

# SCO Forum 2006

MOBILITY EVERYWHERE >

## Best Practices in Upgrading to OpenServer 6 for System Administrators



Evan Hunt  
Senior Software Engineer

Session 122, 131

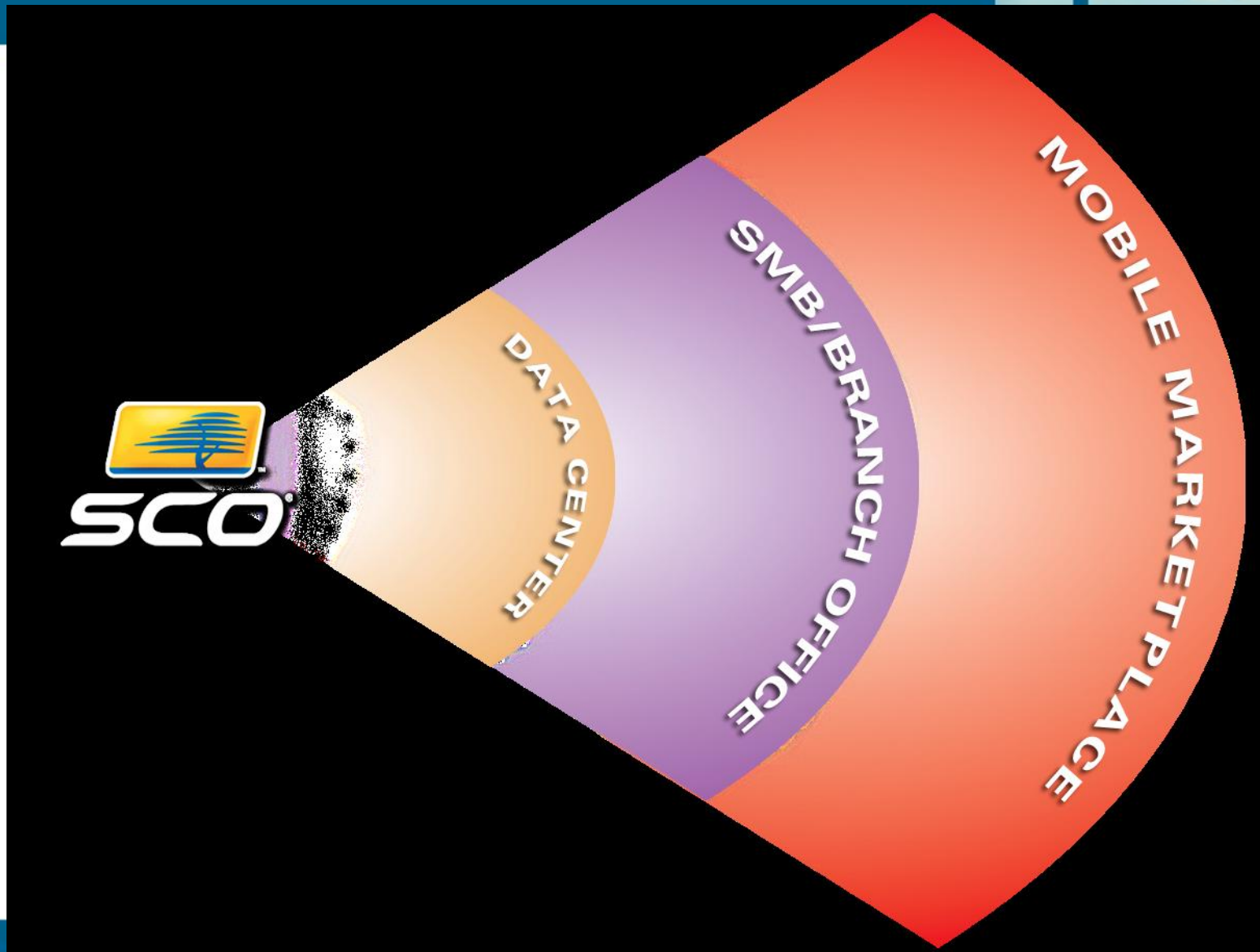
1



Platinum Sponsor



# SCO Automates Transactions



# SCO UNIX Products





- In this session we will cover:
  - Migrating from OSr5 to OSr6
    - System configuration
      - Hardware
      - User accounts
      - Email
      - Network configuration
    - Migrating your user and application data
  - Changes in OSr6
    - Console
    - Large files
    - Performance monitoring
  - New subsystems in OSr6
    - CUPS Printing
    - AFPS -> Samba

# Migrating Hardware Configuration



- The new SVR5 kernel should recognize and automatically configure almost all hardware devices – you no longer need to manually configure devices
- Sound Cards:
  - Only Intel ICH4 and prior chipsets that comply with the AC'97 standard are supported at this time – they will be detected and automatically configured at boot
  - New sound card support with 4Front, coming soon
- Printers:
  - Use the **Printer Manager** to re-create your printer setup
  - Both System V and CUPS printing systems are supported

# Migrating Hardware Configuration



- Serial Cards:
  - All supported serial cards are now auto-detected at boot, you no longer need to add or configure them in the **Serial Manager**
  - However, you must run the **Serial Manager** at least once to create the devices nodes and configure the ports controlled by the serial cards before you can start using them
  - Serial cards with 3rd party drivers will need a new SVR5 driver
- Modems:
  - Configured as usual through the **Modem Configuration Manager**
  - PC Card (PCMCIA) modems must be configured using the **DCU** (no winmodems)

# Migrating Hardware Configuration



- Mass Storage Devices:
  - should be auto-detected and configured at boot time – use the **DCU** to configure HBAs that were not auto-detected
  - use **mkdev hd** to view detected hard disks and configure filesystems on them (or run fdisk and divvy manually)
  - use **mkdev cdrom** to view detected CD-ROM drives
  - use **mkdev tape** to view detected tape drives. Most tape drives supported on OSR5 are also supported on OSR6 except some floppy-tape (QIC-80) devices

# Migrating Hardware Configuration – Device Nodes



- In general OSR6 supports both OSR5-style and SVR5-style (UnixWare) device nodes
- For hard disk nodes, a combination is used:
  - Partitions are OSR5-style:
    - /dev/[r]hd**XY**                      **X** is the physical disk number
    - /dev/dsk/**XsY**                      **Y** is the partition number
  - Divisions (slices) are SVR5-style:
    - /dev/[r]dsk/c**XbXtXdXsZ**
    - /dev/[r]dsk/c**XbXtXdXpYsZ**
    - **X** is the SCSI address as output by **sdiconfig -l**
    - **Y** is the partition number
    - **Z** is the division (slice) number



# Migrating User Accounts



- Archive accounts and group membership on the OSR5 system:

```
ap -d -g -v > profile.acct
```

- Restore the accounts on the OSR6 system. OSR5 and OSR6 treat long passwords differently, so there are two methods for restoring your account details:

1. truncate the long passwords to 8 characters:

```
ap -r -f profile.acct
```

2. specify a new default password for all accounts with long passwords only:

```
ap -r -f profile.acct -p password
```

# Migrating email configuration



- User inboxes:
  - copy */usr/spool/mail* from OSR5 to */var/mail* on the OSR6 system
- MMDF configuration:
  - copy only the following files from OSR5 to the OSR6 system:
    - */usr/mmdf/mmdtailor*
    - */usr/mmdf/table/\*.chn*
    - */usr/mmdf/table/\*.dom*
    - */usr/mmdf/table/alias.\**
    - */usr/spool/mmdf/lock/home/q.\**
  - on the OSR6 system, enter the following commands:
    - `su mmdf`
    - `cd /usr/mmdf/table`
    - `./dbmbuild`
    - `exit`



- SendMail configuration:
  - merge the contents of the OSR5 configuration files with the new OSR6 files, do not simply copy them:

OSR5	OSR6
/usr/lib/sendmail.d/access	/etc/mail/access
/usr/lib/sendmail.d/aliases	/etc/mail/aliases
/usr/lib/sendmail.d/domains	/etc/mail/domaintable
/usr/lib/sendmail.d/local-hosts-names	/etc/mail/local-hosts-names

# Migrating Mail



- To preserve vacation notifications and custom forwarding, copy the following files from each user's home directory
  - MMDF:
    - ~/.maildelivery
    - ~/.alter\_egos
    - ~/tripnote
    - ~/triplog
  - SendMail:
    - ~/.forward
    - ~/.vacation.msg



- The loopback interface is no longer presented in the **Network Configuration Manager**
- The “Add New WAN Connection” menu item has been removed from the **Network Configuration Manager**
- SCO PPP is no longer supported, PPP is provided by Morning Star PPP
- SLIP is provided by Morning Star PPP
- Netware and IPX/SPX are no longer supported



- Static IP addresses:
  - On the OSR5 system, use the **ifconfig -a** command and note the IP address, netmask, broadcast address and frame type of the existing network interfaces. Use the **netstat -rn** command to determine the default route. Use the **hostname** command to determine the host and domain name.
  - On the OSR6 system, enter these values at ISL or via the **Network Configuration Manager** after ISL.
- DHCP:
  - Set "DHCP client" option to "yes" at ISL or via the **Network Configuration Manager** after ISL.

# Migrating Networking: TCP/IP



- Migrate the following configuration files (merge with existing files, do not simply copy):

/etc/hosts	Hostnames and IP addresses
/etc/default/tcp	TCP/IP configuration file
/etc/tcp	TCP/IP configuration file
/etc/inetd.conf	Services available through <b>inetd</b>



- To migrate your DHCP Server configuration, copy */etc/dhcpd.conf* to the OSR6 system.
- To migrate your Address Allocation Server (AAS) configuration, copy */etc/aasd.conf* to the OSR6 system



# Migrating Networking: Routing



- **gated** and **routed** have been updated in OSR6. The new **routed** adds RIPv2 support and both can do router discovery
- The new command **rtquery** allows you to query the routing daemons and provides additional control over **routed**
- Migrate the following configuration files:

/etc/gated.conf	<b>gated</b> configuration – do not simply copy, changes are needed, see gated.conf(SFF)
/etc/gateways	<b>routed</b> configuration, copy to /etc/inet/gateways – supports many more keywords, see routed(ADMN)
/etc/gated.bgp	BGP configuration
/etc/gated.egp	EGP configuration
/etc/gated.ospf	OSPF configuration
/etc/gated.rip	RIP configuration

# Migrating Networking: DNS



- DNS has been updated to BIND 8.4.4 in OSR6, which includes security fixes and new features
- Copy the following configuration files:

/etc/named.conf	<b>named</b> configuration
/etc/resolv.conf	Resolver configuration
/etc/named.d/*	DNS data files

- Then use the **ndc restart** command to restart **named**



- NIS is unchanged in OSR6
- There are no configuration files to migrate over (assuming you already migrated over the user accounts using **ap**).
- Run the **ypinit** command to configure NIS:
  - m                    configure as a master server
  - s *master*            configure as a slave server
  - c *master*            configure as a copy-only server
  - C                    configure as a client



- UUCP is unchanged in OSR6
- Copy the following configuration files:
  - /usr/lib/uucp/Devices
  - /usr/lib/uucp/Permissions
  - /usr/lib/uucp/Poll
  - /usr/lib/uucp/Systems

# Migrating an FTP Server



- **ftpd** has been updated to version 2.4 in OSR6, it includes security fixes and additional features
- New **FTP Server Manager** can be used to configure **ftpd**
- Migrate the following configuration files:

/etc/ftpusers	merge with existing file in OSR6
/etc/shells	merge with existing file in OSR6
/etc/ftpconv	merge with existing file in OSR6
/etc/ftpaccess	syntax has changed for: <b>private</b> keyword <b>upload</b> keyword

# Migrating NFS



- NFS has been updated to NFSv3 in OSR6, its substantially different from the NFSv2 in OSR5
- **automount** no longer looks at the NIS auto.master map file unless the following line is added to */etc/auto.master*
  - `+auto.master`
- Use the information in the OSR5 configurations files to edit the OSR6 files, you cannot simply copy the configuration files from OSR5 to OSR6:

<code>/etc/default/filesys</code>	Used by client to define the systems to be mounted. The device names will differ on OSR6.
<code>/etc/exportfs</code>	Used by the server to define filesystems that clients can mount. The device names will differ on OSR6.
<code>/etc/auto.master</code>	Lists initial automount configuration
<code>/etc/auto.direct</code>	Lists direct automount configuration
<code>/etc/auto.indirect</code>	Lists indirect automount configuration



- NTP is basically the same on OSR5 and OSR6
- The default configuration file (*ntp.conf*) is the same on both platforms, but is now located in */etc/inet/ntp.conf* instead of */etc/ntp.conf*
- You will also need to copy over any files containing authentication keys and create any log files defined in *ntp.conf*

# Migrating PPP



- SCO PPP has been replaced by SCO Morning Star PPP
- There is not yet any graphical administration tool for Morning Star PPP
- If you were already using Morning Star PPP on OSR5, you can simply copy over the following files:
  - /usr/lib/mstppp/Autostart
  - /usr/lib/mstppp/Accounts
  - /usr/lib/mstppp/Auth
  - /usr/lib/mstppp/Systems
  - /usr/lib/mstppp/Devices
  - /usr/lib/mstppp/Dialers.local
  - /usr/lib/mstppp/exec.in/\*
  - /usr/lib/mstppp/exec.out/\*



# Migrating PPP



- To migrate from SCO PPP to Morning Star PPP, save the following files from the OSR5 system for reference:
  - `/etc/ppphosts`
  - `/etc/pppauth`
- For outbound connections:
  - use the host entries in the OSR5 `/etc/ppphosts` file when editing the `/usr/lib/mstppp/Systems` OSR6 file
  - use the PAP/CHAP information in the OSR5 `/etc/pppauth` file for the `/usr/lib/mstppp/Auth` OSR6 file
- For inbound connections:
  - use the host entries in the OSR5 `/etc/ppphosts` file when editing the `/usr/lib/mstppp/Accounts` OSR6 file
  - use the PAP/CHAP information in the OSR5 `/etc/pppauth` file for the `/usr/lib/mstppp/Auth` OSR6 file

## Migrating User and Application Data



- You can migrate your user data via a backup tape, over a LAN, with an external USB hard drive, or by mounting the original OSr5 disk on the new OSr6 system
- Creating a backup tape is the recommended method because it allows you to restore to a VxFS filesystem and take advantage of large file support, journaling, etc
- Either use a 3rd party backup solution that is supported on both platforms (eg. BackupEdge or LoneTar) or use the **cpio** command
- To restore an OSr5 cpio archive on OSr6:  

```
cpio -iAmudB -I<backup_device>
```

## Migrating User Data – External Drive



- On 5.0.7 MP3 and later systems, you can use an external USB hard disk for data transfer.
- Use **mkdev hd** command to configure the USB hard disk, then use it again to create partitions/filesystems. (See “Configuring a USB hard disk” in online documentation.)
- Copy files into the new filesystem using **cpio** or similar
- Connect drive to OSr6 system, then run **getlclfsdev** to find the /dev node names for the partitions. Use the **Filesystem Manager** to mount them.

## Migrating User Data – Mount OSr5 disk



- To mount an existing OSr5 disk (5.0.6a or 5.0.7 only), you must first install the WD Driver Supplement on the OSr5 system (included in all 5.0.7 MP releases).
- Connect the drive to the OSr6 system
- After booting, login as root and run the command **getlclfsdev** to determine the */dev/dsk* device nodes for the filesystems on the disk.
- Use the **Filesystem Manager** to mount the filesystems
- Note: HTFS file systems on OSr6 do not support journaling or versioning



- Console
- Large files
- Multiprocessor systems
- Performance monitoring

## Changes To Be Aware Of: Console



- Console termtypes has changed from scoansi to at386-ie (FCS) or ansi (MP2 and later)
- Applications with "hard wired" scoansi escape sequences may not work directly on the OSr6 console (but will usually work in a scoterm, or remote login from an OSr5 system)
- Applications that use terminfo/termcap to determine terminal characteristics should work fine

## Changes To Be Aware Of: Large files



- VxFS filesystem supports files > 2GB
  - disable fsadm -o nolargefiles /<mountpoint>
- Commands updated to understand large files are in /u95/bin
- Some commands have been modified, e.g.:
  - **cpio -c** default archive format is different; to produce the old format, use **cpio -Hodc**
  - **cpio -n** option no longer supported
  - **ls -l** output spacing is different

## Changes To Be Aware Of: Multiprocessor systems and performance monitoring



- Two new commands for managing MP systems: **psrinfo** and **psradm**
- **cpuonoff** still exists as well
- (NOTE: **cpuonoff** counts processors from 1, **psradm** and **psrinfo** count from 0)
- **rtpm** added for monitoring MP performance.
- **mpstat** still exists. (NOTE: counts from 1.)
- **sar** updated; **-Kudk** flag turns on SVr5 behavior



# Configuring New Subsystems



- CUPS
- Samba

# Configuring CUPS Printers



- To use just CUPS:
  - edit */etc/default/lpd*
  - `PRINTER_SYSTEM=CUPS`
  - the **Printer Manager** will automatically launch the CUPS web-based administration tool
  - login as root and use root's password
- To use both CUPS and SYSV lp (default) :
  - edit */etc/default/lpd*
  - `PRINTER_SYSTEM=SYSV`
  - the **Printer Manager** will manage the SYSV lp printers
  - To configure CUPS printers, enter the following URL in a browser:
    - <http://localhost:631>
    - login as root and use root's password
- **NOTE:** the CUPS administration tool only allows alpha-numeric characters in the password, so you will have to change root's password if it contains non-alphanumeric characters



- Initial configuration is done via **mkdev samba**:
  - workgroup name
  - WINS configuration
  - Security Domain or Active Directory configuration
  - Enable and activate Samba daemon
- The Samba configuration file can be found in */etc/samba/smb.conf*

# OpenServer 6 Support Resources



- Upgrade Guide:
  - <http://www.sco.com/support/docs/openserver/600/upgrade/index.html>
- Morning Star PPP User's Guide
  - [http://osr600doc.sco.com/Internet/MST\\_PPP/CONTENTS.html](http://osr600doc.sco.com/Internet/MST_PPP/CONTENTS.html)
- Knowledge base:
  - <http://wdb1.sco.com/kb/search>
- Online Documentation and Late News
  - <http://www.sco.com/support/docs/openserver/>

# OpenServer 6 Support Resources



- Support Download Page for OpenServer 6:
  - <http://www.sco.com/support/update/download/product.php?pfid=12&prid=20>
- SCO "Legend" Mailing List: **Public**
  - [Legend-subscribe@list.sco.com](mailto:Legend-subscribe@list.sco.com)
- Porting/Migration Alias:
  - [osr5to6@sco.com](mailto:osr5to6@sco.com)
- Certified and Compatible Hardware
  - <http://www.sco.com/chwp>

# SCO Implementation Services



- Assessment Service
  - Evaluate Migration requirements
- Porting Service
  - Port required application
- Deployment Service
  - Assist with roll out and deployment
- Education Service
- Customized training delivered by SCO Professionals

# Support Bundles and SCO System Audit



- **Support Bundles:**
  - Six month unlimited technical support - OpenServer 6/UnixWare 7.1.4
  - Multitude of upgrade options to suit business requirements
  - Single registration for product and support
- **SCO System Audit:**
  - Proactive, non-disruptive system integrity check
  - Conveniently pre-scheduled or run ad-hoc
  - Deliverables - analysis and assessment report
  - Wide range of options available for corrective actions

# Contact Us



- Support Services

North America

- Phone: (800)726-6561
- Email [naisr@sco.com](mailto:naisr@sco.com)

International

- Phone: 44 8700 994 992
- Email: [suppco@sco.com](mailto:suppco@sco.com)

On the web

[www.sco.com/support/programs](http://www.sco.com/support/programs)

- Professional Services

North America

- Phone: (831)430-4510
- Email: [yasmink@sco.com](mailto:yasmink@sco.com)

International

- Phone: 44 1707 22668
- Email: [rsutton@sco.com](mailto:rsutton@sco.com)

On the web

[www.sco.com/consulting](http://www.sco.com/consulting)



# Get Your Passport Stamped



- Be sure to get your Passport stamped.
  - Get your passport stamped
    - By breakout session instructors
    - By exhibitors in the exhibit hall
  - Turn in your Passport
    - After the last breakout session on Wednesday
    - Drawing for great prizes for Wrap-up Session
- Remember to complete the breakout session evaluation form, too

**WIN BIG**

SCO Forum 2006  
PASSPORT

Turn in this card at the Registration and Information desk. Prize drawings will be held during the Closing Session of SCO Forum, at 4pm on Tuesday, August 9th. You must be present to win.

**HOW**  
> Att  
> Visi  
> Hav  
Atten  
a drap  
iPods

Name: \_\_\_\_\_  
Company: \_\_\_\_\_  
eMail: \_\_\_\_\_  
Phone: \_\_\_\_\_

**Breakout Sessions**

Monday: ○ ○ ○  
Tuesday: ○ ○ ○

**Tradeshow**

○ ○ ○ ○ ○ ○ ○ ○ ○ ○



- Questions and, ideally, Answers