Automatic Solaris Installation

Configuration Files - An example profile file

- Having created this profile, we could now commence with the build by booting the client:-

ok ***boot net - install***

- There are one or two further points worth mentioning:-
  - ❖ Make sure the installation directory (in our case *install_info*) is exported to the install client. Edit */etc/dfs/dfstab* to make sure.
  - ❖ If you had to change *dfstab*:-

 # shareall -F nfs

- In our example, the *install_files* drectory was created in a location within the actual Solaris distribution directory, and this whole directory was shared automatically by the *add_install_client* script.

Domain Name dot - VERY IMPORTANT

- During the early stages of booting, the install client looks for it's NIS+ nameserver, **and uses the domainname with a "." at the end**.
- Therefore ensure that your curent domainname setting, and the */etc/defaultdomain* file have a dot at the end of the domain name. If in doubt, reboot!

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Additional Information

- During the install, the client will try to pick up further items of information:-
  - **The subnet mask** which must be specified even if we are not subnetted. - add the network to the *netmasks* database, (NIS *or* NIS+) for example:-

192.168.200 255.255.255.0

  - **The timezone** - add the timezone to the *timezone* database, (NIS, NIS+), or *sysidcfg;* for example:-

GB perch

  * You could also specify a timezone for the domain, rather than an individual machine.

GB ocean.com. **<- Note dot at end**

cat /etc/timezone | /usr/lib/nis/nisaddent timezone

Automatic Solaris Installation

Additional Information

- **The time** - add the alias *timehost* to the *hosts* database for the machine whose time you wish to use.
  - Probably the build server.
- **The locale** - as Solaris has a variety of optional language supports, we must specify the locale. For example:-

C Standard

- This can be held under */etc/locale*, for example:-

perch C
or for the domain..
ocean.com. C

  - (Careful! the Solaris manuals give the locale examples in the wrong order! .. and note the "." again on the end of the domainname!)
- The build client will not have access to the server's */etc/locale* so we must update NIS+, but NIS+ does not support locale by default.
- To overcome this we can provide a file called *sysidcfg* which the build client will examine during booting, in which information such as locale can be specified
- We catered for the presence of this file when running *add_install_client* a little while ago - remember?

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sysidcfg file

- The file can be placed in any NFS mountable file system, but we suggest placing it once again in the distribution directory, in our example */extra/sol8*
- The file contains just the locale name as follows:-

```
system_locale=C
```

- Please create your own version NOW!
- It can contain other information such as Name Service (and server), root password for the client, IP address, timezone, date and time, and some other hardware information.
- If you are not running a name service, this file can be very useful as an alternative to prevent the build going interactive on you!
- A more complex example of a *sysidcfg* file:-

```
system_locale=C
timezone=GB
terminal=sun-cmd
timeserver=localhost
name_service=NIS {domain_name=fatrain.co.uk
                  name_server=squid(192.168.200.22)}
 root_password=wTfitt7
```

- Use *man sysidcfg* to obtain a complete list of the entries allowed.

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Additional Information - Adding locale table to NIS/NIS+

- When you are back at your own site, you might find it more convenient to put the locale information into NIS or NIS+, rather than having another file to worry about.
- The *locale* database can be added to NIS+ as follows:-
- Run this *nistbladm* command:-

```
# nistbladm -D access=og=rmcd,nw=r -c locale_tbl \
            name=SI locale=SI \
            comment=SI locale.org_dir.ocean.com.
```

  - ❖ Now add a locale to the database:-

```
#nistbladm -a name=ocean.com. locale=C \
      comment="General Locale" locale.org_dir.ocean.com.
```

- You should now have the correct locale set up within NIS+.
- To add the locale to NIS is very similar to the customised map creation we looked at earlier in the course.
- Firstly, edit */var/yp/Makefile* and add the *locale* target to the *all* target:-

```
all: passwd group hosts ethers networks rpc services protocols \
     netgroup bootparams aliases publickey netid netmasks c2secure \
     timezone auto.master auto.home locale
```

- Now add the following target to the other ".time"targets near the end:-

```
locale: locale.time
```

Automatic Solaris Installation

Additional Information - Adding locale table to NIS/NIS+

- Now add the following section in an appropriate position in the main body of the Makefile:-

```
locale.time:    $(DIR)/locale
        -@if [ -f $(DIR)/locale ]; then \
        sed -e "/^#/d" -e s/#.*$$// $(DIR)/locale \
        | awk '{for (i = 2; i<=NF; i++) print $$i, $$0}' \
        | $(MAKEDBM) - $(YPDBDIR)/$(DOM)/locale.byname; \
        touch locale.time; \
        echo "updated locale"; \
        if [ ! $(NOPUSH) ]; then \
        $(YPPUSH) locale.byname; \
        echo "pushed locale"; \
        else \
        : ; \
        fi \
        else \
        echo could not find $(DIR)/locale ; \
        fi
```

- Now run the YP *make*, and you should have a working NIS timezone database.

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Additional Information - Adding DCHP, IPv6

SOL 2.6 / SOL 7

❖ Not required in these versions

- Solaris 8 requires further *sysidcfg* information.
- We must specify whether we need DHCP, IPv6, and also the security policy.
- We therefore need

network_interface=le0 {protocol_ipv6=no}

* No DHCP (You have to specify it if you want it) and no IPv6.

security_policy=none

* No kerberos security.

- Note the explicit use of the interface name *le0*; this means that machines with other interface names (e.g. *hme0*)must have different *sysidcfg* files.
- This could be achieved reasonably easily, by creating sub-directories under the */extra/sol8* directory, then keeping the appropriate *sysidcfg* file in them, for example:-

/extra/sol8/hme0/sysidcfg
/extra/sol8/le0/sysidcfg

- Remember to use the correct path when running *add_install_client*

Automatic Solaris Installation

Configuration Files - An example profile file

- If you do not do the above tasks, the build will interactively ask for the information, thus defeating the purpose of the automatic install.
- You can clearly see that you are better off using the NIS+ service to furnish all this information!
- If the build does enter interactive mode and ask for information, it is usually obvious which information is missing, i.e. The subnet mask, timezone or actual time.
- The build process will proceed as follows, with plenty of messages output so you can follow what is going on:-
  - ❖ Perform boot from remote machine and load kernel.
  - ❖ Search for the install directory and configuration directory.
  - ❖ Start Openwindows and configure the rest of the Operating System services as usual.
  - ❖ Examine build profile and commence build.
  - ❖ Halt the system and reboot from the newly installed Solaris.

Automatic Solaris Installation

Exercise.

- At this stage, we will not attempt to perform a build; we will leave this until later, when we have covered the *rules* and *profile* files in more detail.
- In the meantime, prepare your own environment ready to support an automatic build:-
  - ❖ Make sure the CDROM is mounted correctly, or that you have successfiully located a copy of the distribution on disk.
  - ❖ Create your own installation configuration directory from *jumpstart_sample*.
  - ❖ Decide on the IP and Ethernet addresses of an install client, and add support for it.
  - ❖ Make sure the file systems are exported correctly to the client.
  - ❖ Check the *bootparams* database; you will have to add and entry pointing to the installation configuration directory.
  - ❖ Add, to your information databases, the necessary subnet mask, timezone and timehost details.