have adopted a new convention for s _ing up disk partitions for the
ESV demo systems in SLC and STRONGLY urge that the field-resident systems
take on the same conventions. The reason for this is that the default swap
partitions for ESV's with the large 640Mbyte system disk (760Mbyte unformatted)
is too small for systems with more than 24Mbyte of system memory.

For reasons which I cannot explain, an attribute of the UNIX OS requires that
there be approximately twice as much swap space as there is physical memory...
in fact, MIPS reccomends a factor of 2.5 x physical memory. Failure to do this
can cause many problems, most common of which is the failure of UNIX to fork
processes as the applications grow. By default, swap partitions are limited
to partitions 1 and 7 on the system disk giving a total of about 46Mbytes of
total swap space. As you can see, this is adequate for small-memory systems
but can become a problem for systems with as little as 32Mbytes, and indeed
DOES occasionally show up in applications such as SYBYL and AVS on systems
with 32Mbytes.

Presumably, all demo systems are outfitted with two of the large 640Mbyte
disks. In the past, we've used the convention of setting the systems up with
the default partitions on the system disk and mounting the second disk (DISK1)
as /demo making the partitions for the disks something like this:

```
                                     DISK0
 ---  -------   ------------------------------------------------  -------  ---------
|  8 |    0    |                     6                           |    7   |    1    |
 ---  -------   ------------------------------------------------  -------  ---------
 vh       /                          /usr                           swap     swap
        21MB                         541MB                           14MB     32MB

                                     DISK1
 ---  ---------------------------------------------------------------------------------
|  8 |                               2                                                 |
 ---  ---------------------------------------------------------------------------------
 vh                                  /demo
                                     606MB
```

With our new convention, we partition disk1 into three separate partitions
making the configuration look like this:

```
                                     DISK0
 ---  -------   ------------------------------------------------  -------  ---------
|  8 |    0    |                     6                           |    7   |    1    |
 ---  -------   ------------------------------------------------  -------  ---------
 vh       /                          /usr                           swap     swap
        21MB                         541MB                           14MB     32MB

                                     DISK1
 ---  --------------------------------------------------  --------------  ----------
|  8 |                    11                             |       5       |    13    |
 ---  --------------------------------------------------  --------------  ----------
 vh                       /demo                                 swap          /tmp
                          382MB                                 192MB         46MB
```

Please note that setting aside sector 5 as a 192MB swap partition is probably
only necessary on systems with 96MB or 128Mb of system memory. Systems having
32MB or 64MB may operate suitably with additional swap on sector 13 and having
sector 5 ffs mounted as /usr2. This convention allows us greater flexibility
in configuring systems on-the-fly (with a little care) to meet the needs of
multiple memory configurations.

To set up the ESV with this configuration, simply use the defaults at instal-
lation time to configure the DISK0. For DISK1 you'll need to use the "prtvtoc"
command to grab the necessary sector information and use the "newfs.ffs"
command to make each file system... It's rather painless aside from the fact
that it will wipe out any information that may be on that sector. As a final
step these file-systems and swap partitions should be set up in the /etc/fstab

e. An illustration of these steps is as follows:

0)   Assuming that DISK1 already has sectors mounted as file-systems you
        must un-mount them first. Be aware that the steps hereafter will
        destroy data on the sectors touched. That's GONZO folks!

1)   Use "prtvtoc" to gather sector information:

        % prtvtoc /dev/rdsk/isc0d1vh

2)   Use "newfs.ffs" to setup filesystems (this is not needed for swap
        partitions):

        % newfs.ffs -v -s [sector count] [device] [device type]

        where [sector count] is the sector count of the desired partition
        from the previous command, [device] is the device/sector to be used
        (i.e. /dev/dsk/isc0d1s11 for sector 11 on DISK1), and [device type]
        is the 5-digit disk type (94191 for 640MB disk).

3)   Edit the "/etc/fstab" file to reflect the new ffs file systems and
        additional swap partitions... an example for this is as follows:

        % cat /etc/fstab
        /dev/root   /   ffs rw 0 1
        /dev/usr   /usr   ffs rw 0 2
        /dev/dsk/isc0d0s7 none   swap rw,noauto 0 0
        /dev/dsk/isc0d1s11 /demo   ffs rw 0 0
        /dev/dsk/isc0d1s13 /tmp   ffs rw 0 0
        /dev/dsk/isc0d1s5 none   swap rw,noauto 0 0
        thunder:/demo   /import/thunder nfs rw,soft,bg,intr 0 0
        bambam:/usr1   /import/usr1   nfs rw,soft,bg,intr 0 0
        bambam:/usr2   /import/usr2   nfs rw,soft,bg,intr 0 0
        olin:/mrkt1   /import/mrkt1   nfs rw,soft,bg,intr 0 0
        olin:/mrkt2   /import/mrkt2   nfs rw,soft,bg,intr 0 0

4)   Ensure that the appropriate mount-points exist using "mkdir" from /.

5)   Reboot the system... (Note that you can achieve the same with the
        "mount" and "swap" commands but rebooting is a no-brainer)

6)   You can confirm that file-systems and swap partitions are correct
        by using "df" and "swap"... the example from above is as follows:

        % df
        Filesystem   Type   kbytes   use   avail %use Mounted on
        /dev/root   ffs   21583   15424   6159   71% /
        /dev/dsk/isc0d1s13   ffs   43631   4374   39257   10% /tmp
        /dev/dsk/isc0d1s11   ffs   382188   252521   129667   66% /demo
        /dev/usr   ffs   541035   382185   158850   71% /usr
        olin:/mrkt2   nfs   669249   649705   19544   97% /import/mrkt2
        olin:/mrkt1   nfs   669249   632160   37089   94% /import/mrkt1
        bambam:/usr2   nfs   794056   768146   25910   97% /import/usr2
        bambam:/usr1   nfs   842171   637612   204559   76% /import/usr1
        thunder:/demo   nfs   606258   591605   14653   98% /import/thunder

        % swap -l
        path   dev   swaplo blocks   free
        /dev/dsk/isc0d0s1 16,1   0   65536   65536
        /dev/dsk/isc0d0s7 16,7   0   27648   27648
        /dev/dsk/isc0d1s5 16,21   0   384768   384768

7)   Oh, I almost forgot... now all that's left is the minor detail of re-
        loading all the software on DISK1.

As a final note: It is clear that it will be necessary that we are comfortable

h this procedure. The need to help ir customers set up their disks prop
erly is going to be a certainty.