

AN-021 Multi-volume VMS tape backup using MTD

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The MTD utility is designed to generate CHARON-VAX tape image files from physical tapes and vice-versa. The advantage of using tape image files is that emulated tape operations are not slowed down because of physical tape movements. The ability of CHARON-VAX to dynamically change its device mapping while it is running allows multi-volume operations with tape image files.

The following is an example of multi-volume backup of VAX/VMS running on CHARON-VAX for Windows. The example is based on a configuration where the emulated tape drive MUA0 is used for a backup operation in VAX/VMS:

1. In the configuration file is initially specified:

```
set MUA file[0]="image tape0.img" size[0]=409600
```

2. Boot VAX/VMS on CHARON-VAX, log in on the console terminal and start the backup:

```
VMS> backup/log/noassist/ignore=label dua0:[000000...]*.txt mua0:test.bck/rewind
```

3. When VMS prompts for a new tape in the console terminal, enter in the *CHARON-VAX command console* the following commands:

```
set MUA file[0]="image tape1.img"
```

```
set MUA loaded[0]=yes
```

4. Enter "yes" to the backup prompt in the console terminal
5. Repeat 3 and 4 with a new tape image name until the backup is completed
6. Instruct VMS to dismount the emulated tape drive
7. You can now transfer the tape images (tape0.img ... tapeN.img) off-line with MTD to an attached physical SCSI tape drive at any convenient moment.

Backup restoration can be done in CHARON-VAX using the attached physical tape drive directly. Assuming a running VMS system on CHARON-VAX:

1. Insert the first tape into the drive and enter in the *CHARON-VAX command console* the following command (assuming the address of the SCSI drive is correct for this example):

```
set MUA file[0]="\\.\SCSI 2:0:3"
```

2. In the console terminal enter:

```
VMS> cre/dir dua0:[tst]
```

```
VMS> backup/restore/log/noassist/ignore=label mua0:test.bck/rewind dua0:[tst...]
```

3. VMS will process the first tape, eject it and ask for the second - load it and enter "yes", etc.

In the above example the physical tape drive is directly addressed via its SCSI port (no Windows driver loaded). Direct SCSI addressing allows a faster transfer compared to the Win32 tape API. On the other hand, the Win32 tape API can be used with non-SCSI tape drives.

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