

This is a reference and guide for setting up ATM jumpstart. It was provided by Mark Turlik, President/CEO, Integrated Network Services, Inc.

The key steps are:

1. Loading the Fore ATM drivers to the install image
2. Modifying the dynamic files to point to /tmp/root/etc ... since the boot image is READ ONLY in jumpstart mode
3. Adding the custom scripts required to prompt for IP address and netmask and to update the fore_lanem.conf

Mark used the LANE protocol in his environment. He assumes you would do the same since it appears to be the protocol of choice under ATM.

The document provided is specific to his environment. For example, steps 7-9 under "Steps to Customize a Boot Image" would not be required, though a similar process as exists in step 8 would be needed.

Before Mark actually received the CDRom burning software he was simulating the processes via an ethernet and ATM connection. As part of this simulation he tested Solaris 8 and had some difficulty setting up the "el" device. Since he was using Solaris 2.6, he did not pursue this issue. The same issue may exist under Solaris 2.7. He is sure the problem can be overcome, but he felt it was significant enough that he should point it out.

Steps to Customize Boot Image

<root image> =/export/install/Solaris_2.6/Solaris_2.6/Tools/Boot

1. Load the ATM packages to <root image>
 - (a) pkgadd -R <root image> FORECore
 - (b) pkgadd -R <root image> FOREDrv
 - (c) pkgadd -R <root image> FORESpans
 - (d) pkgadd -R <root image> FOREUni
 - (e) pkgadd -R <root image> FOREclip
 - (f) pkgadd -R <root image> FOREip
 - (g) pkgadd -R <root image> FOREmpoa
 - (h) pkgadd -R <root image> FORExti
2. Customize dynamic files
 - (a) ln -s <root image>/etc/fore/fore_lanem.conf --> /tmp/root/etc/fore/fore_lanem.conf
 - (b) mv <root image>/etc/fore/fore_atm.conf <root image>/etc/fore/fore_atm.conf_template
 - (c) ln -s <root image>/etc/fore/fore_atm.conf --> /tmp/root/etc/fore/fore_atm.conf
3. Create <image root>/etc/set_fore_lanem_conf.psh script to build the **fore_lanem.conf** file
4. Create <image root>/etc/fore/install_ATM_via_JS.psh to load ATM drivers to jumpstarted system
5. Updated <root image>/sbin/rcS to:
 - (a) Load the ATM drivers (load_atm_drivers function)
 - (b) Call the set_fore_lanem_conf.psh script
6. Updated the <root image>/etc/rcS.d/S77FOREdrv script to:
 - (a) Reference /tmp/root/etc/fore/fore_atm.conf
 - (b) Reference /tmp/root/etc/fore/fore_atm.conf.bak
 - (c) Reference /tmp/root/etc/path_to_inst
 - (d) NOT call drvconfig
7. Modify the /jumpstart_atm/scripts/NIMA.begin script to use /sbin/bpgetfile
8. Update /jumpstart_atm/scripts/NIMA.finish to call

```
    ${SI_CONFIG_DIR}/scripts/sub_scripts/install_ATM_vis_JS.psh
```
9. Update /jumpstart_atm/scripts/sub_scripts/set_root_env.sh to not load **install_ATM.psh**

Building the CDROM Image

1. Load the 5/98 Solaris 2.6 CDROM
2. Kill the volume manager daemon, vold
3. Execute prtvtoc /dev/dsk/c0t6d0s0:

```
* /dev/dsk/c0t6d0s0 partition map
*
* Dimensions:
*   512   bytes/sector
*   640   sectors/track
*     1   tracks/cylinder
*   640   sectors/cylinder
*  2048   cylinders
*  2048   accessible cylinders
*
* Flags:
*   1: unmountable
*  10: read-only
*
* Unallocated space:
*   First      Sector      Last
*   Sector      Count      Sector
*   1091200     3200 1094399
*   1104000     206720 1310719
*
*
*   First      Sector      Last
* Partition  Tag  Flags      Sector      Count      Sector      Mount Directory
*   0         4    10           0      988160      988159
*   1         2    10      988160    103040      1091199
*   2         0    00     1091200     3200      1094399
*   3         0    00     1094400     3200      1097599
*   4         0    00     1097600     3200      1100799
*   5         0    00     1100800     3200      1103999
```

4. On a separate disk create partitions for s0, s2, s3, s4, s5 with sizes less than the Sector Count x 512. Note that slice 2 on the CDROM cannot be placed on slice 2 of the disk since it is the whole disk. For example, if disk/dev/dsk/clt2d0 was used, the partitions schema would look something like:

CDROM Slice	Disk Partition	Disk Size Less Than
/dev/dsk/c0t6d0s0	/dev/dsk/c 1 t2d0s0	988160 x 512 = 505 MB
/dev/dsk/c0t6d0s2	/dev/dsk/c 1 t2d0s3	3200 x 512 = 1.6 MB
/dev/dsk/c0t6d0s3	/dev/dsk/c 1 t2d0s4	3200 x 512 = 1.6 MB
/dev/dsk/c0t6d0s4	/dev/dsk/c 1 t2d0s5	3200 x 512 = 1.6 MB
/dev/dsk/c0t6d0s5	/dev/dsk/c 1 t2d0s6	3200 x 512 = 1.6 MB

5. Run a **newfs** on all of the newly created disk partitions. Use **dd** to copy the partition from CDROM to the disk partitions. Using dd will guarantee that the bootblock is also copied.

```
dd if=/dev/dsk/c0t6d0s2 of=/dev/rdisk/clt2d0s3 bs=512 (sun4c bootblock)
dd if=/dev/dsk/c0t6d0s3 of=/dev/rdisk/clt2d0s4 bs=512 (sun4m bootblock)
dd if=/dev/dsk/c0t6d0s4 of=/dev/rdisk/clt2d0s5 bs=512 (sun4d bootblock)
dd if=/dev/dsk/c0t6d0s5 of=/dev/rdisk/clt2d0s6 bs=512 (sun4u bootblock)
```

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6. Mount the disk partitions:
 mount /dev/dsk/clt2d0s3 /mnt/s2
 mount /dev/dsk/clt2d0s4 /mnt/s3
 mount /dev/dsk/clt2d0s5 /mnt/s4
 mount /dev/dsk/clt2d0s6 /mnt/s5
7. Edit the file **.SUNW-boot-redirect** and replace the 1 with a 0. This is needed to have the boot process mount slice zero instead of slice 1.
8. Unmount the disk partitions:
 umount /mnt/s2
 umount /mnt/s3
 umount /mnt/s4
 umount /mnt/s5
9. Create image files via dd for each slice:
 dd if=/dev/rdisk/clt2d0s3 of=slice2.image bs=512
 dd if=/dev/rdisk/clt2d0s4 of=slice3.image bs=512
 dd if=/dev/rdisk/clt2d0s5 of=slice4.image bs=512
 dd if=/dev/rdisk/clt2d0s6 of=slice5.image bs=512
 Note the number of blocks written and create a pad file for slices 2 - 5. The disk partition for these slices should be the exact same number of cylinders to allow us to create a single pad file for these partitions.
10. Create the pad file for partitions 2 through 5
 dd if=/dev/zero of=pad_2345 bs=512 count=nbr
 where nbr is <cdrom sector count> - <blocks written in previous step>
11. Mount disk slice 0 and **cpio** the custom boot image into this mount point
 mount /dev/dsk/c0t0d0s0 /mnt/s0
 cd <custom boot image> -- See procedure:Customize Boot Image
 find . | cpio -pudvm /mnt/s0
12. Unmount the disk partitions:
 umount /mnt/s0
13. Create an image file minus the first block.
 dd if=/dev/rdisk/clt2d0s0 of=slice0.image bs=512 skip=1
14. Create the pad file for partitions 0
 dd if=/dev/zero of=pad_0 bs=512 count=nbr
 where nbr is <cdrom s0 sector count> - <blocks written in previous step>
15. Pull the CDROM VTOC off of the Solaris CDROM
 Kill the volume manager daemon, vold
 Load the Solaris CDROM
 dd if=/dev/dsk/c0t6d0s0 of=cdrom.vtoc bs=512 count=1