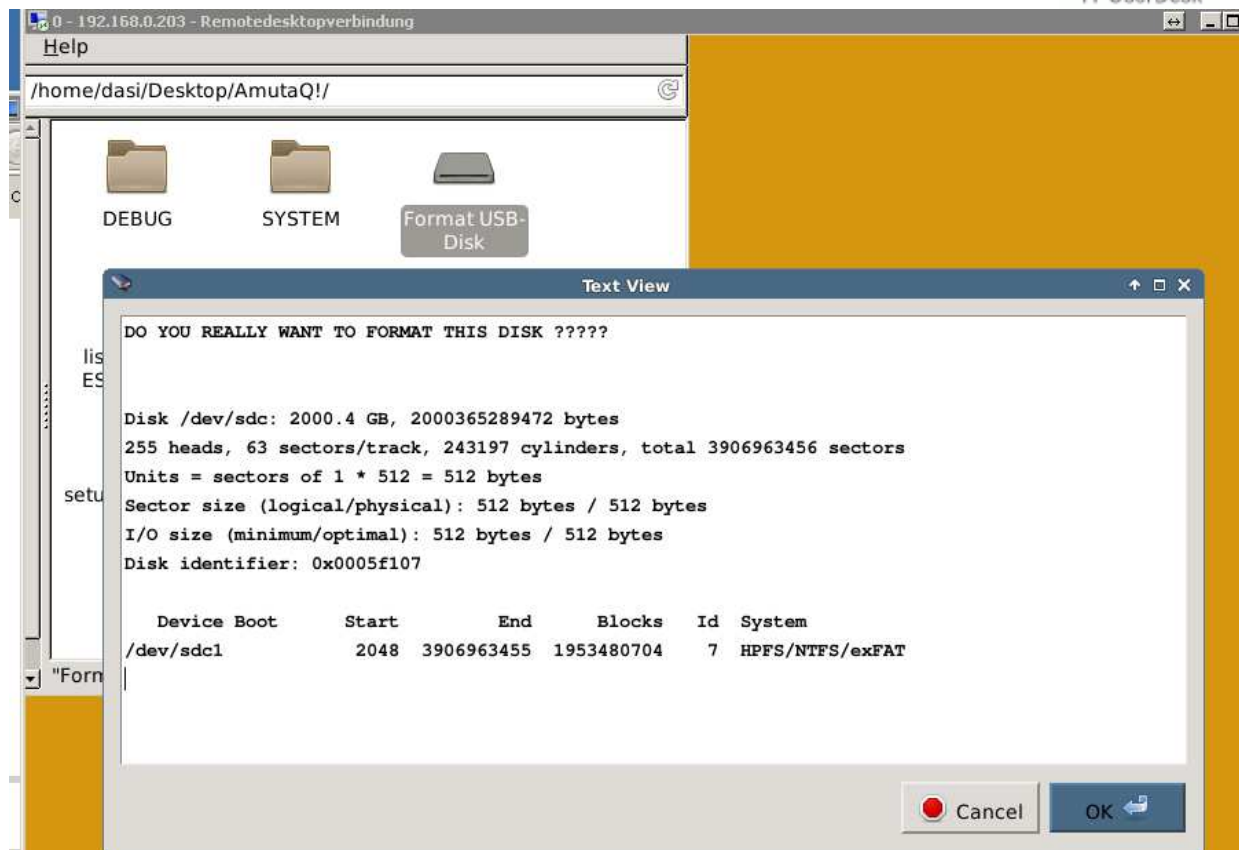


AmutaQ! GUI: show details of running system

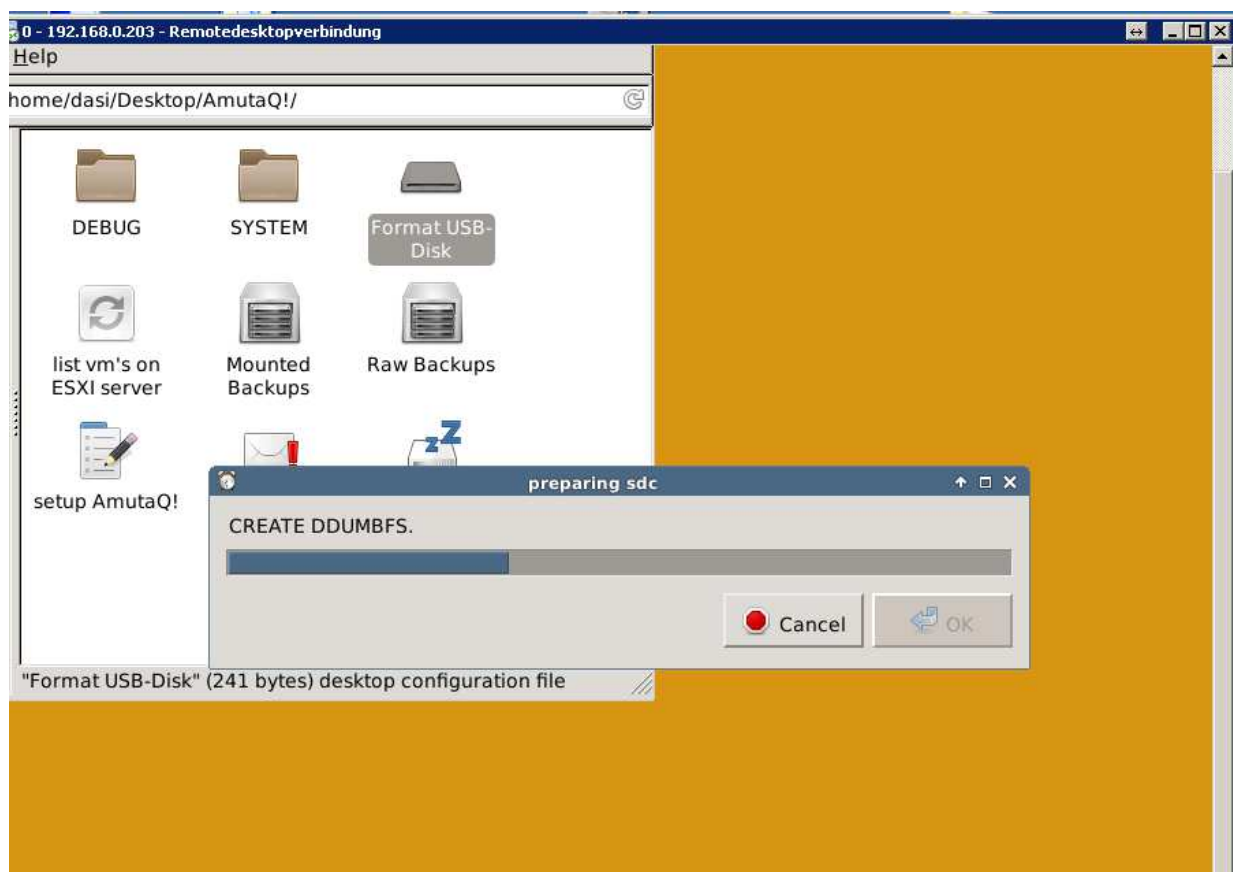
## 2.3 Formating USB-Disks with deduplicated filesystem



AmutaQ! GUI: formatting external USB-DISC with ddumbfs 1/3

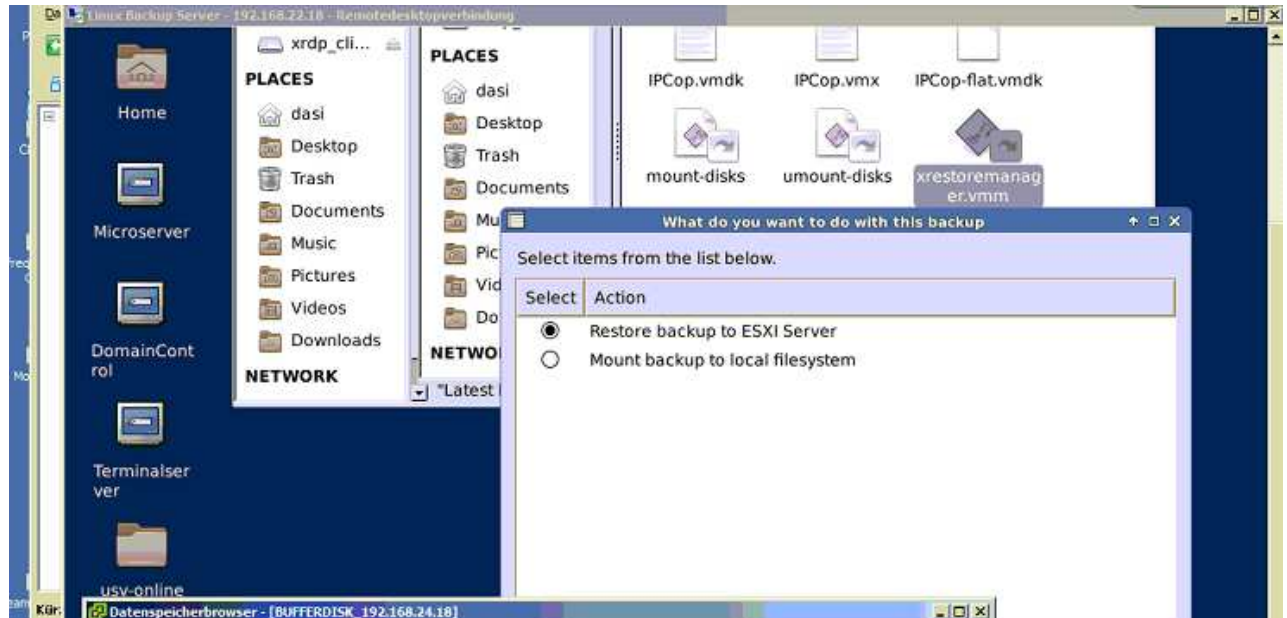


AmutaQ! GUI: formatting external USB-DISC with ddumbfs 2/3

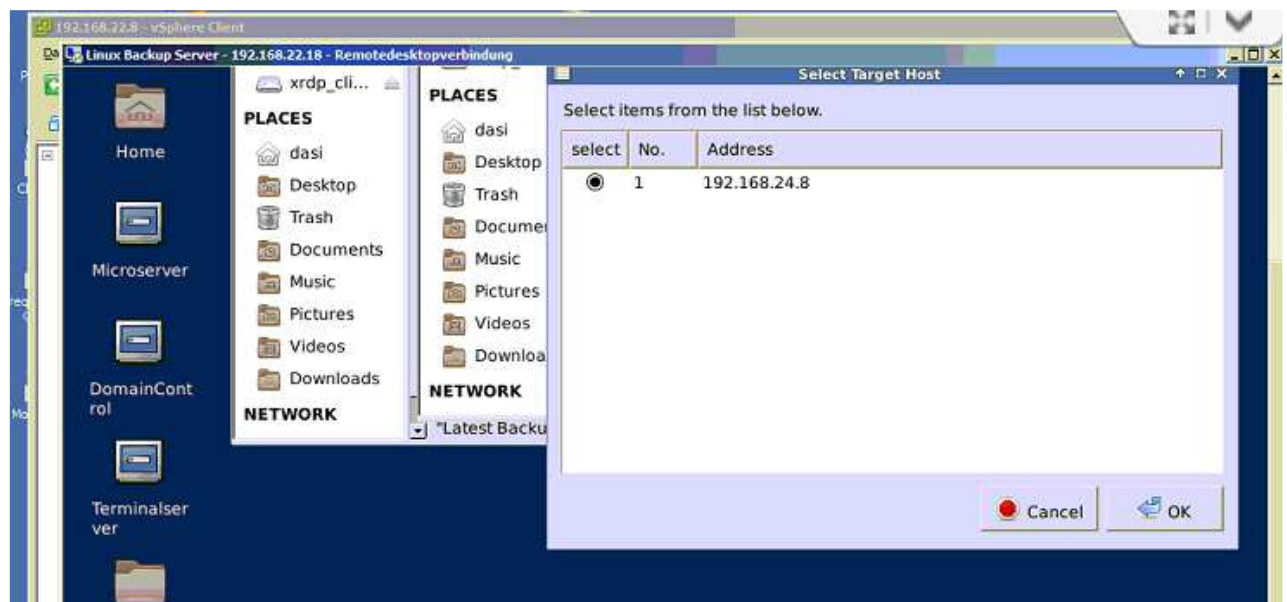


AmutaQ! GUI: formatting external USB-DISC with ddumbfs 3/3

## 2.4 Restore Backup to ESXi Server

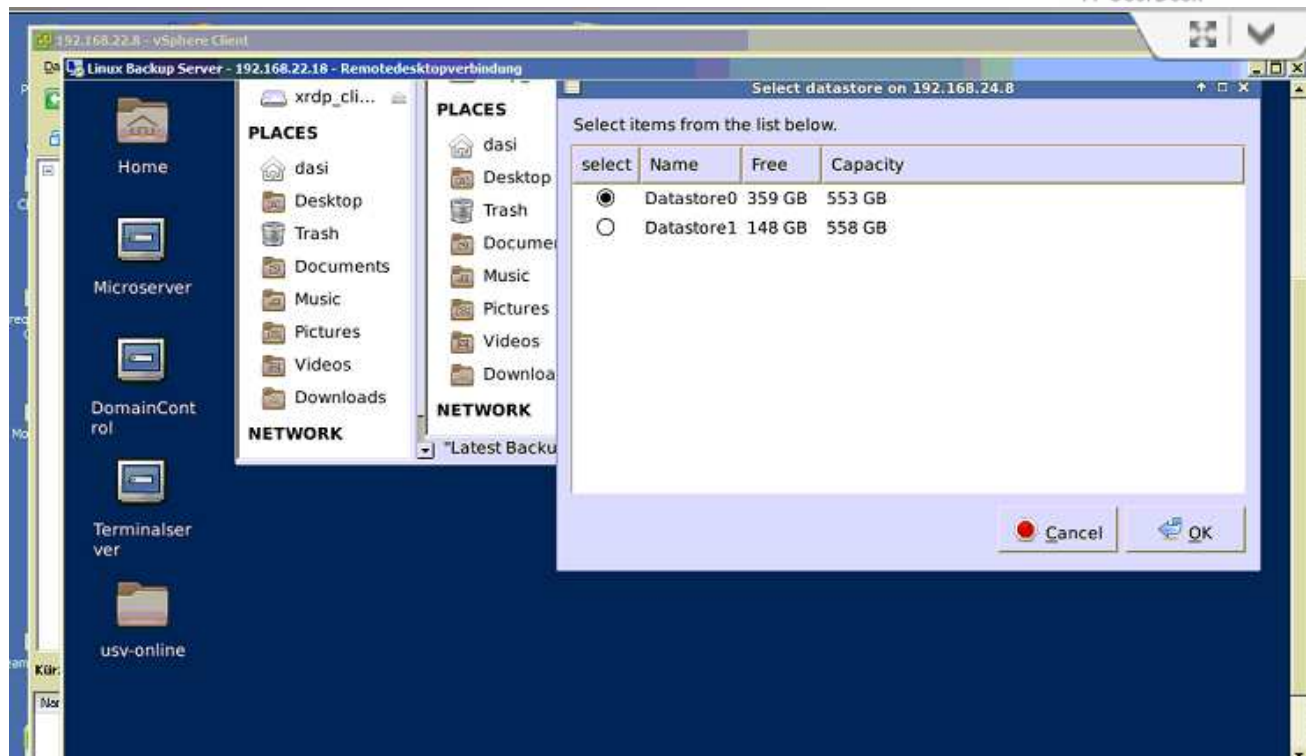


AmutaQ! GUI: Restoring VM to ESXi 1/4

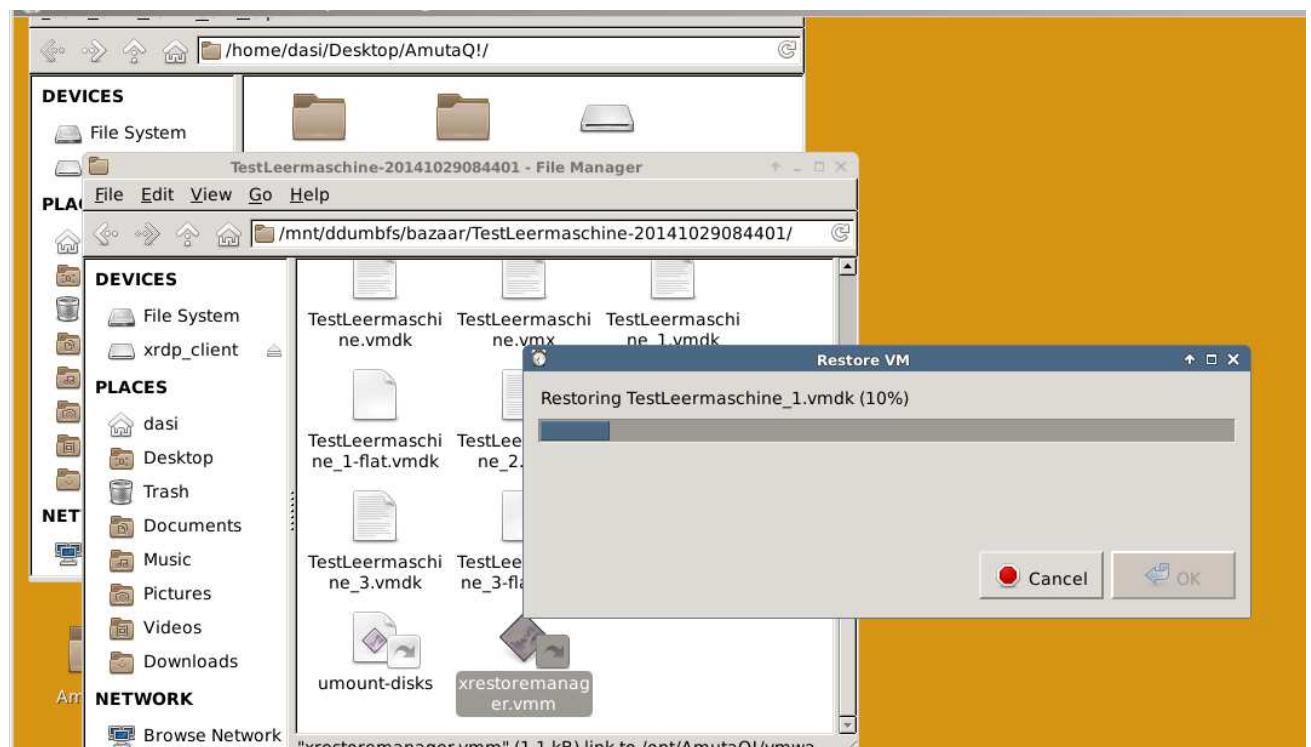


AmutaQ! GUI: Restoring VM to ESXi 2/4



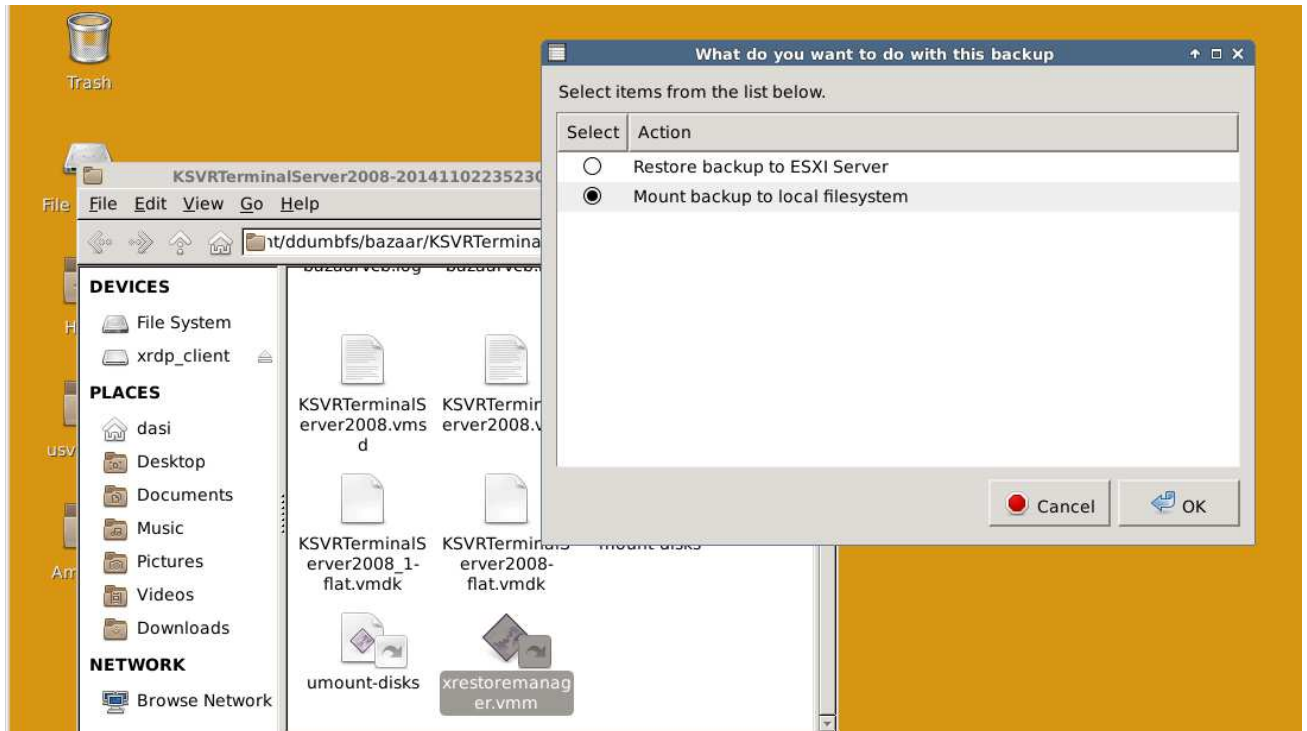


AmutaQ! GUI: Restoring VM to ESXi 3/4

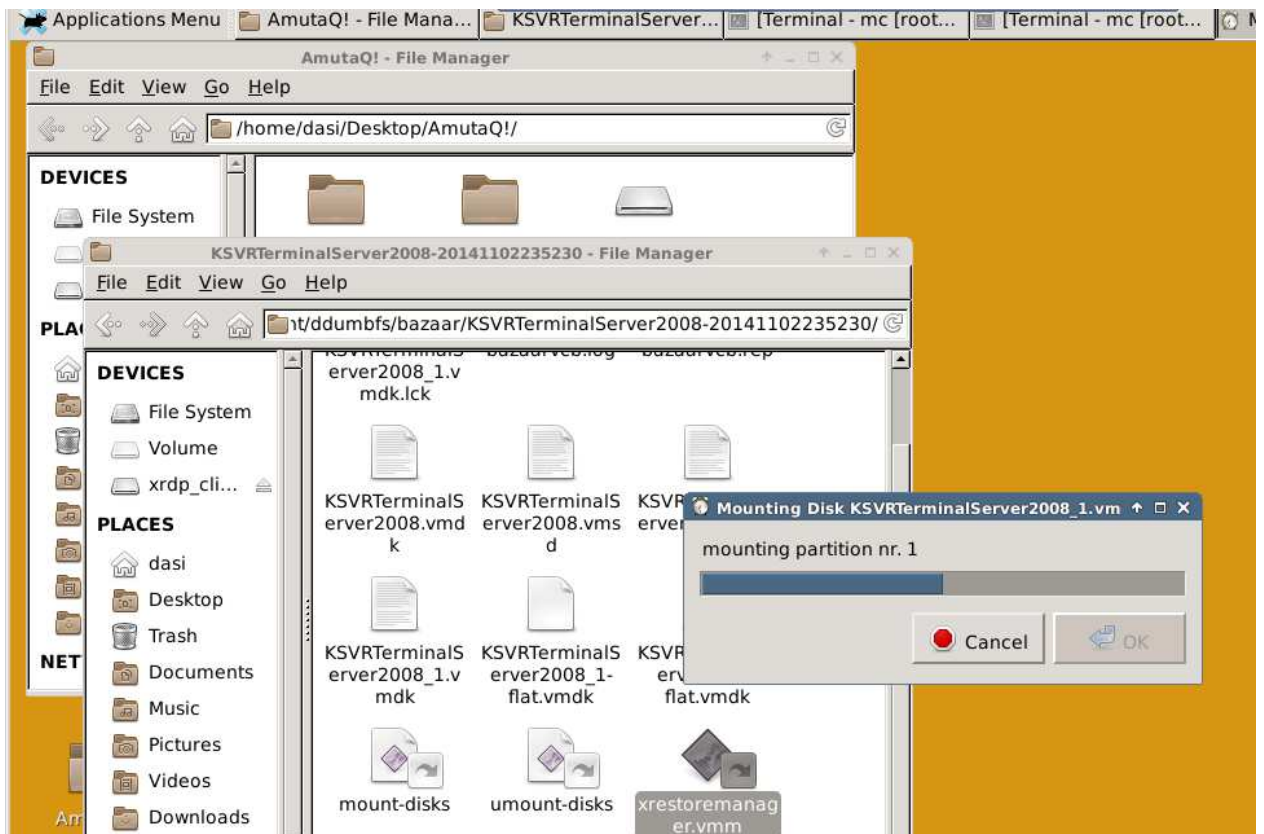


AmutaQ! GUI: Restoring VM to ESXi 4/4

## Restore Backup (Single Files and Directories)



AmutaQ! GUI: Restoring single files and directories to ESXi 1/4



AmutaQ! GUI: Restoring single files and directories to ESXi 2/4



