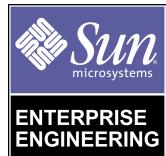




Solaris™ 8 Operating Environment Additions to sysidcfg

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Solaris™ 8 Operating Environment Additions to sysidcfg

In the October 1999 article titled *JumpStart™: NIS and sysidcfg* (<http://www.sun.com/software/solutions/blueprints/1099/jumpstart.pdf>), I wrote about how to configure NIS for JumpStart™ software and the use of sysidcfg to enable hands-off installations of Solaris™ Operating Environment. There are two additions to the install process for Solaris 8 Operating Environment (IPv6 and Kerberos Security Policies). The configuration of both of these can now be handled at install time via sysidcfg.

As a quick refresher, sysidcfg is a configuration file that provides information needed for a configuration, such as: system_locale, timezone, terminal, name_service, timehost, and root_password. This information is stored in a file that must be called sysidcfg and is exported to the machine being installed. For example, to create a sysidcfg file for the machine sephora, you can have a filesystem on the install server /export/SYSIDCFG which is exported and mountable by the machine sephora. You would create another directory "mkdir -p /export/SYSIDCFG/sephora" and place the file called sysidcfg in that newly created directory. The contents of the file would look something like this.

```
system_locale=en_US
terminal=sun
timezone=US/Pacific
name_service=NIS
timehost=harpers
```

When running the add_install_client script you would add "-p harpers:/export/SYSIDCFG/sephora" to the commandline.

```
./add_install_client -c harpers:/export/jumpstart -p harpers:/export/SYSIDCFG/sephora sephora sun4u
```

New for Solaris 8 Operating Environment

Network_interface and IPv6 sysidcfg will allow the configuration of a single network interface. You can only configure a single interface, as only one instance of a keyword, in this case "network_interface", is valid and only the first instance found will be used.

The basic structure is: `network_interface=VALUE {hostname=HOSTNAME ip_address=IP_ADDRESS, netmask=NETMASK, protocol_ipv6=YES or NO}`

For the network_interface VALUE, you can specify either the device name. (hme1 or qfe3) or you can use the keyword PRIMARY. The PRIMARY keyword implies the first interface that is seen, usually hme0.

The values for hostname and ip_address should be included for the sake of clarity. However, the current HOSTNAME and IP_ADDRESS will be used at installation by default, if no other are specified. Now, how or why should this matter? In some environments you do not do installations on a production network. It can cause unplanned spikes in network utilization. So, you might have 2 physical interfaces on a machine. One interface will be used to do the installation on a non-production network. However, you would want to configure the network interface of the machine being installed to use the interface on the production network.

The value for NETMASK is the decimal notation for the netmask. So if your default netmask is FFFFFF00, the value in the sysidcfg file would be netmask=255.255.255.0. Again, the sysidcfg file will override any value that exists in the netmask.byaddr NIS map. However, if the no netmask is defined in the sysidcfg file, the netmask entry in netmasks.byaddr will be used.

IPv6 expands the network layer address space from 32bits to 128bits. So this function is defined by the network_interface entry in the sysidcfg file. There are a couple of ways to handle this. You can specify the interface instance, which you might want to do if you are installing a machine where you are using an interface that is not the primary interface, or if you only have one interface on the machine you can use the keyword "primary". The flag to use IPv6 is binary, yes or no.

Here are a few examples.

- `network_interface=primary {protocol_ipv6=no}` (This is the simplest case)
- `network_interface=hme1 {hostname=sephora2 ip_address=192.29.209.46 netmask=255.255.255.0 protocol_ipv6=no}` (This would set the hme1 interface instance.)
- `network_interface=qfe3 {hostname=sephora-ipv6 protocol_ipv6=yes}` This would set the qfe3 interface instance to be configured for IPv6, but, it would use other Name Services to get the ip address and netmask.

Kerberos Security Policies

The Kerberos system authenticates individual users in a network environment. After authenticating yourself to Kerberos, you can use the Kerberos authentication option of network services such as NFS. You can also use Kerberos to do remote functions like `rsh` and `rcp` with having to use a password and better still without having to use `.rhosts` files.

If you do not use Kerberos you can just put the following in the `sysidcfg` file.

```
security_policy=none
```

If you do use Kerberos you use the following configuration. However, the entries will be specific to your Kerberos environment.

```
security_policy=kerberos {default_realm=Your_Kerberos_Realm  
admin_server=Your_Kerberos_Administration_Server  
kdc=KK0  
kdc=KK1  
kdc=KK2  
kdc=KK3  
kdc=KK4  
kdc=KK5 }
```

For more information on Kerberos, you can look at the following man pages in Solaris 8 Operating Environment.

Note – Note: The `-s SECTION#` flag tells the `man` command which man page section to use. This is very useful when looking up a command or system call that has more than one instance, like `rsh`, `write`, or `kerberos`.

```
man -s 1 kerberos  
man -s 1 kinit  
man -s 1 klist  
man -s 1 kdestroy  
man -s 1m kerbd  
man -s 4 kerb.conf  
man -s 4 krb.realms
```

So here is a working sample of a `sysidcfg` that will enable complete hands-off installation of Solaris 8 Operating Environment.

```
system_locale=en_US
terminal=xterms
timezone=US/Pacific
name_service=NIS
timehost=henry8
network_interface=primary {protocol_ipv6=no}
security_policy=none
```

With the above information , and information from previous Sun BluePrints™ OnLine articles, you can now do a fully hands-off installation of Solaris 8 Operating Environment. Using JumpStart software and `sysidcfg` will provide uniform Solaris Operating Environment installations and save you time.

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Rob is a member of Sun's Enterprise Technology Center technical staff. He has over ten years experience in UNIX® system administration, networking, and performance tuning. His major responsibilities include architecting and designing data center and network architectures.