



## OpenScape 4000 - v7 uc

Unified Communications Linux vServer (OS4k)

## HiPath 4000 - v6

Linux Communication Server (HP4k)

**Linux commands** for OS4k v7 & HP4k V6 => [HostName~: #](#)

Linux commands for Assistant / CSTA V6 up => [linux~: #](#)

SUSE Linux syntax [examples](#) ....

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### Changes:

- 1. Published=Dec. 31, 2012 = Happy New Year! / 2.Rev.= Feb.2013 = minor changes. / 3.Rev.=Apr.2013= v6r2 tethereal ( [add wireshark package](#) )
- 4.Rev.=July23 = rewrote [TIME section](#) for Robert Reed. / 5.Rev.= Dec.2 = Unify + [egrep = find a word inside a file](#)
- 6.Rev.=July 2014 = added [crm resource rsc4](#)
- 7.Rev.=Aug.2014 =add [#history, Tab](#) key and Michael (Sandy-UK) Gallard's suggestion = [# ls -hlt => "h= human"](#)
- 8.Rev. = Oct.2104 = [echo ""](#) > file\_name\_to\_empty
- 9.Rev. = May 2015 = added [interpretation for #service ntp status](#)  
= Under Construction... ; changing on the fly...



Do you have an useful Linux command to share ?  
Please send to me, I'll post on this doc. (collaboration)...

Total of 17 pages; growing...

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## 0. Scope & Help:

OS4k & HP4k V6 are based on SUSE Linux OS and runs Linux-VM for Assistant & CSTA.

This doc. shows useful commands examples for daily work and help you to like Susy-Linux & VM....

For **FTP** and how to **access Linux**, consult the doc. "**V6 Accessibility and Shutdown Procedures.pdf**";

locate on <http://tac.global-intra.net> => Large Platform -> HiPath4000 V6 -> Reference and Config. docs. and on GSI.flow => KM

**# apropos subject** => search the subject on commands (e.g.: ntp or list or what ever...). A PROPOSito = on purpose...

```
OM-dp2B:~ # apropos ntp
grantpt (3p)      - grant access to the slave pseudo-terminal device
Net::NNTP (3pm)   - NNTP Client class
ntp.conf (5)      - Server Options
ntp_acc (5)       - Access Control Options
ntp_auth (5)      - Authentication Options
ntp_clock (5)     - Reference Clock Options
ntp_misc (5)      - Miscellaneous Options
ntp_mon (5)       - Monitoring Options
ntpd (8)          - Network Time Protocol (NTP) daemon
ntpdcc (8)        - special NTP query program
ntpq (8)          - standard NTP query program
ntpstat (8)       - show network time synchronisation status
ntp_gettime (8)   - read kernel time variables
```

**# command --help** => e.g.: **# df --help** => get **help** on arguments "-x" (linux -secret)

**# man command** => **# man df** => to get out of **manual help** => **Ctrl Z**

**# ls /bin** => **displays** most of **commands**

/bin = binary = where the executables are, can be also on /sbin, /cla/bin, etc...

**# whatis command**

```
OM-dp2B:~ # whatis df
df (1)      - report file system disk space usage
df (1p)     - report free disk space
```

**# whereis command**

```
OM-dp2B:~ # whereis df
df: /bin/df /usr/share/man/man1/df.1.gz /usr/share/man/man1p/df.1p.gz
#####
```

## I. Cron: => Chronology

To insert an automatic schedule run command on Linux; do:

**# crontab -e**

**Insert key** ==> to insert / edit the cron file and type as below

**0 1 \* \* \* service sysinfod stop**

**2 1 \* \* \* service sysinfod start**

Press **Esc** key and type **:wq** => write and quit

The result you can see with **#crontab -l** => as below example....

**Explanations of commands:** **at 1:00 AM (every day), cron will execute #service sysinfod stop**  
**and at 1:02 AM cron will execute #service sysinfo start**

**\*\*\*\*\* = \*minute, \*hour, \*day, \*month, \*day\_of\_week (0-6=Sunday~Sat.)**

**Example:**

```
HP4K-COR2-COL:~ # crontab -l
# DO NOT EDIT THIS FILE - edit the master and reinstall.
# (/tmp/crontab.XXX4ZmFLr installed on Fri Sep 28 12:02:02 2012)
# (Cron version V5.0 -- $Id: crontab.c,v 1.12 2004/01/23 18:56:42 vixie Exp $)
0 * * * * /var/opt/linux-basicinit/Cron-SC2HWC.sh
0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58 * * * *
/opt/cla/bin/checkcla
***** /usr/sbin/systemdiag.sh
0 1 * * * service sysinfod stop
2 1 * * * service sysinfod start
```

## II. DSCXL2 processor card:

BIOS version date for VXCC0001 is 02/08/2010 which is the correct/needed version on V6R1.

BIOS date for VXCC0002 is 08/06/2010 which is the faulty version.

BIOS =Basic Input Output System = FirmWare for initialization (boot) of card (motherboard)...

```
# /usr/sbin/dmidecode -s bios-release-date
```

```
12/12/2011 => for V6R2 VXCC0004
```

```
DSCXL2:~ # service boot.bios_dscxl status
```

```
Checking BIOS version of DSCXLv2:
```

```
... the actual DSCXLv2 BIOS version is: VXCC0004 - 12/12/2011 (12/13/11)
```

```
... no DSCXLv2 BIOS update available. unused =>Actual card is ok, but if you
```

replace the DSCXL2 loaded w/old bios; the current HD will not update the bios. Fix for V6R2:

```
DSCXL2:~ # cp /opt/biosdscxl/VXCC0004.UPD /var/opt/biosdscxl/
```

```
DSCXL2:~ # service boot.bios_dscxl status
```

```
Checking BIOS version of DSCXLv2:
```

```
... the actual DSCXLv2 BIOS version is: VXCC0004 - 12/12/2011 (12/13/11)
```

```
... the DSCXLv2 BIOS is up to date.
```

---

```
OM-dp2A:~ # checkydata => HP4k Platform Version
```

```
V6_R1.12.2
```

```
Component softgate is not installed
```

```
Version Check OK
```

```
OM-dp2A:~ # cat /var/run/dscxl2/hwinfo.xml => card info
```

```
/etc/init.d/boot.d/S15boot.dscxl2</comment>
```

```
<HwType>DSCXLv2
```

```
<HwVariant>080BAABDAIA1
```

```
<HwVersion>V2.2
```

```
<HwSerial>05063857
```

```
JW-Srv-kit:~ # checkydata
```

```
V6_R2.14.5
```

```
Version Check OK
```

```
JW-Srv-kit:~ # cat /etc/SuSE-release
```

```
SUSE Linux Enterprise Server 11 (x86_64) => VERSION = 11 => PATCHLEVEL = 1
```

```
JW-Srv-kit:~ # cat /proc/version or Display Linux kernel: # uname -r or -a = all
```

```
OM-hpa60:~ # uname -a
```

```
Linux OM-hpa60 2.6.32.59-0.7-default #1 SMP 2012-07-13 15:50:56 +0200 x86_64 x86_64 x86_64 GNU/Linux
```

```
/* This kernel corrects the 208days issue /*
```

!! Do NOT install Linux patch directly yourself; those are delivered by SEN in format of HP4k V6 PLatform (PLT) Hot Fix.

Do NOT try to change the Linux behaviour as e.g. delete/change kernell files; will have bad collateral effects as restart, apps broke.

From V6R2 Linux-host is running on Novell: SUSE Linux Enterprise Server "JeOS" (Just enough Operating System based on SLES 11 SP1)..

The JeOS is informally called also as "Jesus" = Just Enough SUSE linux OS !!

---

```
OM-dp2B:~ # free -g => Memory in Gigabyte
```

	total	used	free	shared	buffers	cached
Mem:	3	3	0	0	0	0
-/+ buffers/cache:		2	1			
Swap:	15	0	15			

```
OM-dp2B:~ # cat /proc/meminfo => Memory detailed info
```

```
MemTotal: 3924828 kB
```

```
MemFree: 214192 kB
```

```
Buffers: 48608 kB
```

```
Cached: 916064 kB
```

```
.....
```

```
OM-hpa60:~ # cat /proc/cpuinfo => running hw processor
```

```
processor : 0
```

```
vendor_id : GenuineIntel
```

```
model name : Intel(R) Core(TM) i5 CPU 660 @ 3.33GHz
```

```
#####
```

### III. Directory:

linux~: # => Assistant, ~ = /root/ directory  
OM-dp2A~: # => OM-dp2A ( set on # yast ) = HP4k V6 Linux-Hostname, ~ = /root/ directory

# **pwd** => = present work directory = where am I ?  
# **cd /** => = change directory to / = goes to initial directory tree;  
# **cd /opt/uba** => goes direct to /opt/uba/....  
# **cd** => goes to /root/..  
# **cd ..** => back one subdirectory.

```
linux:~ #cd /opt/uba/backup
linux:/opt/uba/backup #pwd
/opt/uba/backup
linux:/opt/uba/backup #cd ..
linux:/opt/uba #
```

# **mkdir** xxxxx => make / create a directory xxxxx  
# **rmdir** yyyyy => remove directory yyyyy (directory must be empty)

#####

### IV. Edit Files with vi (vi-sual)

# **vi** file\_name\_to\_edit  
Insert key => then scrool down, enter to create line and type.....  
dd = delete line  
Esc then type **:wq** = write and quit  
          **:q!** = quit, not saving; when you're lost...

#####

### V. Files:

Filename Extensions	Description
.c	C programming language source code files
.cc .cpp	C++ programming language source code files
.html .htm	HTML (Hypertext Markup Language) files
.ps	Files formatted for printing with postscript
.txt	Text files
.tar	Archived files (contain other files within)
.gz .bz2 .Z	Compressed files
.tar .gz .tgz .tar .bz2 .tar.Z	Compressed archived files
.conf .cfg	Configuration files (contain text)
.so	Shared object (programming library) files
.o	Compiled object files
.pl	PERL (Practical Extraction and Report Language) programs
.tcl	Tcl (Tool Command Language) programs
.jpg .jpeg .png .tiff .xpm .gif	Binary files that contain graphical images
.sh	Shell scripts (contain text that is executed by the shell)

Abort the view of a file:

Ctrl C or Ctrl Z or Ctrl Q or Delete "Key"; one of them should work...

Compare Files (difference):

# diff file1 file2

```
linux:/home/engr # diff /opt/hbr/sys/perl/hbr/SRVftp.pm /opt/hbr/sys/perl/hbr/SRVftp.pm.orig
```

Copy file / directory: # cp file\_name1 file\_name2\_copied

Create a file: # touch file\_name\_to\_create

Empty a file: # echo "" > file\_name\_to\_make\_as\_1byte\_size

Overwrite the existing PDS update package on Survivable Softgate Assistant with a dummy: # echo "Dummy PDS for SurvSG" > ./AS/SWS/RLC/rmx/partfiles/\*.e.zip

Find a file:

# find / -name file\_name (e.g.: #find / -name message\* )

# find /opt -size +500M => find files bigger than 500M on directory /opt

Delete file = rm (remove):

# rm file\_name => warning !!! Vorsicht !! cuidado!! you can not reverse....

# rm -r directory => rm=del. and -run Forest; you will delete the entire directory with all files inside

List files / directories:

# ls -hlt => best list -h=human readable=K,M,G -l=long format -t=time showing 1.new files

```
House2-hipath4000v6:/opt/dscxl/share # ls -hlt
```

```
total 5.9G
-rw-rw-rw- 1 root root 2.9G Aug 27 08:12 hicom_2011_08_05_21_36.img
-rw-r--r-- 1 root root 214M Apr 23 09:03 RMX-db_save.img.bz2
-rw-rw-rw- 1 root root 2.9G Apr 23 08:54 hicom_second_harddisk.img
lrwxrwxrwx 1 root root 42 Apr 23 08:50 hicom_second.img ->
/opt/dscxl/share/hicom_second_harddisk.img
lrwxrwxrwx 1 root root 43 Aug 5 2011 hicom_ccap.img ->
/opt/dscxl/share/hicom_2011_08_05_21_36.img
lrwxrwxrwx 1 root root 43 Aug 5 2011 hicom.img -> /opt/dscxl/share/hicom_2011_08_05_21_36.img
drwx----- 2 root root 16K Nov 18 2010 lost+found
```

# l => # ls -alF => list -all, long-format, Files-directories-symbolic

# l -t => -time, show latest files first, order by date...

# l -rt => -reverse order, first old files to list...

# ls => list short format or # ls -l => list 1 per line

# ls -Shl => -Sort from file sizes, -hl see above..

```
OM-Srv-kit:/var/opt/soco/config # l
```

```
total 36
drwxrwxrwx 8 root root 4096 Oct 31 04:39 ./
drwxr-xr-x 14 root root 4096 Nov 1 09:44 ../
-rw-r----- 1 root root 2804 Oct 31 15:01 initialcfg.xml
drwxr-x--- 2 root root 4096 Oct 31 12:14 pbc_1/
drwxr-x--- 2 root root 4096 Oct 31 04:39 pbc_11/
drwxr-x--- 3 root root 4096 Oct 31 04:31 pbc_2/
drwxrwxrwx 2 root root 4096 Nov 11 15:17 pbc_21/
drwxr-x--- 3 root root 4096 Oct 31 04:32 pbc_4/
drwxrwxrwx 4 root root 4096 Jul 17 2011 tones/
```

```
OM-Srv-kit:/var/opt/soco/config # l -t
```

```
drwxrwxrwx 2 root root 4096 Nov 11 15:17 pbc_21/
-rw-r----- 1 root root 2804 Oct 31 15:01 initialcfg.xml
drwxr-x--- 2 root root 4096 Oct 31 12:14 pbc_1/
.....
```

```
OM-Srv-kit:/var/opt/soco/config # ls
```

```
initialcfg.xml pbc_1 pbc_11 pbc_2 pbc_21 pbc_4 tones
```

## Permissions:

```
linux:/.AS/SWS # l -t
```

```
drwxrwxr-x 2 root unity 4096 Dec 23 17:49 lock/
-rw-r--r-- 1 root unity 1425369 Dec 23 17:49 act_history.tgz
drwxrwxr-x 2 licm unity 4096 Nov 6 08:59 license/
drwxrwxr-x 2 hispa unity 4096 Jan 17 2012 HF/
drwxrwxr-x 2 swt unity 4096 Jan 17 2012 TFTP_MISC/
```

**1. letter ==> d = directory - = file l = link**

**the others are Permissions: r = read w = write x = execute - = none**

**2.3.4. letters are permis. for the Owner of the file/directory**

**5.6.7. are permis. for the Group ( linux:~# groups engr => engr : service = user : group)**

**8.9.10. perm. for others**

**example:**

```
-rwxr-xr-- 1 root unity 1425369 Dec 23 17:49 act_history.tgz
```

```
-  rwx  r-x  r--      1      root    unity    1425369
1  234  567  8910    link      Owner    Group    File Size
```

**Owner: root has permissions to read, write and execute ( - file rwx )**

**Group: unity users can read and execute ( r - x )**

**others: can read only.**

**# chmod xxx filename => change mode permissions as others need for e.g. file transfer....**

```
soco2-sys2:/tmp # l Mo*
```

```
- rw- --- --- 1 root root 107035645 May 11 08:10 MoriyaTrace.pcap
```

```
soco2-sys2:/tmp # chmod 754 MoriyaTrace.pcap
```

```
soco2-sys2:/tmp # l Mo*
```

```
- rwx r-x r-- 1 root root 107035645 May 11 08:10 MoriyaTrace.pcap
```

**How "xxx" is coded ?**

**754 => Owner=7 Group=5 Others=4**

**r w x => binary 111 = 4+2+1 decimal = 7**

**r - x => bin. 101 = 4+0+1 = dec. = 5**

**r - - => bin. 100 = dec. 4**

```
rwX rwX rwX      chmod 777 filename
rwX rwX r-X      chmod 775 filename
rwX r-X r-X      chmod 755 filename
rw- rw- r--      chmod 664 filename
rw- r-- r--      chmod 644 filename
```

**Rename** or **move** the file to another\_name or to new\_place/directory:

**# mv "old\_file or directory" "new\_name or to new\_dir." => move = mv; there is no ren (rename)**

**View Inside of Files:**

**# cat file\_name\_to\_view => cat scan; cat=concatenate**

**# more file\_name => if it's a big file, allow to stop/scroll**

**# tail -f file\_name\_to\_show => -follow = dynamically displays the end (tail) of running file**

```
OM-dp2A~:~# tail -f var/log/messages
```

**Ctrl C => to get out**

**# egrep -i "restart" /var/log/messages => find the word restart inside the file (messages).**

**# bzcat /var/log/messages-2013\* |egrep -i "restart" => find inside zipped files.**

#####

## VI. Hard Disk:

### Partition size usage...

```
OM-dp2A:~ # df -h => disk free -human understandable
Filesystem      Size  Used Avail Use% Mounted on
/dev/mapper/dscxl-root
                  60G   4.8G   52G    9% /
devtmpfs         1.9G  436K   1.9G    1% /dev
tmpfs            1.9G   19M   1.9G    1% /dev/shm
/dev/md0         989M   77M   862M    9% /boot
/dev/mapper/dscxl-images
                  9.9G   1.1G   8.3G   12% /mnt/images
/dev/mapper/dscxl-var
                  40G   18G   21G   47% /var
/dev/drbd1       30G   21G   7.9G   73% /opt/Assistant/share
/dev/drbd0       20G   5.9G   13G   32% /opt/dscxl/share
/dev/drbd2       18G   5.7G   12G   34% /opt/CAP_Inside/share
/dev/drbd3       30G   2.3G   26G    8% /var/pgsql
```

```
linux:/.AS/BACKUP/Backup # du -h => disk usage -human understandable
517M    ./003
307M    ./002
307M    ./004
517M    ./001
1.7G    .
linux:/.AS/BACKUP/Backup # ls
001 002 003 004
```

# **find** /opt -size +500M => find files bigger than 500M on directory /opt

### Blank/Erase the HD:

# **dd if=/dev/zero of=/dev/sdb bs=512 count=255**

dd = disk duplicate

if = input file

zero = fill disk with "0" = blank the dev/sdb

of = output file

sdb = hd on slot 2 for Raid / image hd copy....

sdb = second hd on HDTRay, slot 2, bottom slot; used for Raid / Recovey Image HD..

bs = blocks

=> **warning !! Achtung !! cuidado !! perigo !! abunai !! => must be sd "b"**

### HD Info:

```
OM-dp2A:~ # smartctl -a /dev/sda
smartctl 5.39 2008-10-24 22:33 [x86_64-suse-linux-gnu] (openSUSE RPM)
Copyright (C) 2002-8 by Bruce Allen, http://smartmontools.sourceforge.net
=== START OF INFORMATION SECTION ===
Device Model:     ST9250410AS
Serial Number:    5VGBLXSH
Firmware Version: 0002SDM1
User Capacity:    250,059,350,016 bytes
Device is:        Not in smartctl database [for details use: -P showall]
ATA Version is:   8
ATA Standard is:  ATA-8-ACS revision 4
```

#####

## VII. INFORMIX - database:

New Link Jan.2015: [http://brqb022x.global-intra.net/mediawiki/index.php/Manager\\_Sustaining:Informix](http://brqb022x.global-intra.net/mediawiki/index.php/Manager_Sustaining:Informix)

[http://172.27.4.30/wiki/index.php5/Manager\\_Sustaining:Informix](http://172.27.4.30/wiki/index.php5/Manager_Sustaining:Informix) (only over Unify Intranet access)

## VIII. Network on Linux-host:

# **yast** => yet another service tool => networking settings...

*Warning:* - Never click OK on yast (blue screen) on production system, if you're on Network Devices -> Netw. Settings page.

If OK choosed during yast session a restart will occur as yast Network ok resets all lan ports (eth0...eth7) *even if you did not change anything*

Use always *Cancel / Quit or Abort* button to get out of yast, Netw.Settings..

# **ping** <=|=> pong

```
OM-dp2A:~ # ping 172.19.217.88 -c 5 => -count 5; #ping IP =>without -c; abort w/ Ctrl C
PING 172.19.217.88 (172.19.217.88) 56(84) bytes of data.
64 bytes from 172.19.217.88: icmp_seq=1 ttl=63 time=1.14 ms
.. ..
64 bytes from 172.19.217.88: icmp_seq=5 ttl=63 time=0.876 ms
--- 172.19.217.88 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4002ms
rtt min/avg/max/mdev = 0.758/0.874/1.142/0.139 ms
```

# **ifconfig** /\* or specific port **#ifconfig eth0** =>shows MAC address, ip/netmask, frame errors....

```
OM-dp2A:~ # ifconfig eth0 => interface config.
eth0      Link encap:Ethernet  HWaddr 00:20:CE:DF:BA:70
          inet addr:172.19.208.201  Bcast:172.19.208.255  Mask:255.255.255.128
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:9226595  errors:0  dropped:0  overruns:0  frame:0  => if shows errors, FCK
          TX packets:4563134  errors:0  dropped:0  overruns:0  carrier:0  =>check w/IT, port settings.
          collisions:0 txqueuelen:1000
```

# **ethtool** or **#ethtool eth0** => show current running speed:1000Mb/s => **1Gbit Full Duplex**

```
OM-dp2A:~ # ethtool eth0 => ethernet tool lan_port => Settings for eth0:
Supported ports: [ TP ] Supported link modes:  10baseT/Half 10baseT/Full
                                                100baseT/Half 100baseT/Full
                                                1000baseT/Full
Advertised auto-negotiation: Yes
Speed: 1000Mb/s
Duplex: Full
Auto-negotiation: on
Link detected: yes
```

# **ifup ethx** => interface up ↑ # **ifdown ethx** -> ... down ↓

# **ifstatus ethx**

```
OM-dp2A:~ # arp => address resolution protocol
Address          HWtype  HWaddress      Flags Mask    Iface
172.19.208.174    ether    00:11:43:ce:af:e0    C              eth0
172.19.208.131    ether    00:12:a9:bf:95:81    C              eth0
155.75.27.1       ether    00:0d:65:b1:02:c0    C              eth2
OM-dp2B           ether    00:20:ce:df:b8:14    C              eth4
155.75.27.2       *        *                  MP             eth2
172.19.208.140    *        *                  MP             eth0
```

OM-dp2A:~ # **route** => Kernel IP routing table; same as on Portal/Lan Overview

Destination	Gateway	Genmask	Flags	Metric	Ref	Use	Iface
155.75.27.2	*	255.255.255.255	UH	0	0	0	vethdef1
172.19.208.140	*	255.255.255.255	UH	0	0	0	br-cust
172.19.208.128	*	255.255.255.128	U	0	0	0	eth0
10.0.187.0	*	255.255.255.0	U	0	0	0	eth4
155.75.27.0	*	255.255.255.0	U	0	0	0	eth2
default	172.19.208.129	0.0.0.0	UG	0	0	0	eth0

OM-dp2A:~ # **traceroute 172.19.217.88** => path to the destination ip

```
traceroute to 172.19.217.88 (172.19.217.88), 30 hops max, 40 byte packets using UDP
1  172.19.217.81  0.561 ms  0.267 ms  0.455 ms
2  172.19.217.88  0.853 ms  0.655 ms  0.629 ms
```

# **netstat -na** => network statistic -all = show connections, -numeric ports and status; select w/ # **netstat -na | grep blabla**

```
JW-Srv-kit:~ # netstat -na | grep 4060
tcp        0      0 172.19.217.84:4060  0.0.0.0:*          LISTEN => SG vSTMI IP:port 4060 hearing
tcp        0      0 172.19.217.84:4060  172.19.209.167:1400 ESTABLISHED => vSTMI x IP HFA Phone:Port
# netstat -na | grep :22 and # lsof -i :22 => who's using port 22 = ssh
# netstat -taupn => shows all opened ports
```



## IX. Search:

# **find / -name** blabla\* =>find a file blabla.... starting on initial directory / => all disk....

# **grep -i** bleble\* filename => find the word B(b)leble [-i=ignore case (lower or upper)] inside the file.  
= Global Regular ExPression (grep)

To use 2 commands together use "|" pipe sign key...

```
OM-dp2A:~ # find / -name *first* | grep -i instal
/opt/fiw/FirstInstallWizard => found directory with irst and the work instal together
/var/opt/soco2/installrepo/FirstInstallWizard
/var/opt/sysbackup/sysbackup_2012_12_05_17/FirstInstallWizard
/var/log/firstinstall.log
/usr/share/autoinstall/modules/firstboot.desktop
```

linux: # **find /opt -size +5G** => find files bigger than 5G on directory /opt

linux: # **find /opt -size +50000 | sort -nr** => sort files from big size to small (-nr=numeric and reverse)

```
linux:/ # find / -size +50000 | sort -nr | head -4 => + head = show only 4 results
/var/repgen/reports_prerestore/setup.exe
/var/hf/ape/PLT-V6_R1.12.1.tar
/var/hf/ape/CSTA-V1_R11.204.1.tar
/var/hf/ADP-V6_R1.13.7.tar
```

```
# egrep -i "restart" /var/log/messages => find the word restart inside the file (messages).
# bzcat /var/log/messages-2013* | egrep -i "restart" => find inside zipped files.
```

```
# history 25 => shows the last 25 commands typed;
    same result can be done with upper arrow key ↑
    and you can repeat the command showed..
```

The other **lazy way to type** is initiating some letter and hiting **Tab** key to let **Linux complete** for you,  
this works for directories, files & commands. I love it with my hamburger.

#####

**X. Shutdown** => try first to use Portal -> Maintenance -> Shutdown/Reboot

=> if Portal is down; # **shutdown -h now** or # **init 0** or # **halt** or # **poweroff**

=> don't shutdown remotely; customer will kill you !! **!\_--> Power Off / ON => Cold reboot**  
=> bring back, pull and insert back the DSCXL2 card. If server power off / on...

**Restart** = Reload = Reboot => # **shutdown -r +2** or # **init 6** or # **reboot** => **Warm reboot**

**shutdown -r +2** => r=restart +2= wait 2 minutes; during the 2 min. can abort with "Ctrl C"

# **last -x/grep -e shutdown -e reboot** ==> History of restarts occurred...

or only # **last / more**

**Restart Services** e.g.:VM's => # **service openais stop** or **start** or **restart**

# **service nnnnnnn status** => **stop** or **start** or **restart**

**Restart of Portal:** # **service webservice stop** (do on the active running adp -. processor)  
# **service webservice start** (can cause Linux-host/entire both servers restart;  
if system was not running clean !! )

or use only # **service webservice restart**  
or also # **crm resource restart rsc4k\_webservice**

**Restart of VM Assistant/CSTA:** # **virsh shutdown Assistant/CSTA** ( entire VM and all its resources)

# **service network stop** => a restart on SWU will occur as eth0 goes down...

# **service network start** => or if you're on **/etc/init.d/** => **./network restart**

The list of services nnnnnn are on **/etc/init.d/.....**

```
OM-dp2A:/etc/init.d # ls
.....
apache2          boot.swap        network          skeleton.compat
apcupsd          boot.sysctl     network-remotefs slpd
apcupsd          boot.sysstat    nfs             smartd
apcupsd_configure boot.sysdev     nfsserver       smb
atd              boot.udev_retry nmb             smbfs
auditd           cla             nsd             snmpd
autofs           cron            ntp             soco2
autoyast         cups            openais         spamd
bluez-coldplug   dbus            openct         splash
boot.apparmor    drbd            openwsmand     sshd
boot.bios_dscxl  earlysyslog     pcsd           sysinfod
boot.cleanup     ebttables       plt_upgrade     syslog
boot.clock       fbset           pm-profiler     tmuxd
boot.crypt       frontpanel      postfix         tunnelbroker
boot.crypt-early frontpanel_dbus  postgresql      unfsd
boot.cycle       gpm             powerd          uuid
boot.d           haldaemon       powerfail       vmblock
boot.ksm         jexec           rc4.d           watchdog
boot.ldconfig    joystic         webservice      .....
```

#####

## XI. SW - Apps - Install / Manipulations:

**RPM:** - Recursive Package Manager.

# **rpm -qa | less** => -query -all = list all installed packages; |less = stop per page

linux:~ # **rpm -qa AS\*** => list ASsistant packages

OM-dp2A:~ # **rpm -qi cla** => **query installed version**

```
Name      : cla      Relocations: /opt
Version   : v1       Vendor: Siemens Enterprise Communications GmbH
Release   : r25.1.0   Build Date: Fri Mar  8 03:29:46 2013
```

# **rpm -ihv** file.rpm => -install -hash mark for progress "###.." -verbose (detailed output)

# **rpm -Uhv** file.rpm => -Upgrade /\* preferred command also for install as -i does not check exist package.

# **rpm -ev** package => -erase

Example:

linux:/ # rpm -qa AS\*

AStao-07.100-0012

AStska-07.100-0001

linux:/ # rpm -ev AStska-07.100-0001

linux:/ # rpm -Uhv /opt/siemens/software/HP4K/RPMS/AStska-07.100-0001.i586.rpm

Preparing... ##### [100%]

TSKA: adding unit level account ...

1:AStska ##### [100%]

**TAR:** - Tape ARchive = building an archive or extracting (.tgz = tar gzip)

copy the install file to a directory e.g. /home/engr on Assistant

linux:/home/engr # **tar -xzvPf** file\_install\_name.tgz

=> x=extract z=unzip v=verbose Pf=Program file

## XII. Time I have 4 U:

### 12.1. On Linux-host, display date & time => `# date`

Example: OM-dp2A:~ `# date`

Sun Jun 23 09:01:48 CDT 2013 => CDT = Central Daylight Time = (US Central Summer Timezone)

### 12.2. Changing time directly on Linux-Host command line, if duplex do on both processors:

(If V6R2.15.0, must apply PLT Hot Fix 1, otherwise a system restart occurs when change date !!!)

`# date -s 17:25` or

`# date -s "YYYY-MM-TT hh:mm:ss"`

`# date -s "2012-12-31 09:51:24"` => date & time. changed

### 12.3. To change TIMEZONE in Linux; call `"# yast" -> System;` as figure below on Chapter 12.7.Time with NTP....

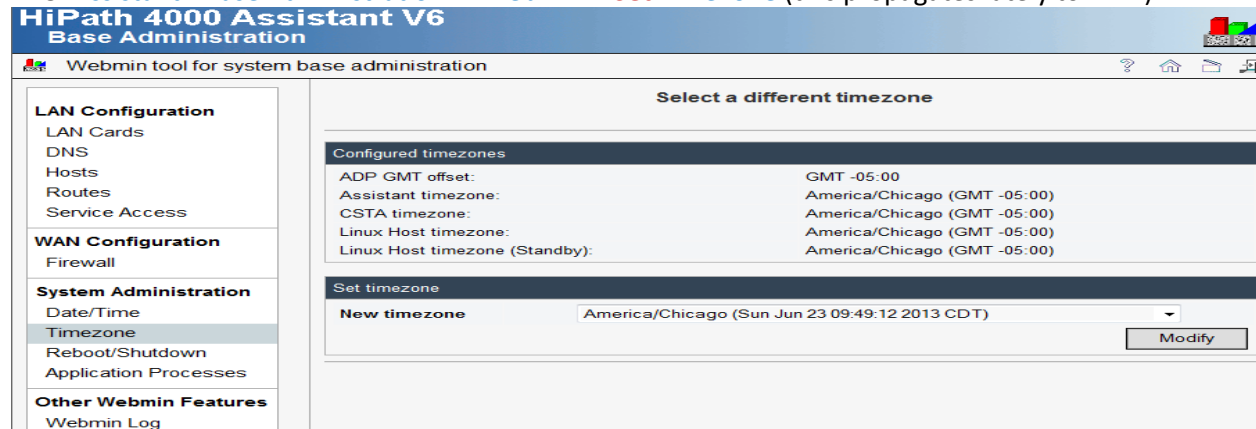
### 12.4. If duplex system, need to do steps above on both DSCXL2 cards.

Remotely, jump from one Linux to other doing:

`# ssh root@hostname` or `# ssh root@linux.host.yast.ip.address`

`# exit` => to leave ssh far host (yast.ip can be found pressing display button on portal)

### 12.5. Assistant->Base Administration -> Webmin-> Set TimeZone (this propagates lately to RMX)



### 12.6. To update the phone display immediately do:

`<reg-date;` => and send the command result to the system ( in older versions, need to do twice).

e.g.: `CHANGE-DATE:WEST,360,DST,60; /* West from Greenwich-UK=> for US-Central Time =CST= - 6 Hours = 360 Minutes;`

DST=Daylight Savings Time = 360 - 60 = 300 = -5 Hours on ADP from GMT (Greenwich Meridian Time)

`<DIS-DATE;`

```
+-----+
| THURSDAY                |
| DATE:                   TIME : |
| 2013-09-19             10:06:39 |
|                          |
| NUMBER OF DAY : 262      |
| DAYLIGHT SAVINGS TIME   |
| GMTDIR: WEST  TIMEOFFS:360 |
| DSTOFFS:60              |
| REL. DIFF. TO GMT : -300 |
+-----+
```

**Note:** CHANGE-DATE should not be used during high traffic because it forces (beside other things) immediately time-update of all phone-devices. Several individual messages per device will be generated in the BP and transferred all the way down to the devices. In large PBXs this will produce a lot of traffic and big load in the BP and in the LTUs. It will take several minutes to process all devices and may interfere with other CP-activities. (Calls may be delayed ...). If still the same, restart SLMO cards...

Assistant first page; TimeZone showing "**! Warning**" (below fig.) is corrected with ADP V6 r2.34 Hf4 and V6 r1.HF10



## 12.7. Time with NTP:

NTP is highly recommended as the clock of DSCXL2 has deviation. Do the ntp changes on both linux-host dsxcl2 cards.

Prepare NTP to avoid jumps:

```
# sntp -r ntp.ip.address => e.g. #sntp -r 172.19.223.99 /* -r eset = sync to NTP server time & date
```

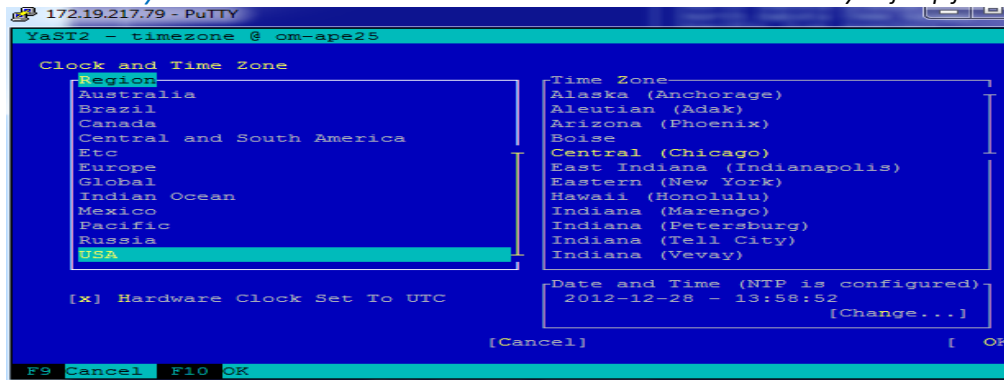
```
# hwclock --systoh --noadjfile --utc /* systoh=set the hw clock to the current system time
```

# **yast** => to call yast use PuTTY, the assistant->expert mode->ssh gives garbage on blue window display...

if you're on V6R2 go to Portal -> System -> Shell to Host root/hicom #yast

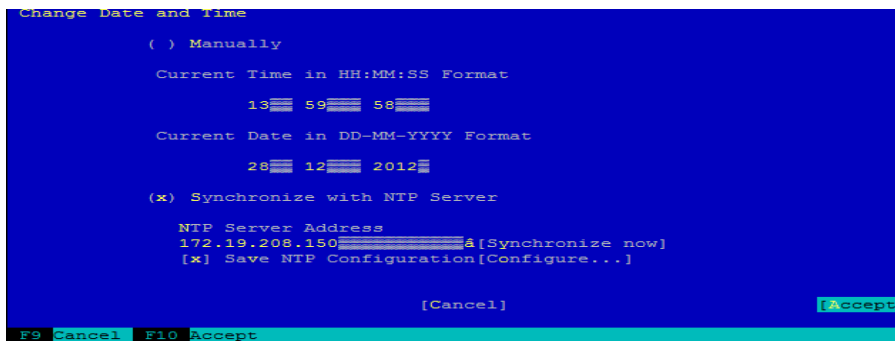
=> **System => Date and Time**

Use Tab Key to jump fields



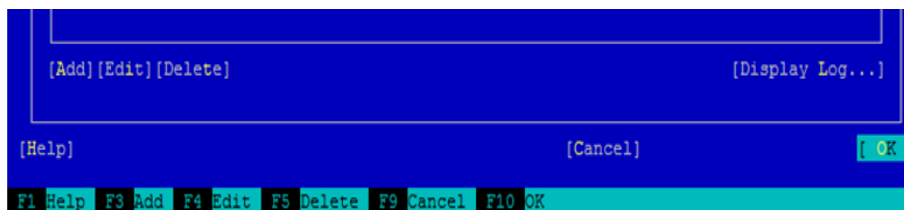
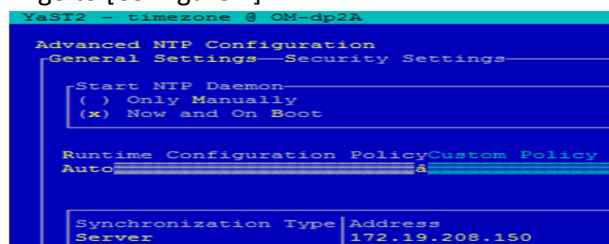
[X] HW Clock Set to UTC = sync Bios clock on shutdown. Can access DSCXL2 Bios with F4 or Delete key on boot...; F2 on HPA500....

If user changed via Yast->Date&Time -> the option "HW clock set to UTC", then it is mandatory to execute after closing the Yast the following command from a shell with root access: /sbin/mkinitrd



=> [Synchrononize now]

=> go to [Configure...]



## 12.8. Monitor:

# *service ntp status* or # *ntpq -p...*

```
om-ape25:~ # service ntp status
      remote      refid      st t when poll reach  delay  offset  jitter
=====
*172.19.208.150  LOCAL(0)          6 u  107  128  377   0.001  39.472  426.915
```

### Interpretation:

The "\*" asterisk in front of NTP ip address means:

"\*" – The remote peer or server presently used as the primary reference.

**refid** – Where or what the remote peer or server is itself synchronised to;

An IP address – The IP address of a remote peer or server;

.LOCL. – This local host (a place marker at the lowest stratum included in case there are no remote peers or servers available);

.GPS. – American GPS;

.BCST. – broadcast server;

.INIT. – association initialized;

.DENY. – access denied by server;

.TIME. – association timeout;

.STEP. – step time change, the offset is less than the panic threshold (1000ms) but greater than the step threshold (125ms).

The **st** column shows the **stratum** of the server, with stratum 1 servers having a local reference such as an atomic clock or, for many servers, a radio-clock or GPS receiver reference. Most servers you will see are at stratum 2, so they are locked to a stratum-1 server. A lightly loaded stratum-2 server is probably a better reference than a heavily loaded stratum-1 server such as those with widely-publicised addresses.

**t** – Type (u: **unicast** or **manycast** client, b: **broadcast** or **multicast** client, l: local reference clock, s: symmetric peer, A: manycast server, B: broadcast server, M: multicast server, see "**Automatic Server Discovery**");

**when** – When last polled (seconds ago, "h" hours ago, or "d" days ago);

The **poll** value should gradually increase from 64 seconds to 1024 seconds as NTP needs to contact the server less and less frequently as the clock offset and frequency are gradually corrected. Changing the poll is automatic in NTP.

The **reach** column should not be 0, and will expand from 1 during the normal working of NTP until it reaches 377. It is an octal display of a bit-mask showing when the server was reached.

Normally you expect to see 377 in this column against each server.

A column of all zeros means that NTP can't contact any servers - check your firewall settings.

The **delay** shows the time for a packet from your PC to reach the remote server and vice versa. Values above 150ms may indicate a satellite circuit and it's best to avoid such servers if possible. You will get best performance from servers which are close to you on the network.

The **offset** shows how far your PC is off from a nominal UTC, and the value is in milliseconds. So the PC above is within about 1/40s of correct time!

The **jitter** column shows how stable the connection between you and the remote server is.

12.9. # *service ntp stop* # *service ntp start* or # */etc/init.d/ntpd restart*

12.10. # *ping ntp.server.ip.addr.* /\* NTP uses UDP port 123 \*/

12.11. logfile => /var/log/ntp

12.12. If wants check configuration:

```
-----
om-ape25:/etc/sysconfig # ls
clock      kdump      nfs         smartmontools
clock.org  kernel     ntp         sound
-----
```

```
om-ape25: # cat /etc/ntp.conf
# LCL is unsynchronized
## Add external Servers using
## # rcntp addserver <yourserver>
## Miscellaneous stuff
driftfile /var/lib/ntp/drift/ntp.drift
# path for drift file
logfile /var/log/ntp
# Authentication stuff
keys /etc/ntp.keys
#
server 172.19.208.150
```

### XIII. Troubleshoot:

```
OM-dp2B:~ # w => who what when (only how long the system is up = # uptime)
13:01:58 up 25 days, 19:53, 7 users, load average: 0.61, 0.47, 0.45
USER      TTY      LOGIN@   IDLE   JCPU   PCPU   WHAT
root      tty1     Wed17    2days 0.06s  0.06s  -bash
root      pts/9    13:01    0.00s  0.04s  0.00s  w
root      pts/7    08:59    1:56m  0.06s  0.06s  -bash
```

#### Monitor HP4k Linux Platform:

Display running VM's : # **virsh list --all**

Display IPDA config # **ip route show table TABLE\_SOCO2\_IPDA**

# **tail -f var/log/warn** => shows warning messages

# **tail -f var/log/messages** => shows general msgs.

# **tail -f /var/log/messages | grep tmux\_asd** => shows/selected only fan speed msgs.

# **crm\_mon -1 -f -A** => services running

# **crm resource status gr4k\_webservice** => status only on duplex..(simplex=rsc4k\_webservice)

# **crm resource stop rsc4k\_ccap** =>stop APE; then use start to reinitialize=reload...

# **top** => = sar in Unix

OM-dp2A:~ # **top** => **Shift M** (show memory allocation)

```
top - 13:18:31 up 10 days, 21:18, 9 users, load average: 0.78, 0.54, 0.49
Tasks: 237 total, 1 running, 236 sleeping, 0 stopped, 0 zombie
Cpu(s): 17.1%us, 7.1%sy, 0.0%ni, 70.4%id, 5.3%wa, 0.0%hi, 0.1%si, 0.0%st
Mem: 3924828k total, 3730740k used, 194088k free, 49280k buffers
Swap: 16777208k total, 0k used, 16777208k free, 936392k cached
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
15262	root	20	0	1238m	784m	3396	S	45	20.5	314:33.00	qemu-kvm
21541	root	20	0	766m	527m	3396	S	10	13.8	203:33.98	qemu-kvm
5552	root	20	0	441m	403m	5084	S	1	10.5	58:02.24	java
23900	root	0	-20	448m	308m	11m	S	7	8.0	1053:30	qemu-kvm
15725	root	0	-20	375m	300m	11m	S	7	7.8	1138:49	qemu-kvm
11691	root	20	0	74324	23m	1800	S	0	0.6	0:53.09	haconfd.pl
3824	root	20	0	259m	21m	4136	S	0	0.6	70:10.19	cla

# **ps -ef** => process -every -full

# **ps aux** => process shows all users x status:

**VSZ**= virtual memory size used

**RSS** = real memory size used

**STAT** = status S=Sleeping T=Terminated Z=Zombie R=Running I=iddle

**TIME** = cpu time used

```
linux:~ # ps aux
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root         1  0.0  0.0     736   280 ?        S      2012     0:01 init [5]
root      1743  0.0  0.3     4308  2524 ttyS1    Ss+    2012     0:41 /usr/bin/perl /opt/ha/bin/ha_ser
root     4151  0.0  0.1     2308    880 pts/0    T      12:24     0:00 less
wwwrun    5928  0.0  0.3  158080 12768 ?        S      Jan11     0:00 /usr/sbin/httpd
root    16369  0.0  0.0         0      0 ?        Z      2012     0:00 [checkForNS] <defunct>
root    30288  0.0  0.9   15532   7000 ?        Ss1    2012     0:00 ./ComWinAccess
root    31120  0.0  2.1   21772 16472 ?        Ss      2012     0:13 /opt/cm/sad/bin/dbwrite
```

linux:~ # **ps axjf** => job file = where the PID comes from....

```
linux:~ # lsof | grep TSKA => list open file | search word "TSKA"
TSKA_Star 6515 tska cwd      DIR      253,3      4096    277748 /opt/tska/bin
TSKA_Star 6515 tska txt      REG      253,3    93483    277983 /opt/tska/bin/TSKA_Starter
TSKA_Star 6515 tska 0u      IPv4    13872          TCP *:9980 (LISTEN)
TSKA_Star 6515 tska 2w      CHR       1,3        2010 /dev/null
TSKA_Star 6515 tska 5r      REG      253,3          0    51520 /opt/procm/cnfg/DB_LockFile11i
```

```
# kill PID => = #kill -15 = SIGTERM , termination signal allows to remove temporary files created.  
# kill -9 PID => -9=no mercy => Process IDentification killed immediately.  
# kill -9 16369 => properly for Halloween...16369 -> Stat => Z as zombie
```

---

Sniffer functions: (tethereal or. tshark)

# **tethereal** => wireshark trace on specific IP address...

```
# tethereal -n -ieth0 host 172.19.208.140 -w /tmp/Moriyatrace.pcap  
Sniffer trace is running...  
-n = no name lookups      -i = interface eth0  -w = write to file /tmp/MoriyaTrace.pcap  
Stop with: " Ctrl C "
```

can save on ringbuffer of 5 files filesize 5MByte filename /trace.....pcap

```
# tethereal -ni eth0 host 172.19.208.140 -a filesize:5000 -b files:5 -w /Moriyatrace.pcap
```

**V6R2; install wireshark** package to call tethereal:

```
OM-dp2A:~ # rpm -Uvh /var/opt/soco2/installrepo/wireshark-1.0.5-1.34.1.x86_64.rpm
```

**Wireshark changed inside OS4k V7** (by Nathan Hughes), internal rpm is now at

```
# find / -name wireshark*  
./opt/soco/rpm/wireshark  
./opt/soco/rpm/wireshark/wireshark-1.0.5-1.24.x86_64.rpm
```

After copy it over to the /var/opt/soco2/installrepo/ directory and installing it:

```
# rpm -Uvh /var/opt/soco2/installrepo/wireshark-1.0.5-1.34.1.x86_64.rpm
```

When I run it to the screen it will capture between 30 and 70 packets and then stop itself each time.

```
# tethereal -n -ieth0 host <ip.address.of.host>
```

But if I use the -w switch and write it to a file it seems to work fine.

```
# tethereal -n -ieth0 host <ip.address.of.host> -w <file_name> -S
```

---

**HP4k V6R2 WebService not coming up (from Release Note):**

- Can be detected as follows:

1. check first with crm\_mon  
when the rsc4k\_web service appeared

Failed actions:

```
rsc4k_web service_monitor_30000 (node=dscxl2-3, call=495605, rc=7, status=complete): not running
```

2. check the webservice log with:

```
# tail -f /var/log/web service/web service.log => general view
```

```
# tail -f /var/log/web service/web service.log | grep "Unable to obtain resource actions" => specific view
```

If during a period of ca. 10 Minutes this message appears more than 1 time, then the problem exists and the webservice rpm should be installed as follows:

```
# rpm -Uvh --force /var/opt/soco2/current_hotfix_rpms/web service-6.2-1.i586.rpm
```

---



Separated duplex: node can be switched administratively to standalone mode  
#standalone\_operation enable    Other options: disable and status

Remove Platform lock

***/bin/sshr -c host\_intl deleteLock -f -i SWA***

...

Remove hanging SWA.lock

***rm -f /var/opt/Assistant/data/SWS/lock/SWA.lock => on Linux-host***

***rm -f /.AS/SWS/lock/SWA.lock => on Linux-Assistant***

---

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