Vanquishing Viruses

Here's a tip for users experiencing the un-comfortable effects of a computer virus attack. If the infection comes from a virus attaching itself to the hard disk's master boot record (the bootstrap code stored in the first physical sector), you can eradicate it with a DOS 5.0 feature. The key is FDISK's undocumented /MBR (Master Boot Record) switch, which re-creates the master boot record and in doing so, effectively wipes out resident boot-record viruses. The command

```
FDISK /MBR
```

is all it takes. This is the quickest and safest means I've seen for ridding a hard disk of the Stoned virus. My guess is that it will prove equally effective in killing other boot-record viruses, too.

You need a virus-scanning utility to detect a virus, unless you know its signature and care to examine the boot record with DEBUG or a low-level disk editor. Common examples of boot-sector viruses are Anthrax, Joshi, Stoned, and Michelangelo. Note that some (such as Michelangelo) infect the master boot record and other parts of the disk. FDISK /MBR will only eradicate the viral code in the master boot record. Texts occasionally refer to MBR viruses as partition-table viruses, because the first physical sector of a hard disk also stores the master partition table (which defines how your hard disk is partitioned). But this is a misnomer. In addition, even though your master partition table is in the first sector along with the master boot record, if a virus wipes out that master partition table, FDISK/MBR won't fix it.

You can restore the master partition

table by repartitioning the disk, but that's doing it the hard way. If you run DOS 5.0, be sure to back up your hard disk's partition tables to a floppy disk. (Information about extended DOS partitions is stored outside the master partition table, so there can be more than one.) You'll need a little-used switch that accompanies the MIRROR command. If you type

```
MIRROR /PARTN
```

DOS creates PARTNSAV.FIL on a floppy disk. The file contains a copy of all your hard disk's partition tables. For convenience, keep the backup copy on a bootable DOS 5.0 diskette. If the partition data ever becomes corrupted (which would mean DOS would probably refuse o recognize one or more logical drives on the hard disk), pop in the floppy containing the backup file and type:

```
UNFORMAT /PARTN
```

UNFORMAT, started with the /PARTN switch, restores the partition tables from the information in PARTNSAV.FIL. If the partition tables were the only part of the disk corrupted, it should be as good as new again. DOS 5.0 also displays partitioning information when you type UNFORMAT /PARTN /L.