

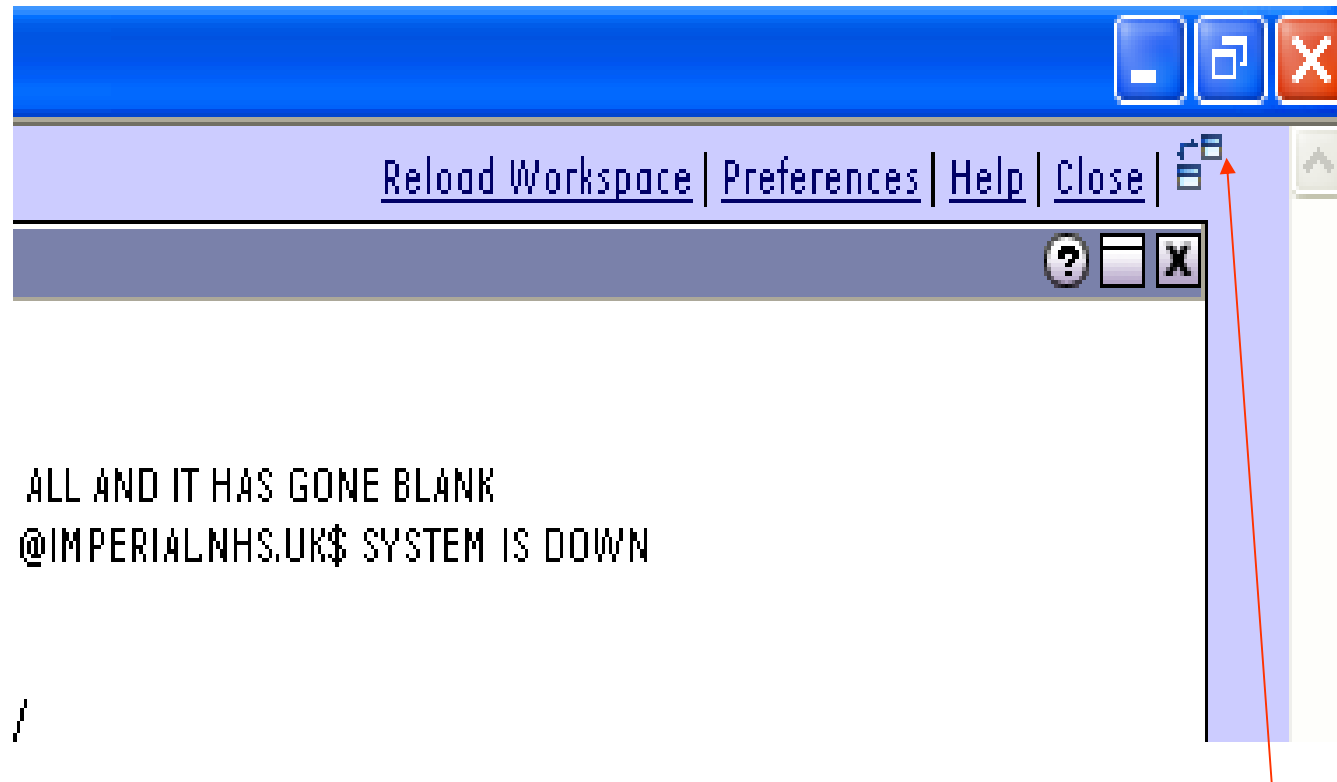
# Remote Service Tools Guide

**This guide is intended as a reference document for ROLE/RSL's and as such is not updated. Please refer to equipment specific documentation for detailed procedures.**



imagination at work

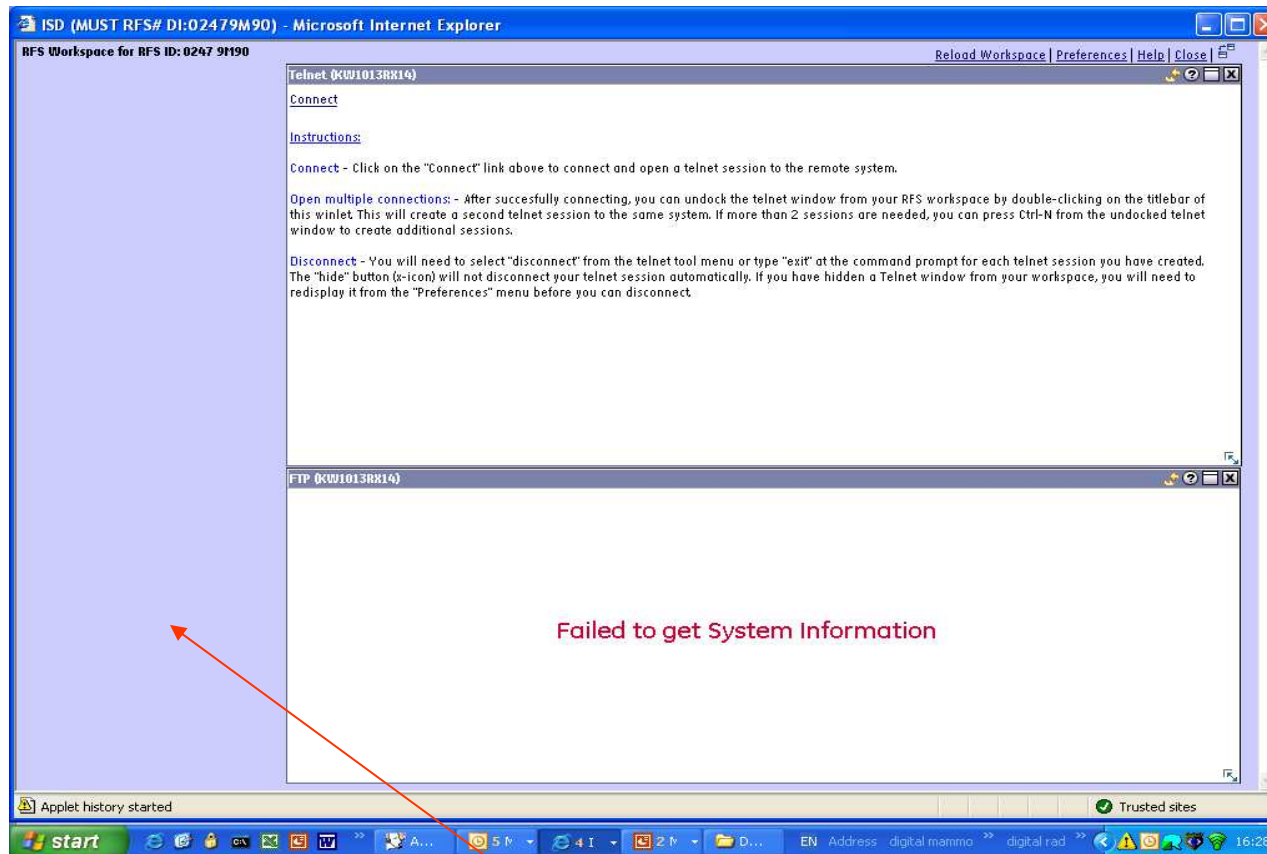
# Start remote diagnostic tools



**To Access service tools select RFS from queue then click on the toggle Icon on top right hand corner of RFS screen**

**( you can also select from preferences but the toggle icon keeps it neater)**

# System is not connected to insite



If system is not connected to insite you will see Fail message in FTP screen but also no Test connection winlet – see later section on connecting via another system.

# System is connected to insite

The screenshot shows a Microsoft Internet Explorer browser window titled "ISD (MUST RFS# DE:68667071) - Microsoft Internet Explorer". The main content area displays "RFS Workspace for RFS ID: 6866 7071". There are two main panels:

- Telnet (HROS01XR03):** Contains a "Connect" link and instructions. The instructions state: "Connect - Click on the 'Connect' link above to connect and open a telnet session to the remote system." It also provides details on how to open multiple connections and how to disconnect.
- FTP (HROS01XR03):** Shows a file listing for the path "/web/oleaadm/flatfiles/europe/data/xr/HROS01XR03". The listing includes columns for Name, Size, Date/Time, and Access. The files listed are "log" (4096 bytes) and a folder named "web/oleaadm/flatfiles/europe/data/xr/HROS01XR03" (last modified Thu Mar 16 14:32:59 CET 2006).

At the bottom left, there is a "Test Connection (HROS01XR03)" panel with a "Connection Speed Tester For HROS01XR03" and a "Get Connection Speed" button. A note below it says "Gives the speed at which the bytes are tr...".

Two red arrows point from the text below to the "Test Connection" panel and the FTP file listing table.

**In this case the Connection Winlet is present and FTP winlet has server info**

# Start tools

**TELNET (HROS01XR03)**

[Connect](#)

**Instructions:**

**Connect** - Click on the "Connect" link above to connect and open a telnet session to the remote system.

**Open multiple connections:** - After successfully connecting, you can undock the telnet window from your RFS workspace by double-clicking on the titlebar of this winlet. This will create a second telnet session to the same system. If more than 2 sessions are needed, you can press Ctrl-N from the undocked telnet window to create additional sessions.

**Disconnect:** - You will need to select "disconnect" from the telnet tool menu or type "exit" at the command prompt for each telnet session you have created. The "hide" button (x-icon) will not disconnect your telnet session automatically. If you have hidden a Telnet window from your workspace, you will need to redisplay it from the "Preferences" menu before you can disconnect.

**FTP (HROS01XR03)**

OLC to PC | **OLC to System** | System to PC/OLC

Custom Filter: \* [Update]

Name	Size	Date/Time	Access
/web/oleadmn/flattfiles/europe/data/xr/HROS01XR03			
log	4096	Thu Mar 16 14:32:59 CET 2006	R-W

**Test Connection (HROS01XR03)**

Connection Speed Tester For HROS01XR03

[Get Connection Speed](#)

Gives the speed at which the bytes are tr

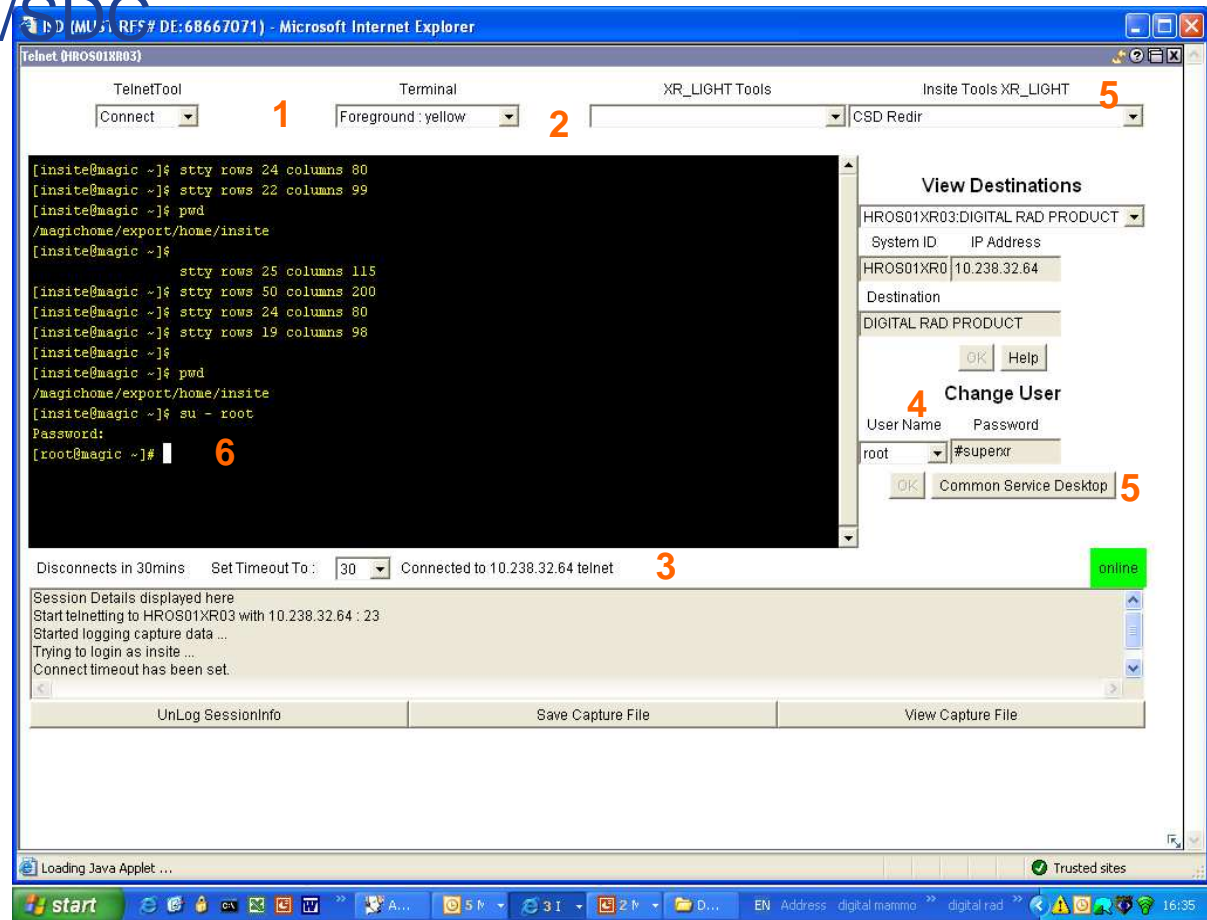
To use TELNET click connect then maximise winlet

To use FTP click tab 'system to PC/OLC' then maximise winlet

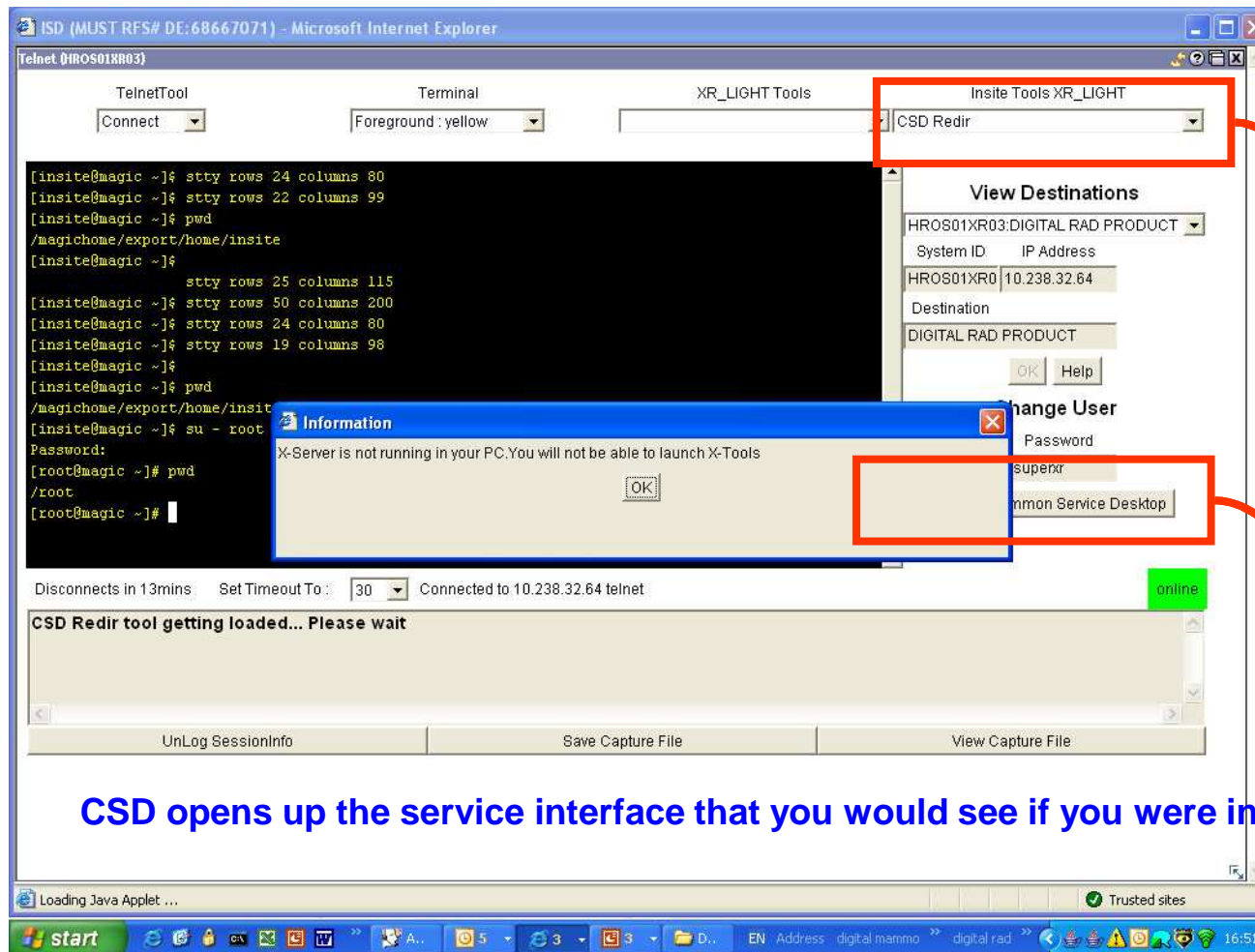
TEST connection is a quick verification that the system is on and available for connection

- Connect/disconnect 1
- Format font 2
- Connection time out setting 3
- Change user ROOT/SDC etc 4
- CSD LAUNCH 5
- Workspace cursor 6

# Telnet tool



# Common Service Desktop



Common Service Desktop is 'Redirected to your local IE browser.

Common Service Desktop is Displayed in remote Netscape browser

CSD opens up the service interface that you would see if you were in front of the unit on site

IE local browser more convenient, Netscape remote browser may be used in case some screens cannot be displayed. If both fail see sheet in appendix to turn off pf



# CSD local IE browser

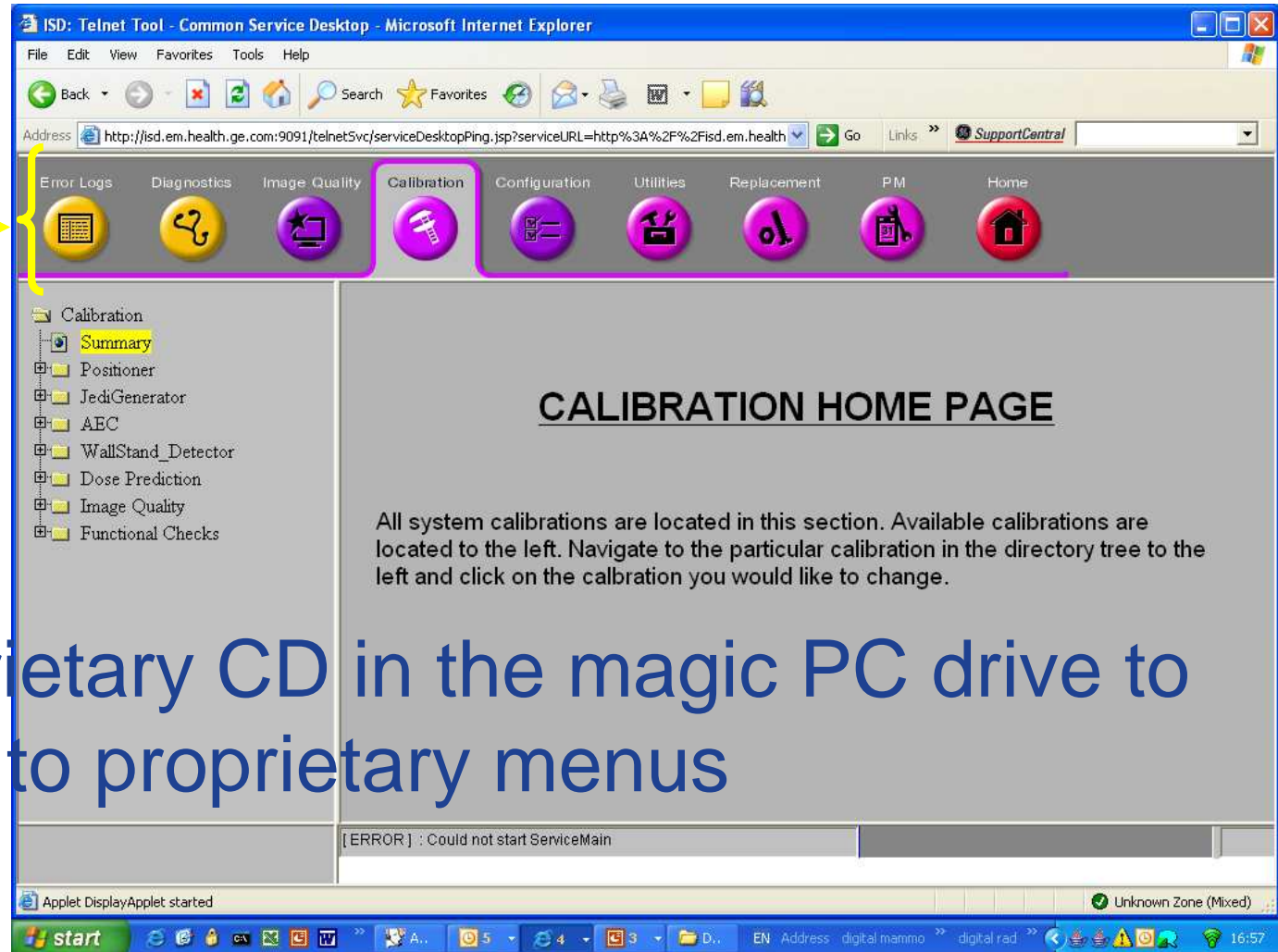
Check Java version >>

```
Command Prompt
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

D:\Documents and Settings\1000000081>java -version
java version "1.5.0_06"
Java(TM) 2 Runtime Environment, Standard Edition (build 1.5.0_06-b05)
Java HotSpot(TM) Client VM (build 1.5.0_06-b05, mixed mode)

D:\Documents and Settings\1000000081>
```

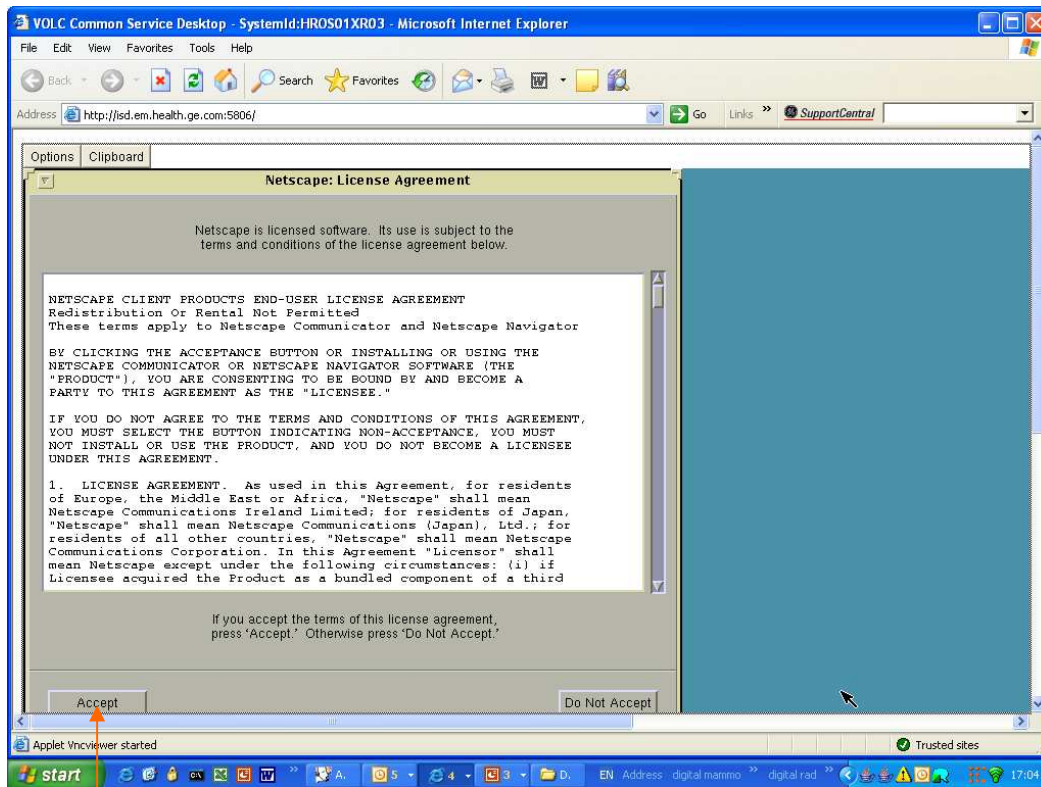
Navigating through these icons will FAIL unless you have JRE 1.4/1.5/1.6 (Java Runtime Env.)



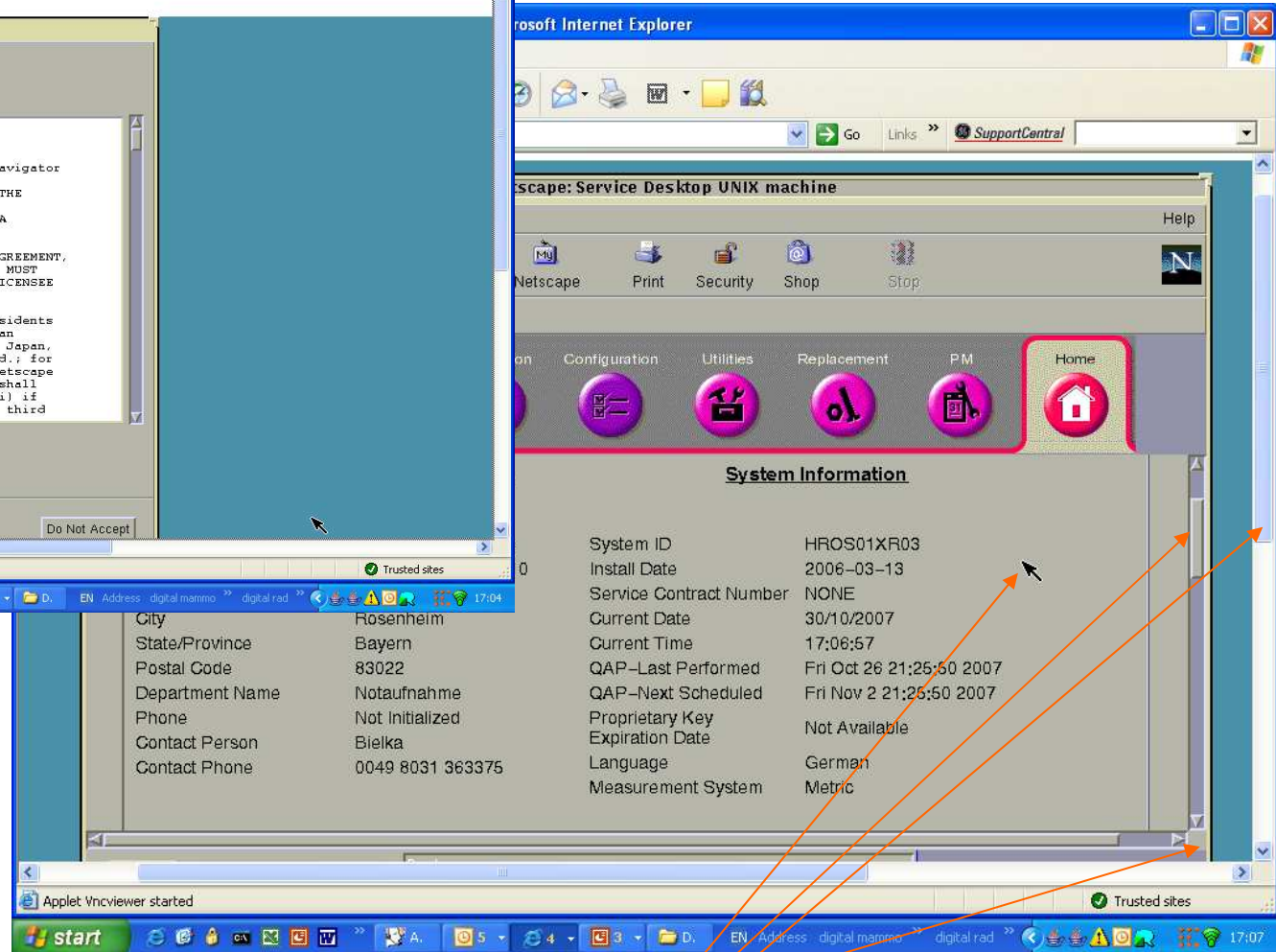
Need proprietary CD in the magic PC drive to get access to proprietary menus



# CSD remote Netscape browser



Press Accept to start browser



Need to resize window and scroll to navigate

# Close CSD / telnet

Telnet (HROS01XR03)

TelnetTool: Disconnect  
Terminal: Foreground : yellow  
XR\_LIGHT Tools: XR\_LIGHT Tools  
Insite Tools XR\_LIGHT: CSD Redir

```
insite@magic ~]$ stty rows 24 columns 80
insite@magic ~]$ stty rows 22 columns 99
[insite@magic ~]$ pwd
/magichome/export/home/insite
[insite@magic ~]$
      stty rows 25 columns 115
[insite@magic ~]$ stty rows 50 columns 200
[insite@magic ~]$ stty rows 24 columns 80
[insite@magic ~]$ stty rows 19 columns 98
[insite@magic ~]$
[insite@magic ~]$ pwd
/magichome/export/home/insite
[insite@magic ~]$ su - root
Password:
[root@magic ~]# pwd
/root
[root@magic ~]# su - insite
Welcome InSite
[insite@magic ~]$
```

Disconnects in 0 mins Set Timeout To: 30 Not connected.

Could not load the CSD Tool...  
CSD Tool getting loaded .... Please wait  
CSD Tool loaded successfully.Connect timeout has been set.

UnLog SessionInfo Save Capture File View Capture File

offline

Gaulhet-Dureau, Marianne (GE Healthcare)  
GE hC at a glance  
Bon resume fait par Pascal Labarriere dans le cadre de ses nouvelles fonctions.

Disconnected from HROS01XR03

# FTP tool

OLC to PC | OLC to System | System to PC/OLC

Custom Filter: \* [Update]

Name	Size	Date/Time	Access
/web/oleadmn/fttfiles/europe/data/sr/00440RAD19			
log	4096	Fri Jun 09 16:56:29 CEST 2006	R-W
image	4096	Fri Jun 09 16:24:29 CEST 2006	R-W
other	4096	Tue Oct 02 15:33:35 CEST 2007	R-W

Download to PC | Disconnect

OLC to PC | OLC to System | System to PC/OLC

Custom Filter: \* [Update]

Name	Size	Date/Time	Access
/web/oleadmn/fttfiles/europe/upload/HR_HR_LIGHT			
init	484	Thu Mar 29 17:46:31 CEST 2007	R

Upload to System | Disconnect

OLC to PC | OLC to System | System to PC/OLC

Note: If you make any selection of Predefined or Custom, Please click the "Update" button to make them effective

Destination IP: Main S [Reset Connection] | Predefined: [ ] | Update

Current user: insite | Custom: \* (filter) | /magichome/xruser/log (path)

Name	Size	Date/Time	Access
/magichome/xruser/log			
DMError.log	0	Tue Dec 05 00:00:00 CET 2006	R-W
err34.log	15957	Tue Oct 30 17:32:00 CET 2007	R-W
PRM34.log	178	Mon Apr 23 00:00:00 CEST 2007	R-W
PSErr_IDC_TABLE.log	0	Tue Dec 05 00:00:00 CET 2006	R-W
PSErr_IDC_WALLSTAND.log	0	Tue Dec 05 00:00:00 CET 2006	R-W
restore.log	20	Tue Dec 05 00:00:00 CET 2006	R-W
	815	Tue Jul 31 17:03:00 CEST 2007	R-W

Destination Directory: /web/oleadmn/fttfiles/europe/data/sr/00440RAD19/other

Download to PC (via OLC) | Download to OLC | Disconnect

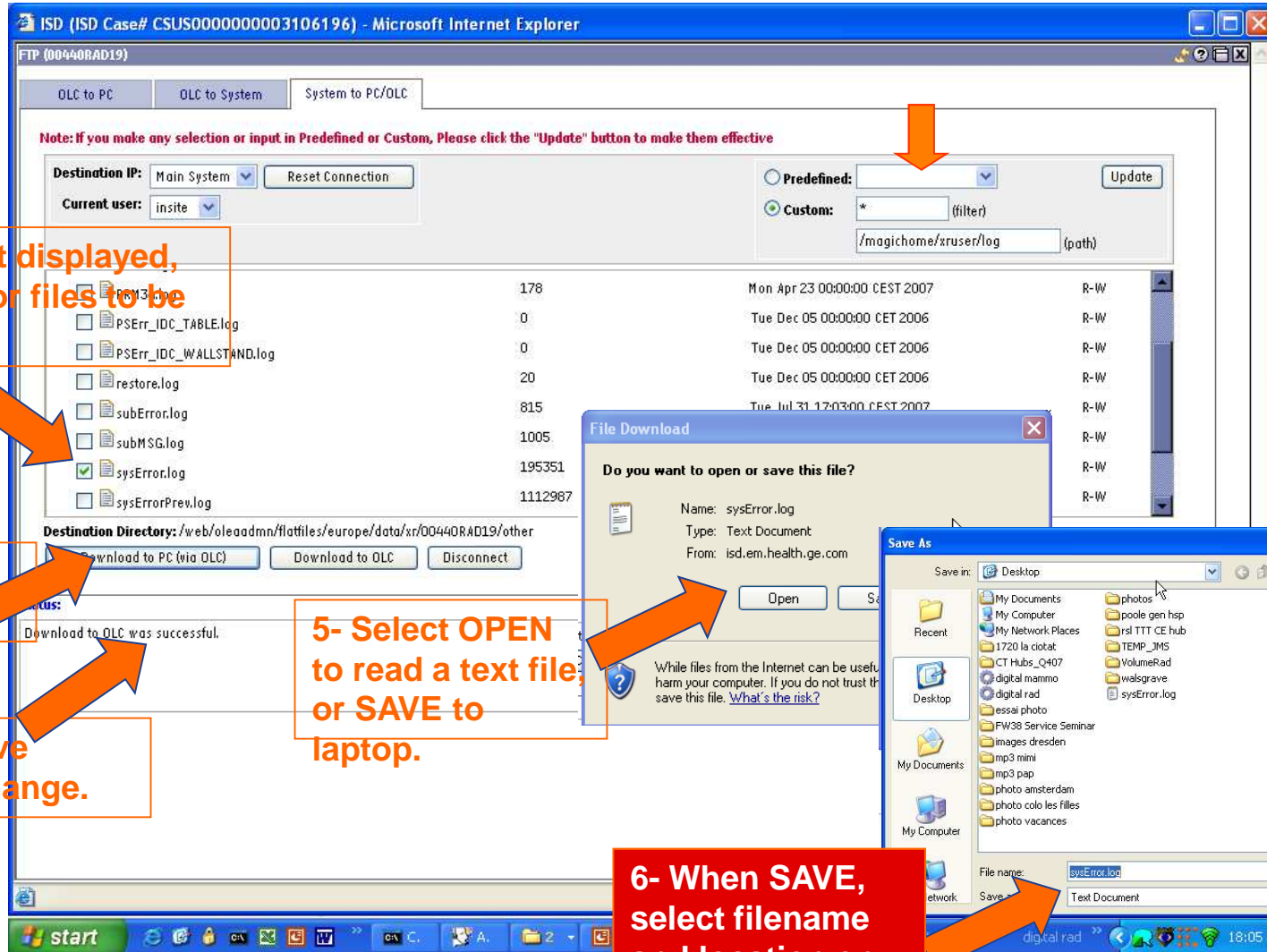
Retrieve from olc server, previously downloaded files. Server is flushed out every 6 month or so.

Upload files from olc server into the system, files. This is for upgrade or patch purpose.

Download files from the system to olc server and PC. **This is the option you will almost always choose**

# FTP system to PC/OLC

1- Select a predefined path or enter any path manually, you may filter file name. Press UPDATE.



2- From the list displayed, check boxes for files to be downloaded

3- press DOWNLOAD

4- Observe status change.

5- Select OPEN to read a text file or SAVE to laptop.

6- When SAVE, select filename and location on your laptop.



# How to connect through another system

Applicable only if another GE equipment is insited at this site.

- 1- check at e-checkout, if another GE equipment exist at this site and is insited.
- 2- create a case for this system, and connect it.
- 3- perform a telnet or FTP to the desired system using local IP address.

IP address can be retrieve from e-checkout or from local FE.  
Note all files FTP will be saved under the other GE system.

e.g 00440RAD21 is not reachable.  
I can try to reach it through 00440RAD17 or any other systems.

See next page for details

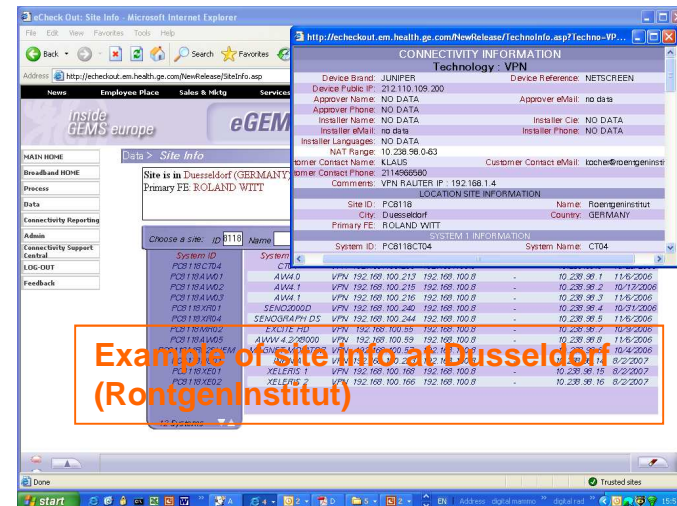
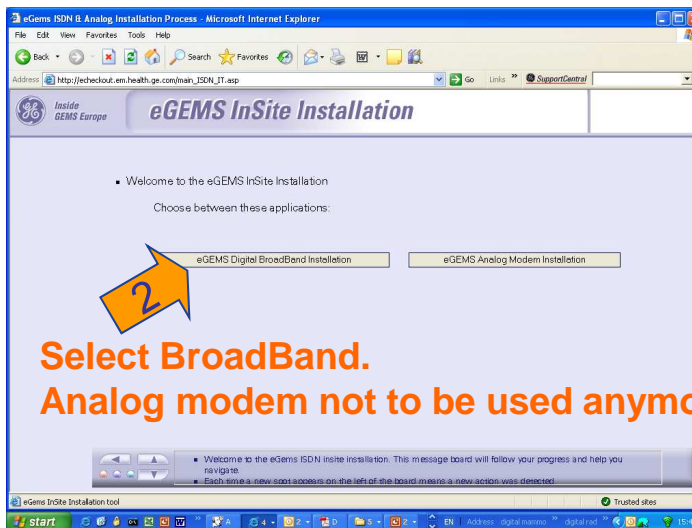
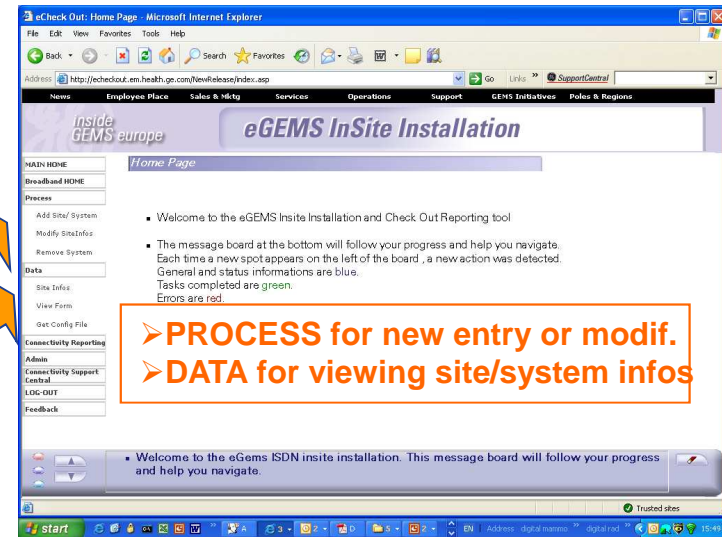
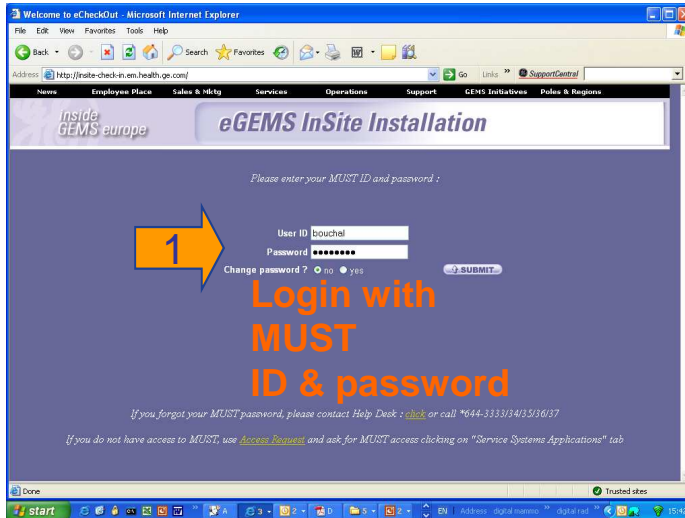
The screenshot shows the 'eCheck Out: Site Info' web application. The main content area displays 'Data > Site Info' for site ID 00440, named '00440 - WALSGRAVE'. It lists various systems with columns for System ID, System Name, Type, Local IP, Gateway IP, NHSNet IP, NAT IP, and CheckOut date. A table of systems is shown below:

System ID	System Name	Type	Local IP	Gateway IP	NHSNet IP	NAT IP	CheckOut
00440FLU06	PRECISION MPI (RF)	NHS	192.168.17.158	192.168.17.1	10.176.131.158	10.247.128.123	8/1/2006
00440RAD21	DEFINIUM	NHS	192.168.17.155	192.168.17.1	10.176.131.155	10.247.128.124	10/31/2006
00440RAD17	DEFINIUM	NHS	192.168.17.151	192.168.17.1	10.176.131.151	10.247.128.125	10/31/2006
00440ULT27	VIVID I	NHS	192.168.17.178	192.168.17.1	10.176.131.178	10.247.128.187	11/1/2006
00440ULT28	LOGIQ 9	NHS	192.168.17.179	192.168.17.1	10.176.131.179	10.247.128.188	6/20/2006
00440ULT29	LOGIQ 9	NHS	192.168.17.180	192.168.17.1	10.176.131.180	10.247.128.189	6/20/2006
00440ULT30	LOGIQ 9	NHS	192.168.17.181	192.168.17.1	10.176.131.181	10.247.128.190	6/20/2006
00440ULT31	ECHOPAC PC	NHS	192.168.17.182	192.168.17.1	10.176.131.182	10.247.128.191	11/2/2006
00440ULT32	IMAGE VAULT	NHS	192.168.17.183	192.168.17.1	10.176.131.183	10.247.128.192	6/16/2006
00440ULT33	ECHOPAC	NHS	192.168.17.184	192.168.17.1	10.176.131.184	10.247.128.193	11/2/2006
00440ULT34	VIVID I	NHS	192.168.17.185	192.168.17.1	10.176.131.185	10.247.128.194	11/1/2006
00440ULT35	VIVID I	NHS	192.168.17.186	192.168.17.1	10.176.131.186	10.247.128.195	11/1/2006
00440ULT36	VIVID I	NHS	192.168.17.187	192.168.17.1	10.176.131.187	10.247.128.196	11/1/2006
00440ULT37	LOGIQ 9	NHS	192.168.17.188	192.168.17.1	10.176.131.188	10.247.128.197	6/27/2006

# E-Checkout

Link to the web site:

<http://insite-check-in.euro.med.ge.com/>



# Create a case- step 1

The screenshot shows the 'Integrated Service Desktop' application running in Microsoft Internet Explorer. The main window displays a 'Case Queue' table with columns: Triage, Assigned, Status, Case #, Associated RFS, Site Name, System description, FE on site, and Create Time. The table is currently empty, with 'Number of cases = 0' displayed above it. A 'Create Case' button is visible in the top right of the table area. An orange arrow points from a text box to this button.

On the right side, a 'Preferences' dialog box is open, showing a list of checkboxes for various system features. The 'Case Queue' checkbox is checked. An orange arrow points from a text box to this checkbox.

**2- press "create case" button.**

**1- From Preferences, select "Case Queue" to open a new window.**



# Create a case – step 2

**1- enter FE name or FE SSO, press search button.**

**2- enter system ID (first characters), press Search button**

**3-use pull down menu to select TRIAGE and Modality**

**4-Type in short description**

**5-Press SAVE**

The screenshot shows the 'Create Case' form with the following fields and annotations:

- FE Pole:** Radio buttons for AM, EU (selected), Asia, Japan.
- FE Mainframe ID:** Text field with 'h' entered.
- FE First Name:** Text field with 'cohen' entered.
- FE Last Name:** Text field.
- FE Email:** Text field.
- FE SSO ID:** Text field.
- FE Open RFS's:** Text area.
- RFS Number:** Text field.
- System ID:** Text field.
- Site Name:** Text field.
- System Desc:** Text field.
- Triage:** Dropdown menu with 'Modality' selected.
- Symptom:** Text area.
- Queue:** Dropdown menu with 'MAIN' selected.
- Buttons:** 'Save', 'Check Spelling', 'Clear All Fields', 'Search For FE', 'Search', 'View Tech Log', 'Get FE Info', 'Get Sys Info', 'Clear FE', 'Clear System Info', 'Phone Notes', 'Cases', 'Callback #', 'Phone'.

# Create a case – step 3

Case Owner: Alexandre Bouche  
Case Queue: 5263  
Case Triage: 4  
Callback #:   
Case Title:   
Symptom: (4) test  
Phone Notes: (0)  
Error Logs: (0)  
Key Error:   
Recommendation: (0)

Modality/Sys ID: HR/PC8118XR04  
System: 0  
Desc.:  
System: NONE  
Type:  
Model: NEPHTYS18  
Site: ROENTGENINST.DUSSELDORF-DR  
Name: STO  
Case ID: CSUS000000003192164  
Status: Open  
Case Type: Technical Support  
FE Name: Cohen, Herbert  
FE Mobile: (49)1726706085  
FE Pager: N/A  
Callback Number:  
Associated RFS:  
GSCC: N/A  
Comments:

Save Debrief Reassign Split Void

Press upper right for Diagnostic tools

Same as RFS queue

Name	Size	Date/Time	Access
log	32388	Fri Oct 19 14:02:28 EST 2007	R-W
other	4096	Tue Jun 19 15:48:00 EST 2007	R-W
msac	4096	Tue Oct 19 14:50:43 EST 2005	R-W
log	4096	Tue Apr 20 10:53:42 EST 2004	R-W
update	4096	Tue May 17 12:26:08 EST 2005	R-W

Press DEBRIEF to close the case.

After CASE STATUS has change to close. Press CLOSE at upper right corner.



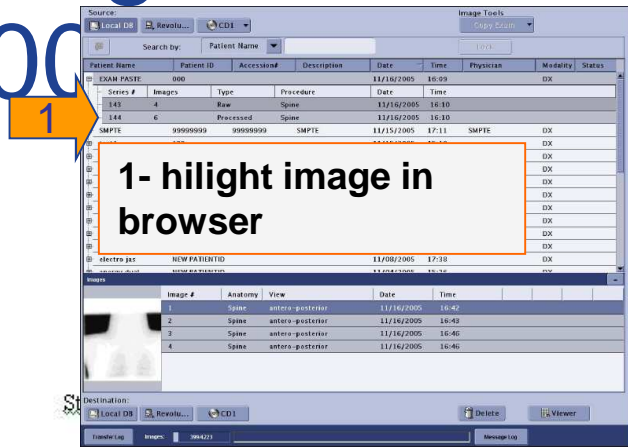
Press DEBRIEF to close the case.

# Main system files

	OS ADS	OS IDC	main system log	IDC log	boot/hardw error	image download
revolution Xqi/XRd (Gipeto)	unix	vxWorks				
seno 2000D (FFDM)	unix	vxWorks	<u>text file present in aws at:</u> /export/home/sdc/senovision/logfiles/ error.log	<u>file to be ftped in IDC:</u> ftp IDC (tbl or ws) cd /idc bin get errorlog.txt get sensor.txt bye	<u>file present at:</u> /var/adm/messages	1-select image in browser 2-dumpSel to identify image file (e.g. i52612.MGDC.1) 3-download image file at /export/home1/sdc_image_pool/buf _image/i52612.MGDC.1
Seno DS (Nephtys)	unix	vxWorks		>>to laptop from ISD		
Revolution 2x platform (Lightning)	linux	N.A.	<u>text files present at:</u> /magichome/xruser/log/ sysError.log >> system errors sysMSG.log >> application messages		<u>file present at:</u> /var/log/messages.x x is 0,1, 2, ...	1-select image at right monitor 2-start engineering tool ctl+shift+f5 3-click Dicom/export/file/exit/quit 4-file (e.g. 03.00001e0d.dcm) is at /database/image_export/
Definium 8000 (thunder)	linux	N.A.		<u>file present at:</u> cd /enggddata/IDC/(WS or TBL)/		
seno Essential (sirius)	unix	linux	<u>text file present in aws at:</u> /export/home/sdc/senovision/logfiles/ error.log	<u>file to be ftped at IDC:</u> ftp IDC username=xruser / psswd=4\$xray bin cd /enggddata/log get IDC.log bye >>to laptop from ISD	<u>file present at:</u> /var/adm/messages	1-select image in browser 2-dumpSel to identify image file (e.g. i52612.MGDC.1) 3-download image file at /export/home1/sdc_image_pool/buf _image/i52612.MGDC.1

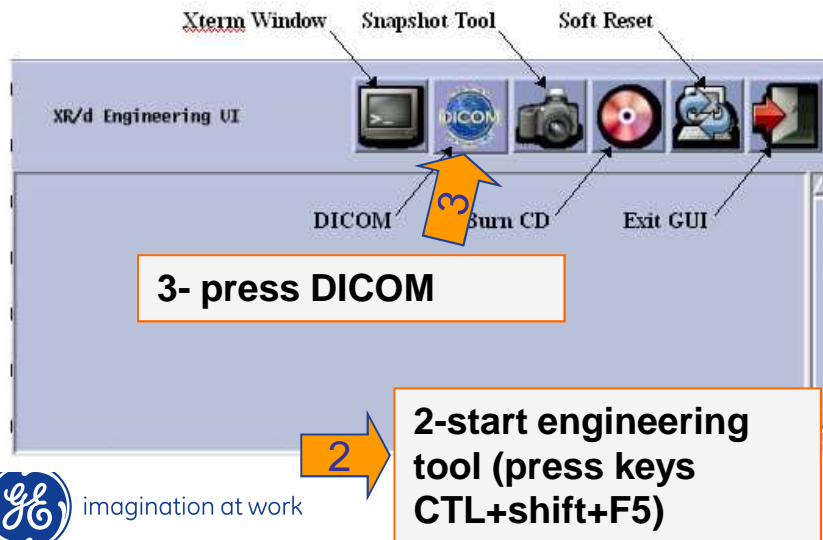
# Image download at Definium

800



1. On the viewer screen (right-hand monitor), select the desired image or exam. A word of caution: selecting a complete exam could result in a large number of files to upload.
2. Press **Ctrl+Shift+F5** to open the XR/d Engineering UI. It is recommended that you move the mouse to the left-hand monitor so the XR/d Engineering UI opens there. This will allow you to view the image acquisitions list on the right-hand monitor without any obstructions.

The following GUI will popup on the screen your mouse cursor is currently on:



3. Click on the DICOM tool icon. The following GUI will appear:

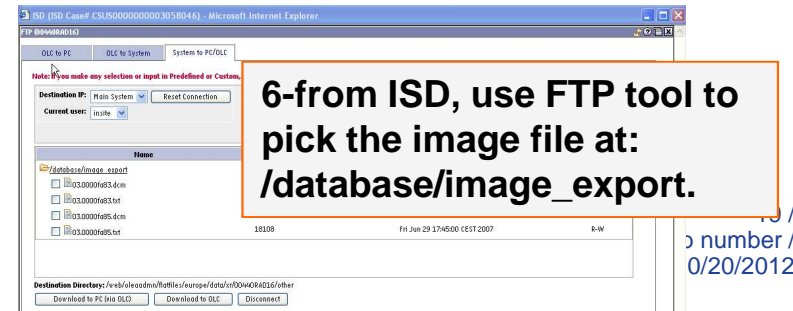


Note: Do not click on the **Import** or **Open** buttons! They do not work!

4. Click on the **Export** button. Click on **File** and then **Exit** to close the DICOM info browser window that pops up.
5. The DICOM tool will still be open. You can highlight another image and press **Export** to store it, or you can press **Quit** to exit the DICOM tool.
6. Launch the InSite FTP Tool and connect to the site. Enter `/database/image_export` in the Remote Working Directory box and click the **Change Directory** button. Change the **Pre-defined Filters** to `*` and the **Select destination folder** to `image` using the pulldowns. The files will have the following format:

```
-rw-rw-r-- 1 500 500 8184602 Feb 15 14:13 03.00001e0b.dcm
-rw-rw-r-- 1 500 500 21606 Feb 15 14:13 03.00001e0b.txt
-rw-rw-r-- 1 500 500 8283846 Feb 15 14:13 03.00001e0d.dcm
-rw-rw-r-- 1 500 500 25176 Feb 15 14:13 03.00001e0d.txt
```

The `.dcm` file is the image and the `.txt` file is the DICOM header information for that image. Highlight the files of interest and click the **Get File(s)** button.



number /  
0/20/2012





# Errorlog at Definium 8000

Launch FTPtool at ISD.

1. press tab system to PC/OLC
2. select System Errorlog in Predefined pull down
3. press Update button
4. Scroll down to display required file
5. Check box in front of sysError.log
6. Press Download to PC
7. Save to your laptop
8. Read the file using Wordpad or excel

Note: You make any selection or input in Predefined or Custom, Please click the "Update" button to make them effective

Destination IP: Main System    Reset Connection

Current user: insite

Predefined: System/Error Logs    Update

Custom: \* (filter)    /database/image\_export (path)

Name	Size	Date/Time	Access
/database/image_export			
03.0000f083.dcm	2344578	Fri Jun 29 17:45:00 CEST 2007	R-W
03.0000f083.txt	18112	Fri Jun 29 17:45:00 CEST 2007	R-W
03.0000f085.dcm	2164458	Fri Jun 29 17:45:00 CEST 2007	R-W
03.0000f085.txt	18108	Fri Jun 29 17:45:00 CEST 2007	R-W

Destination Directory: /web/oleadmn/flattiles/europe/data/sr/00440RAD16/other

Download to PC (via OLC)    Download to OLC    Disconnect

restore.log	20	Wed Jan 03 00:00:00 CET 2007	R-W
subError.log	1843	Fri Jun 08 22:04:00 CEST 2007	R-W
subMSG.log	4389	Fri Jun 08 22:06:00 CEST 2007	R-W
<input checked="" type="checkbox"/> sysError.log	559124	Fri Nov 09 13:18:00 CET 2007	R-W
sysErrorPrev.log	1129082	Tue Nov 06 17:22:00 CET 2007	R-W
sysMSG.log	560989	Fri Nov 09 13:35:00 CET 2007	R-W
sysMSGPrev.log	2294732	Thu Nov 08 00:40:00 CET 2007	R-W
sysPRM.log	94573	Thu Nov 08 18:14:00 CET 2007	R-W

Destination Directory: /web/oleadmn/flattiles/europe/data/sr/00440RAD16/log

Download to PC (via OLC)    Download to OLC    Disconnect

Save in: Desktop

File name: sysError.log

Save as type: Text Document

Save    Cancel



sequence number, date, time, subsystem, error code, error text, exam, exception category, application, major function, minor function

1,2007-11-06,11:22:26:626,"VEN",1090397, NS Vertical Amplifier Voltage output limit Error,2222,DO,DEFAULT, Pos, Devi

2,2007-11-06,11:22:26:631,"VEN",1090396, NS Vertical Amplifier Current output limit Error,2222,DO,DEFAULT, Pos, Devi

3,2007-11-06,11:22:26:631,"VEN",1090397, CLEAR,2222,DO,DEFAULT, Pos, DeviceGroup, Retry or reset the system.,1,1,0,

4,2007-11-06,11:22:26:648,"VEN",1090396, CLEAR,2222,DO,DEFAULT, Pos, DeviceGroup, Retry or reset the system.,1,1,0,

5,2007-11-06,11:22:26:655,"VEN",1090396, NS Vertical Amplifier Current output limit Error,2222,DO,DEFAULT, Pos, Devi

6,2007-11-06,11:22:26:662,"VEN",1090396, CLEAR,2222,DO,DEFAULT, Pos, DeviceGroup, Retry or reset the system.,1,1,0,

7,2007-11-06,11:22:26:677,"VEN",1090397, NS Vertical Amplifier Voltage output limit Error,2222,DO,DEFAULT, Pos, Devi

8,2007-11-06,11:22:26:681,"VEN",1090396, NS Vertical Amplifier Current output limit Error,2222,DO,DEFAULT, Pos, Devi

9,2007-11-06,11:22:26:685,"VEN",1090397, CLEAR,2222,DO,DEFAULT, Pos, DeviceGroup, Retry or reset the system.,1,1,0,

10,2007-11-06,11:22:26:696,"VEN",1090396, CLEAR,2222,DO,DEFAULT, Pos, DeviceGroup, Retry or reset the system.,1,1,0,

11,2007-11-06,11:22:26:700,"VEN",1090397, NS Vertical Amplifier Voltage output limit Error,2222,DO,DEFAULT, Pos, Dev

12,2007-11-06,11:22:26:706,"VEN",1090396, NS Vertical Amplifier Current output limit Error,2222,DO,DEFAULT, Pos, Dev

13,2007-11-06,11:22:26:707,"VEN",1090397, CLEAR,2222,DO,DEFAULT, Pos, DeviceGroup, Retry or reset the system.,1,1,0,

14,2007-11-06,11:22:26:711,"VEN",1090396, CLEAR,2222,DO,DEFAULT, Pos, DeviceGroup, Retry or reset the system.,1,1,0,

15,2007-11-06,11:22:26:715,"VEN",1090397, NS Vertical Amplifier Voltage output limit Error,2222,DO,DEFAULT, Pos, Dev

16,2007-11-06,11:22:26:720,"VEN",1090396, NS Vertical Amplifier Current output limit Error,2222,DO,DEFAULT, Pos, Dev

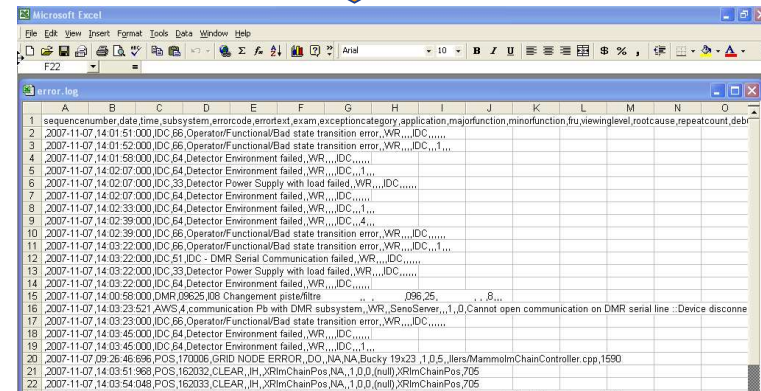
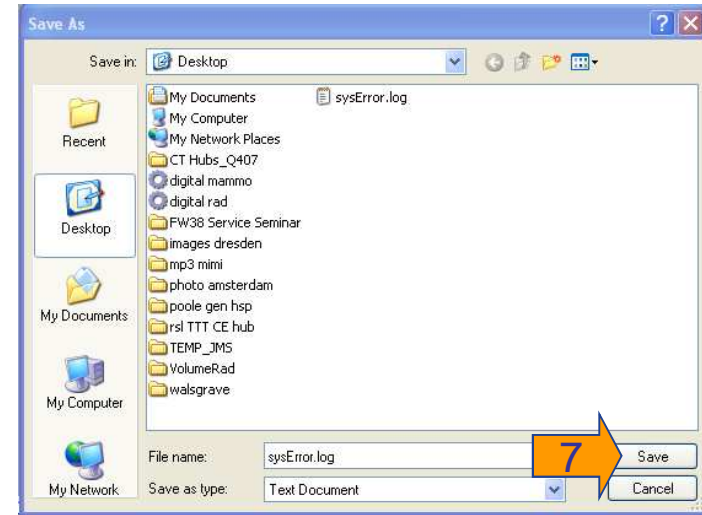
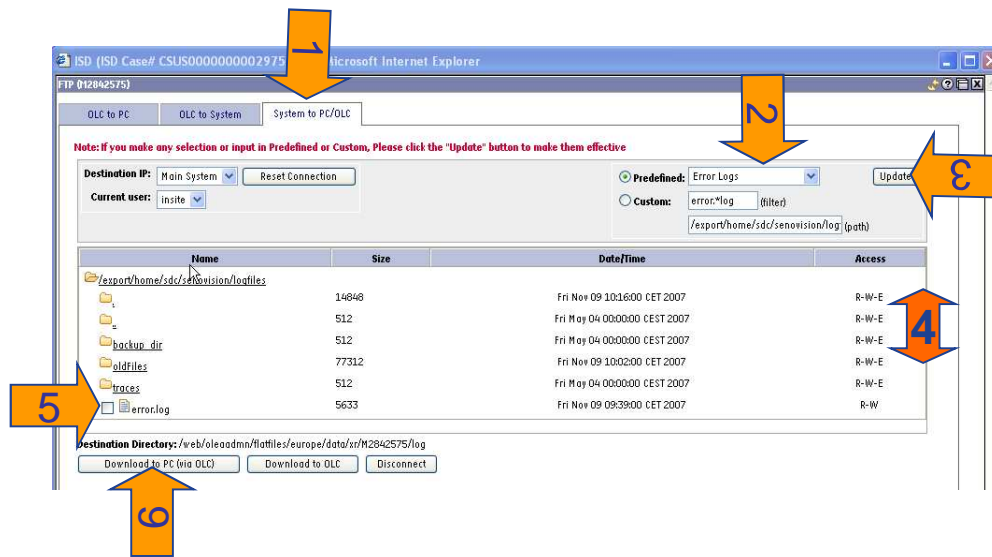


Innovation at work

# Errorlog at seno DS

Launch FTPtool at ISD.

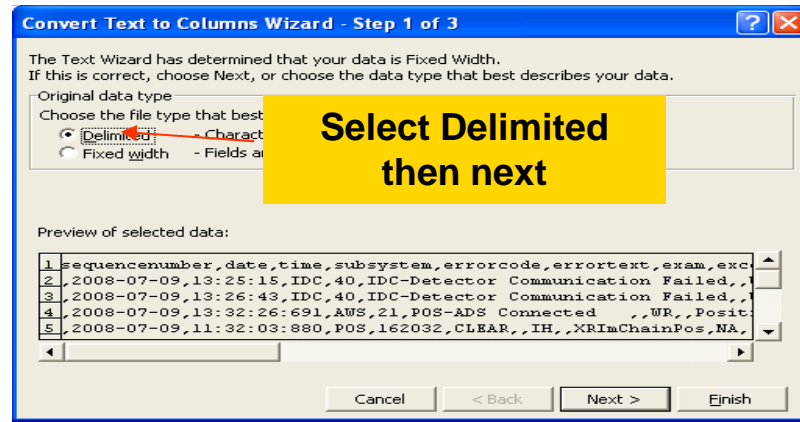
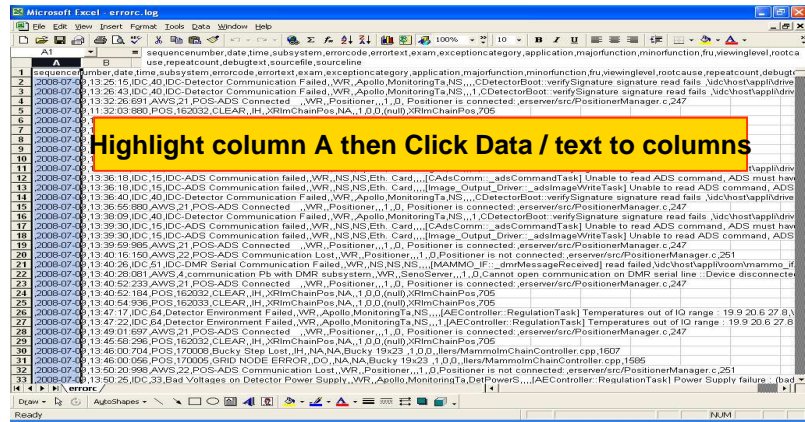
1. press tab system to PC/OLC
2. select "Error Logs" in Predefined pull down
3. press Update button
4. Scroll down to display required file
5. Check box in front of error.log
6. Press Download to PC
7. Save to your laptop
8. Read the file using Wordpad or excel



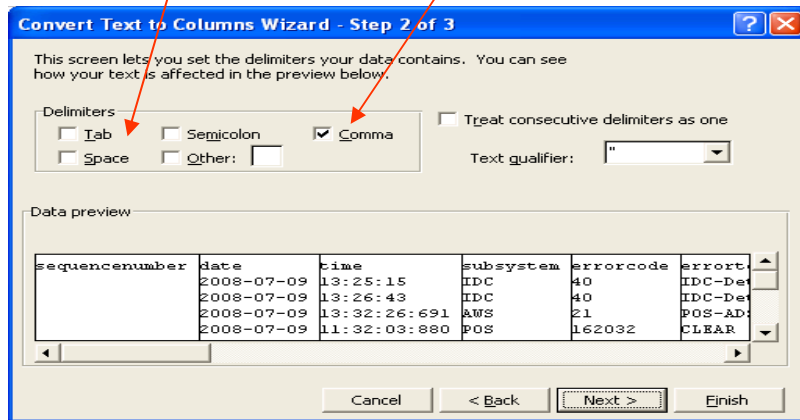


# Make the error log readable

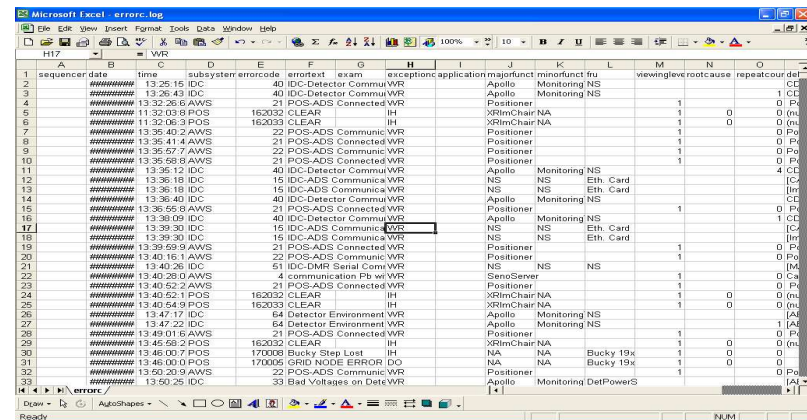
Right Click on saved file and 'open with excel'



Uncheck tab and check comma then finish



Now more readable but not finished yet



## Make the error log readable (2)

**Adjust width on column B then highlight row A, select Data, Filter, Auto filter.**

**You can then filter on today's date or on exception type i.e DO, IH, WR**

The screenshot shows a Microsoft Excel spreadsheet titled "errorc.log". The spreadsheet has columns labeled A through O. Column A is "sequencer", B is "date", C is "time", D is "subsystem", E is "errorcode", F is "errortext", G is "exam", H is "exceptionc", I is "application", J is "majorfunct", K is "minorfunct", L is "fru", M is "viewinglev", N is "rootcause", and O is "repeatcour". The data rows start from row 2. A red arrow points to the "exceptionc" column in row 2. A legend box is overlaid on the spreadsheet, explaining the exception types: DO = debug only (ignore), WR = warning (non blocking event), HL = halt = block event (require reboot), IH = Inhibit (may need acknowledgement), and RC = restart comms - ADS/IDC recoverable event.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
sequencer	date	time	subsystem	errorcode	errortext	exam	exceptionc	application	majorfunct	minorfunct	fru	viewinglev	rootcause	repeatcour
2	09/07/2008	13:25:15	IDC	40	IDC-Detector Commu	WR		Apollo	Monitoring	NS				
3	09/07/2008	13:26:43	IDC	40	IDC-Detector Commu	WR		Apollo	Monitoring	NS				1
4	09/07/2008	13:32:26:6	AWS	21	POS-ADS Connected	WR		Positioner				1		0
5	09/07/2008	11:32:03:8	POS	162032	CLEAR		IH	XRImChair	NA			1	0	0
6	09/07/2008	11:32:06:3	POS	162033	CLEAR		IH	XRImChair	NA			1	0	0
7	09/07/2008	13:35:40:2	AWS	22	POS-ADS Communic	WR		Positioner				1		0
8	09/07/2008	13:35:41:4	AWS	21	POS-ADS Connected	WR		Positioner				1		0
9	09/07/2008	13:35:57:7	AWS	22	POS-ADS Communic	WR		Positioner				1		0
10	09/07/2008	13:35:58:8	AWS	21	POS-ADS Connected	WR		Positioner				1		0
11	09/07/2008	13:35:12	IDC	40	IDC-Detector Commu	WR		Apollo	Monitoring	NS				4
12	09/07/2008	13:36:18	IDC	15	IDC-ADS Communica	WR		NS	NS	Eth. Card				
13	09/07/2008	13:36:18	IDC	15	IDC-ADS Communica	WR		NS	NS	Eth. Card				
14	09/07/2008	13:36:40	IDC	40	IDC-Detector Commu	WR		Apollo	Monitoring	NS				
15	09/07/2008	13:36:55:8	AWS	21	POS-ADS Connected	WR		Positioner				1		0
16	09/07/2008	13:38:09	IDC	40	IDC-Detector Commu	WR		Apollo	Monitoring	NS				1
17														
18														
19														0
20														0
21														0
22														0
23														0
24														0
25														0
26														0
27														1
28														0
29														0
30														0
31														0
32	09/07/2008	13:50:20:9	AWS	22	POS-ADS Communic	WR		Positioner				1		0
33	09/07/2008	13:50:25	IDC	33	Bad Voltages on Det	WR		Apollo	Monitoring	DetPowerS				

**Exception types DO = debug only (ignore)**  
**WR=warning (non blocking event)**  
**HL halt = block event (require reboot)**  
**IH = Inhibit (may need acknowledgement)**  
**RC = restart comms - ADS/IDC recoverable event**

# Remote operation examples

# Seno 2000D/DS/ESS – detector overtemperature

## 1- retrieval of file sensor.txt on Seno DS/2000D (troubleshooting temperature detector)

connect to the system (telnet)  
su - root (log in as root, psswd operator)  
cd / (go to the root directory /)  
mkdir tmp (create a temporary directory to save our temporary file)  
cd /tmp (go to directory tmp)  
ftp idc (press "enter" at username and password)  
cd /idc (move to directory /idc)  
bin (switch to binary transfer mode)  
get sensor.txt (download the file sensor.txt)  
bye (get out of ftp)  
more sensor.txt (display file sensor.txt)  
the file can be later be copied on the FE laptop using FTPtool (select directory /tmp)

## 2- retrieval of file sensor.txt on Seno Essential (troubleshooting temperature detector)

**Connect to the system (telnet)**  
**Change directory to /export/home/sdc**  
**Connect to IDC via FTP by entering ftp idc** (press "enter" at username and password)  
Change directory to /engdata/log  
bin (switch to binary transfer mode)  
**get NGD\_IDC\_TEMO\_SENSOR0.log** (download the file sensor.txt)  
bye (get out of ftp)  
more **NGD\_IDC\_TEMO\_SENSOR0.log** (display file)  
the file can be later be copied on the FE laptop using FTPtool (select directory /tmp)

**To quickly view the temperature trending it is much simpler to FTP file  
Imagemeasures.stat as this records factors for every exposure  
including the detector temp at the time of exposure**

# Seno 2000D/DS — change chiller temperature setting

## change detector temperature setting (temp.txt pour seno 2000D)

connect to the system (telnet)  
su - root (log in as root, psswd operator)  
cd / (go to the root directory /)  
mkdir tmp (create a temporary directory to save our temporary file)  
cd /tmp (go to directory tmp)  
ftp idc (press "enter" at username and password)  
cd /idc (move to directory /idc)  
bin (switch to binary transfer mode)  
get temp.txt (download the file)  
more temp.txt (display the fichier)  
to modify temperature setting change the 4 lines containing "stabilized). Values are in 1/10 of degrees celcius (200 = 20 degrees celcius).

# Seno 2000D/DS – network issue

## **get declared remote hosts**

how to find remote hosts declared on the station and check if those hosts can be reached (network troubleshooting).

connect to the system (telnet)

su - root

cd /export/home/sdc/Prefs

For network hosts (other workstations etc) more SdCRHosts

For RIS hosts (worklist broker etc) type more ScCRishosts

For PRINTERS type more xxxx.dev (use command ls -al to find name of printer file)

(display all declared hosts , note necessary IP addresses, AE titles and port numbers)

For your own AETitle,ip address type cd /etc then type more hosts

## **ping/dicom echo (network troubleshooting)**

Once you have the ip address type ping xxx.xxx.xxx.xxx you should see either xxx.xxx.xxx.xxx is alive or a list of transmissions with timings etc – if ping fails you have a basic network issue – if ping works then you can try a dicom ping

Change user to sdc on telnet drop down window then type sendecho and follow on screen instructions – failure can be due to incorrect AETitle, system not declared on pacs etc

# Seno 2000D/DS/ESS – remote hosts config

Digital-Mammo

Host-Worklist

Host : **Directory** /export/home/sdc/Prefs **File** :SdCRHosts

Worklist: **Directory** /export/home/sdc/Prefs **File** :SdCRisHosts

```
aws$ cd Prefs
aws$ ls
AdvantageUserPrefs@      SdCApplications*      SdCProtocols*
AiMIndexFile             SdCApplications.bak*  SdCRHosts*
BrowserMammoPrefs@      SdCArchiveDevice*     SdCRisHosts*
BrowserPrefs*           SdCAutoPush           Sessions@
BrowserUserPrefs@       SdCBrowserTypes*     Shared_Protocols/
CurrentProtocols@       SdCFilters@           UserPrefs@
KeypadUserPrefs@        SdCNotification*     config_db_file*
LicenseFileDescription  SdCPrefsList*        fuji1.dev
Protocols@              SdCPreset@           fuji2.dev

aws$ more ^M
: No such file or directory
aws$
aws$ more SdCRHosts
cad
set_host_name "cad" "r2cad.r2mfg";set_host_app_entity_title "cad" "DICOMINBOX";s
et_host_address "cad" "41.100.0.72";set_host_protocol "cad" 3;set_host_port_numbe
r "cad" "1115";set_host_provider_type "cad" 3;set_host_support_worklist "cad" 2
;set_host_storage_commitment "cad" 0;set_host_send_flag "cad" 0;set_host_comment
"cad" "FFDM CAD System";
Radstore
set_host_name "Radstore" "1FR2X01";set_host_app_entity_title "Radstore" "AE_1FR2
X01";set_host_address "Radstore" "41.100.0.73";set_host_protocol "Radstore" 3;se
t_host_port_number "Radstore" "104";set_host_provider_type "Radstore" 0;set_host
_support_worklist "Radstore" 2;set_host_storage_commitment "Radstore" 0;set_host
_send_flag "Radstore" 0;set_host_comment "Radstore" "";
St de Revue
set_host_name "St de Revue" "rws";set_host_app_entity_title "St de Revue" "rws";
set_host_address "St de Revue" "41.100.0.71";set_host_protocol "St de Revue" 3;s
et_host_port_number "St de Revue" "4006";set_host_provider_type "St de Revue" 3;
set_host_support_worklist "St de Revue" 2;set_host_storage_commitment "St de Rev
ue" 0;set_host_send_flag "St de Revue" 1;set_host_comment "St de Revue" "";
```

IP adress

AE title

Menetrier-Thierry

imagination at work



imagination at work



# Seno 2000D/DS/ESS – dicom printer config

Digital-Mammo

Printer

Directory /export/home/sdc/Prefs File-extension : .dev

```
/export/home/sdc/Prefs
aws$ more fujil.dev
set dName "fuji 26x36"
set dType dicom
set dColour greyscale
set dQueueType DICM
set dQueueName "dicom"
props canDoSaveOnDisk canDoMultiCopies canDoCustomResolution
set dFilmFormatMode standard
set dGreyscaleMode off
set dColourMode greyscale
set dResolutionMode custom
set dPixelDepth 8
set reviewroom ""
set dHostName "fujil"
set dAppTitle "LP_2636"
set medType "BLUE FILM"
set destination PROCESSOR
set filmOrientation PORTRAIT
set magType CUBIC
set netAddr "41.100.0.61"
set portNumber 105
set filmSize "8INx10IN"
pfilmSize "8INx10IN" 0 0
# If print priority is empty LOW is used as the default
# Available values : LOW, MED, HIGH
set printPriority ""
# If session label is empty it is not sent
set sessionLabel ""
# If smoothing factor is empty or mag type != CUBIC
# then smoothing factor is not sent
set smooth ""
# If border density is empty, it is not sent
# Available values : BLACK, WHITE
set borderDensity "BLACK"
# If empty img density is empty, it is not sent
# Available values : BLACK, WHITE
set emptyImgDensity ""
# If min density = -1, it is not sent
```

AE title

IP adress

Port number



Menetrier-Thierry

imagination at work

imagination at work



# Seno 2000D/DS/ESS – check ADS software version

**verify software versions (from CSD and command line)**

**Connect with telnet**

`cd /export/home/install/jumpstart`

`ls` (1st file on the top of the list has ADS version)

# All Seno + RWS +revolution XQiXRd: cannot complete boot up.

**File system recovery if boot fails (usually says enter cntrl-d for normal boot or enter root password for normal boot – normal boot fails**

Login and change user to root

Type fsck -y

You may need to run this more than once – I usually run twice by default then reboot  
(if no connection the customer can easily run this with your advice)

**boot issues ( clean up of /reserved) to be applied if application start fails (no browser).**

connect the system (telnet)

su - root

cd /export/home1/sdc\_image\_pool/reserved

ls -la (display content of directory /reserved) /reserved must be empty, if not delete any present file or directory except ./ and ../ (rm for file removal, rmdir for directory removal)

This has also fixed systems when icons fail to work or applications behaves oddly in general

# All systems – check partitioning troubleshoot boot error or soft failure.

## check partitioning (df -k) when sdc fails

To be checked if application does not start.

connect to system (telnet)

su - root

df -k (display partition) check all partitions /sdc and export/home1 exist. check no partition has reached 100% (or clean up files in the concerned partition)

If partition is >90% you may see odd errors and once full you may see things such as errors when attempting to open new patient etc

**IOP Cleaner** – if system gives errors such as very slow to view processed images, disk full, partition full, error during image declaration, patients & images not appearing on browser or DS hangs at 62% - then run IOP cleaner this will manually clear network and print queues and clear reserved disk space if found

**Mammo** – /export/home/sdc/scripts then iop\_cleaner (need to be root)

**Xr/d Xq/I** cd scripts then enter then iop\_cleaner

# Seno 2000D/DS/ESS – workstation tips

- Recover database launch script **start.reinstall.images**

-Script path : /export/home/sdc/scripts (must be SDC user)

- UPS batteries at low level

Log in as root and execute the command **ups stop**

and let the system on to reload the batteries

- Check that the devices are responding

**probe-ide** or **probe-scsi** (at OK prompt )

- Boot errors logged in messages file – var/adm/messages

- If system appears to be totally hung – ask customer to press ‘front’ key on keyboard and make sure no page is behind the browser.

- To restart browser (apps software) change to user sdc

type `cd /export/home/sdc/scripts`

to stop `kill.sdc`

to start `start.sdc`



imagination at work

# Seno 2000D/DS/ESS – bypass

## UPS

### bypass de l'UPS

To be used if ups failure or ups battery flat.

This procedure can apply to Seno 2000D or Seno DS.

#### 1- Hardware re-configuration:

Bypass the UPS by connecting all devices normally supplied by the UPS to a multi-plug, itself connected to the 220V.

In the generator, connect separately the conditionner to an external 220V outlet (as recommended for vacation period)

#### 2- Software re-configuration:

power the system, and when the AWS login appears, immediately login as *root* (pwd = operator); then enter the command: `ups stop <return>`; this will stop the UPS daemon (you have 20 seconds to do all that !!)

to put the UPS in simulation mode, enter commands:

- `cd /export/home/sdc/senovision/scripts <return>`
- `configure.sh -U simul <return>` (*it is capital U !*)

then type: *reboot* <return> and after restart, login as usually, the system should be fully operational.

#### 3- To switch on the system: use the main room switch

4- To switch off the system: shutdown the AWS as usually, when the *OK prompt* appears (and only then !!!), switch off with the main room switch (the conditionner should stay on)

#### 5- Software re-reconfiguration when new UPS in place:

to put the UPS back to real mode, enter commands (being *root*):

- `cd /export/home/sdc/senovision/scripts <return>`
- `configure.sh -U real <return>` and reboot the AWS

IP filter applies to Seno Essential, Seno DS after FMI 12031 (M5B-soft version:32.00 ),  
and to Seno 2000D after FMI 12063 (Alnitak-soft version:17.4.5 )

- This filter does not forbid in any case the actions (ping, ftp, telnet...) of AWS toward remote hosts.
- DICOM transactions are ALWAYS authorized (no declaration in IP filter for printers & other servers like worklist or PACS, *sendecho* possible)
- BUT any host must be declared to allow a ftp or telnet session, for example from RWS to AWS.
- **The “ping” toward AWS remains forbidden in all cases.**
- About Insite, VPN or ISDN case, **it will be necessary to declare the LAN IP of the router**; by default only IP interval 150.2.0.0/16 is valid.
- Job cards of interest: ELE M056, REP C010, CFG C010
- Main commands to remember: *IPFadd.sh* <IP\_range> & *IPFls.sh*
- Example: *IPFadd.sh 192.22.33.10/20*



**Quick-Reference-Card-Unix [doc\\_4736-quick-Reference-Card-unix-command.pdf](#)**

**Quick-Reference-Card- Network [doc\\_4735.-Quick-Reference-Card-network-card.pdf](#)**

**Quick-Reference-Card- Dicom [doc\\_4734-Quick-Reference-Card-Dicom.pdf](#)**

**Useful link**

**Support-Central-X-Ray Mammo Online Center**

**[http://supportcentral.ge.com/products/sup\\_products.asp?prod\\_id=46289](http://supportcentral.ge.com/products/sup_products.asp?prod_id=46289)**

## **PRODUCT**

2000d see ASM (yellow) job card TSG 004 Network Troubleshooting

DS-Essential see SIP-M job card TSG 004 Network Troubleshooting

## **JAVISTA :Image viewer**

## **DTRACE : Trace Dicom analyzer**

The Installation package of Javista: <ftp://globe/globepro/javista/javista>

The Installation package of DTrace: <ftp://globe/globepro/javista/DTrace/>

The JRE (Java Runtime Environnement) V1.4:


<ftp://globe/globepro/javista/JavaRuntimeEnvironment%20v1.4/>

See H Baroukh for installation and training

# QRC quick Reference card - Network

<p style="text-align: center;">GE Medical Systems</p> <p style="text-align: center;"><b>Direction XXXXXX-100</b></p> <p style="text-align: center;"><b>Networks</b> <b>Quick Reference Card</b></p> <p>Rev 0.c Jan. 20, 2000</p> <p style="text-align: center;">Approved by Brad Wurt Proprietary to General Electric Company Produced by GE Medical Systems Education Center</p>	<p style="text-align: center;"><b>Network Command's Reference</b></p> <table border="0"> <tr> <td><b>Procedure</b></td> <td><b>Command</b></td> </tr> <tr> <td>Access Another System</td> <td>telnet</td> </tr> <tr> <td>Adding a Router</td> <td>route</td> </tr> <tr> <td>Address Resolution</td> <td>arp</td> </tr> <tr> <td>DICOM Ping</td> <td>sendecho</td> </tr> <tr> <td>Interface Configuration</td> <td>ifconfig</td> </tr> <tr> <td>List Users and Machines</td> <td>rusers</td> </tr> <tr> <td>Logout</td> <td>CTRL 'd'</td> </tr> <tr> <td>Monitor network communications</td> <td>snoop</td> </tr> <tr> <td>Move files across the network</td> <td>ftp</td> </tr> <tr> <td>Network Status</td> <td>netstat</td> </tr> <tr> <td>Networked Systems on Line</td> <td>rup</td> </tr> <tr> <td>Test Network Communications</td> <td>ping</td> </tr> <tr> <td>Who's Logged On</td> <td>who</td> </tr> </table>	<b>Procedure</b>	<b>Command</b>	Access Another System	telnet	Adding a Router	route	Address Resolution	arp	DICOM Ping	sendecho	Interface Configuration	ifconfig	List Users and Machines	rusers	Logout	CTRL 'd'	Monitor network communications	snoop	Move files across the network	ftp	Network Status	netstat	Networked Systems on Line	rup	Test Network Communications	ping	Who's Logged On	who	<p style="text-align: center;"><b>Network Files</b></p> <p><b>/etc/host</b> A lookup file to associate host alias names with their IP addresses. <b>Must</b> have an entry for hostname.</p> <p><b>/etc/hostname.xxx</b> Contains the hostname for the <b>xxx</b> interface. <b>xxx</b> may be le0, le1, lme0, lme1, bn0, bn1, etc.</p> <p><b>/etc/netmasks</b> A lookup table to associate sub-netmask with their base network addresses.</p> <p><b>/etc/services</b> A list of TCP/IP applications and their software port numbers.</p> <p><b>/usr/sbin/in.rdisc</b> Router discovery daemon, rename to turn off.</p> <p><b>/usr/sbin/in.routed</b> Network routing daemon, rename to turn off.</p>																												
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# QRC quick reference card – unix commands

<p style="text-align: center;">  <span style="float: right;">GE Medical Systems</span>  <b>Direction XXXXXX-100</b>  <b>Networks</b>  <b>Quick Reference Card</b>                  Rev 0.c <span style="float: right;">Jan. 20, 2000</span>                  Approved by Brad Wilt                  Proprietary to General Electric Company                  Produced by GE Medical Systems Education Center             </p>	<p style="text-align: center;"><b>Network Command's Reference</b></p> <table border="0"> <tr> <td><b>Procedure</b></td> <td><b>Command</b></td> </tr> <tr> <td>Access Another System</td> <td>telnet</td> </tr> <tr> <td>Adding a Router</td> <td>route</td> </tr> <tr> <td>Address Resolution</td> <td>arp</td> </tr> <tr> <td>DICOM Ping</td> <td>sendecho</td> </tr> <tr> <td>Interface Configuration</td> <td>ifconfig</td> </tr> <tr> <td>List Users and Machines</td> <td>rusers</td> </tr> <tr> <td>Logout</td> <td>CTRL 'd'</td> </tr> <tr> <td>Monitor network communications</td> <td>snoop</td> </tr> <tr> <td>Move files across the network</td> <td>ftp</td> </tr> <tr> <td>Network Status</td> <td>netstat</td> </tr> <tr> <td>Networked Systems on Line</td> <td>rup</td> </tr> <tr> <td>Test Network Communications</td> <td>ping</td> </tr> <tr> <td>Who's Logged On</td> <td>who</td> </tr> </table>	<b>Procedure</b>	<b>Command</b>	Access Another System	telnet	Adding a Router	route	Address Resolution	arp	DICOM Ping	sendecho	Interface Configuration	ifconfig	List Users and Machines	rusers	Logout	CTRL 'd'	Monitor network communications	snoop	Move files across the network	ftp	Network Status	netstat	Networked Systems on Line	rup	Test Network Communications	ping	Who's Logged On	who	<p style="text-align: center;"><b>Network Files</b></p> <p><b>/etc/host</b> A lookup file to associate host alias names with their IP addresses. Must have an entry for hostname.</p> <p><b>/etc/hostname.xxx</b> Contains the hostname for the xxx interface. xxx may be le0, le1, lme0, lme1, ba0, ba1, etc.</p> <p><b>/etc/netmasks</b> A lookup table to associate sub-netmask with their base network addresses.</p> <p><b>/etc/services</b> A list of TCP/IP applications and their software port numbers.</p> <p><b>/usr/sbin/in.rdisc</b> Router discovery daemon, rename to run off.</p> <p><b>/usr/sbin/in.routed</b> Network routing daemon, rename to run off.</p>																												
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# QRC quick reference card - Dicom

<p style="text-align: center;">GE Medical Systems</p> <p style="text-align: center;"><b>Direction XXXXXX-100</b></p> <p style="text-align: center;"><b>Networks</b></p> <p style="text-align: center;"><b>Quick Reference Card</b></p> <p>Rev 0.c Jan. 20, 2000</p> <p style="text-align: center;">Approved by Brad Wulf Proprietary to General Electric Company Produced by GE Medical Systems Education Center</p>	<p style="text-align: center;"><b>Network Command's Reference</b></p> <table border="0"> <tr> <td><b>Procedure</b></td> <td><b>Command</b></td> </tr> <tr> <td>Access Another System</td> <td>telnet</td> </tr> <tr> <td>Adding a Router</td> <td>route</td> </tr> <tr> <td>Address Resolution</td> <td>arp</td> </tr> <tr> <td>DICOM Ping</td> <td>sendecho</td> </tr> <tr> <td>Interface Configuration</td> <td>ifconfig</td> </tr> <tr> <td>List Users and Machines</td> <td>rusers</td> </tr> <tr> <td>Logout</td> <td>CTRL 'd'</td> </tr> <tr> <td>Monitor network communications</td> <td>snoop</td> </tr> <tr> <td>Move files across the network</td> <td>ftp</td> </tr> <tr> <td>Network Status</td> <td>netstat</td> </tr> <tr> <td>Networked Systems on Line</td> <td>rup</td> </tr> <tr> <td>Test Network Communications</td> <td>ping</td> </tr> <tr> <td>Who's Logged On</td> <td>who</td> </tr> </table>	<b>Procedure</b>	<b>Command</b>	Access Another System	telnet	Adding a Router	route	Address Resolution	arp	DICOM Ping	sendecho	Interface Configuration	ifconfig	List Users and Machines	rusers	Logout	CTRL 'd'	Monitor network communications	snoop	Move files across the network	ftp	Network Status	netstat	Networked Systems on Line	rup	Test Network Communications	ping	Who's Logged On	who	<p style="text-align: center;"><b>Network Files</b></p> <p><b>/etc/host</b> A lookup file to associate host alias names with their IP addresses. Must have an entry for hostname.</p> <p><b>/etc/hostname.xxx</b> Contains the hostname for the xxx interface. xxx may be le0, le1, hme0, hme1, ba0, ba1, etc.</p> <p><b>/etc/netmasks</b> A lookup table to associate sub-netmask with their base network addresses.</p> <p><b>/etc/services</b> A list of TCP/IP applications and their software port numbers.</p> <p><b>/usr/sbin/in.rdisc</b> Router discovery daemon, rename to turn off.</p> <p><b>/usr/sbin/in.routed</b> Network routing daemon, rename to turn off.</p>																												
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Need host &amp; destination AE, port &amp; IP</p> <p><b>telnet host</b> Interfere to a remote system. host IP address or alias name of remote system.</p>	<p style="text-align: center;"><b>Network Troubleshooting</b></p> <p><b>Hardware:</b> Verify all cable connections: <b>Thimnet:</b> Verify termination, must measure approx. 25 ohms. <b>Twisted Pair</b> Look for link lights on transceivers and hubs.</p> <p><b>Local network:</b></p> <p>halt - Halt to the OK prompt OK - test net - OK? Reboot - KO? Check connection to Hub, check Hub, try another connection/port.</p> <p>ping hostname - OK? Local hardware ok. KO? Verify name in file /etc/hostname.xxx is listed in the /etc/hosts file.</p> <p>ping host - OK? Network connection ok. KO? Verify host powered on. Try other hosts. Use rusers to see other hosts</p> <p>ifconfig -a - Verify IP address, netmask KO? Correct &amp; reboot. OK? Connect two systems together with hub or crossover cable and recheck.</p> <p><b>Routed network:</b></p> <p>ping router, local side IP - KO? See local network troubleshooting.</p> <p>ping router, routed side IP - OK? Ping routed workstation. KO? Check routed workstation config. OK? No Problem KO? Check route table, netmasks</p> <p>ifconfig -a - Verify netmask, broadcast address netstat -r - Verify existing routes, network base address route -f - Delete the existing routing table route add net - Add route for destination network ping router, routed side IP - OK? Determine reason for bogus routes KO? Verify router is functioning.</p> <p><b>Slow Communications:</b> snoop - Monitor communication load. Reboot workstation and check for 10 or 100 base connections Half or full duplex</p>
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# Check ethernet connection

## To Check the Active Ethernet Connections for HPower System

Open a Shell and type : **ifconfig** <enter> The following list below should display

```
Eth0 is the Hospital backbone- dual card #2 port labeled "A"
eth0  Link encap:Ethernet HWaddr 00:07:E9:0D:03:24
      inet addr:3.231.48.2 Bcast:3.231.48.0 Mask:255.255.252.0
      UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
      RX packets:16497 errors:0 dropped:0 overruns:0 frame:0
      TX packets:450 errors:0 dropped:0 overruns:0 carrier:0
      collisions:0 txqueuelen:100
      RX bytes:1596730 (1.5 Mb) TX bytes:66981 (65.4 Kb)
      Interrupt:28 Base address:0x2800 Memory:da140000-0

Eth2 is the DARC connection - dual card #1 port labeled "C"
eth2  Link encap:Ethernet HWaddr 00:07:E9:0D:06:DC
      inet addr:172.16.0.1 Bcast:172.16.0.255 Mask:255.255.255.0
      UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
      RX packets:8721 errors:0 dropped:0 overruns:0 frame:0
      TX packets:7041 errors:0 dropped:0 overruns:0 carrier:0
      collisions:0 txqueuelen:100
      RX bytes:4921088 (4.6 Mb) TX bytes:7502277 (7.1 Mb)
      Interrupt:24 Base address:0x2880 Memory:da180000-0

Eht3 is the Gantry TGP connection - dual card #2 port labeled "B" HPower
eth3  Link encap:Ethernet HWaddr 00:07:E9:0D:06:DD
      inet addr:192.9.220.1 Bcast:192.9.220.255 Mask:255.255.255.0
      UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
      RX packets:6047 errors:0 dropped:0 overruns:0 frame:0
      TX packets:6022 errors:0 dropped:0 overruns:0 carrier:0
      collisions:10 txqueuelen:100
      RX bytes:801454 (782.6 Kb) TX bytes:846248 (826.4 Kb)
      Interrupt:25 Base address:0x28c0 Memory:da1a0000-0

Under Unix/Linux there is always the local device that is the local system (Software pseudo device)
lo    Link encap:Local Loopback
      inet addr:127.0.0.1 Mask:255.0.0.0
      UP LOOPBACK RUNNING MTU:16436 Metric:1
      RX packets:173978 errors:0 dropped:0 overruns:0 frame:0
      TX packets:173978 errors:0 dropped:0 overruns:0 carrier:0
      collisions:0 txqueuelen:0
      RX bytes:76737700 (73.1 Mb) TX bytes:76737700 (73.1 Mb)
```

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CT Remote Training – 2007 – PhG - ServOps

healthcare



imagination at work



# Definium Workstation tips

- Fails to boot (usually after power black out, incorrect shutdown etc  
login as root then type fsck -y (you may need to run twice)  
(customer can easily do this on your behalf from command window)

- Perform Database recovery (run automatically at start up)

force recovery only if files present in directory below

```
cd /database/DBHeader/localdb/composites1/dir0000000000/
```

```
ls -al to view files
```

If some files are listed, you can probably recover the DB by forcing a db recovery during startup. To force the recovery, edit the file /magichome/xruser/bin/start.dm.cots using gedit or vi. Edit the line:

```
${PKG_HOME}/resources/db/startLocaldb.cmd start >&! $ATH_LOG_DIR/startLocaldb.log
```

To make it :

```
${PKG_HOME}/resources/db/startLocaldb.cmd start -f >&! $ATH_LOG_DIR/startLocaldb.log
```

Save file and exit -do a soft reset – db recovery may take quite a while

**IMPORTANT - Whether or not this fixes the problem change the file back to original data line**



imagination at work

# Definium Workstation tips (2)

## Restart apps software

/magichome/xruser/bin/kilall (cust will see a blue screen)

/magichome/xruser/bin/start.magic (to restart)

## Check network and RIS hosts

Hosts are found at /magichome/cots/terra/resources/NETWORK/

RIS server info is in file mwl\_pps\_cfg.xml

Other hosts in file network-cfg.xml

## Boot errors

/var/log/messages

## Software versions

magichome/engdata/config.txt (ftp to laptop)

## Display Sensors and encoder values

Change user to xruser, cd bin command is showStatus (capital S in status)

## HOW TO MAKE A SCREEN CAPTURE ON DEFINIUM 8000

1. Get the desired left and/or right screen (to be printed) on the system.
2. Open a command window, i.e. press **Ctrl+Shift+F5** and click on the leftmost (one with a window) icon on the resulting pop-up. A blank (white-colored) screen will be displayed with the following "xruser@magic engg]\$" 

```
xruser@magic engg]$"

```
3. Now, to print left screen type **import -window root -display :0.0 /enggdta/name.gif** and press the **Enter** key
4. Similarly, to print right screen type **import -window root -display :0.1 /enggdta/name.gif** and press the **Enter** key
5. The .gif images will be stored in the directory **/enggdta/** on the system. You can then transfer these files through a USB drive/internet to your laptop/PC.

# Definium 8000 – remote snapshot

A GUI that is invoked with hot-key combination Ctrl+Shift+F5

Can take snapshot, export/import DICOM files, do software-only reset, etc

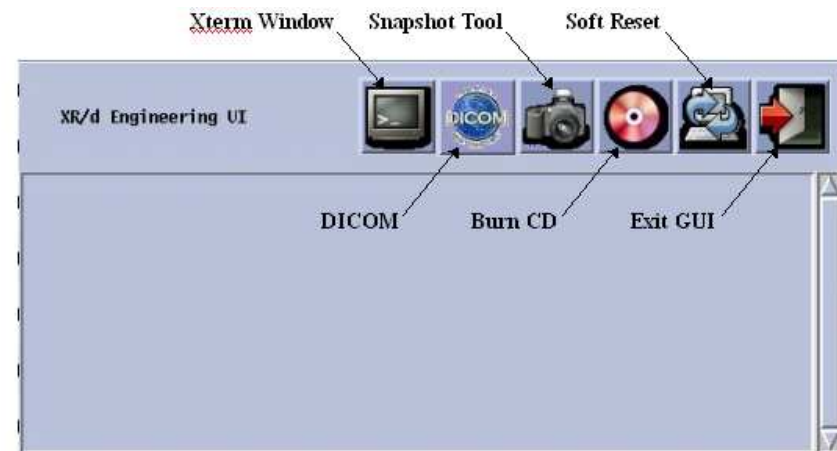
Command line tools exist for each function

`/magichome/xruser/engg/collectLogs.sh` – Creates snapshots

`/magichome/xruser/engg/dicomExport.sh` – Exports images selected on browser as DICOM images to `/database/image_export` directory (Copy the images to `/enggdata/log` before invoking a manual snapshot, if the issue is related to the image or IQ)

`/magichome/xruser/engg/restartapps` – Performs a SW-only restart (no OS restart)

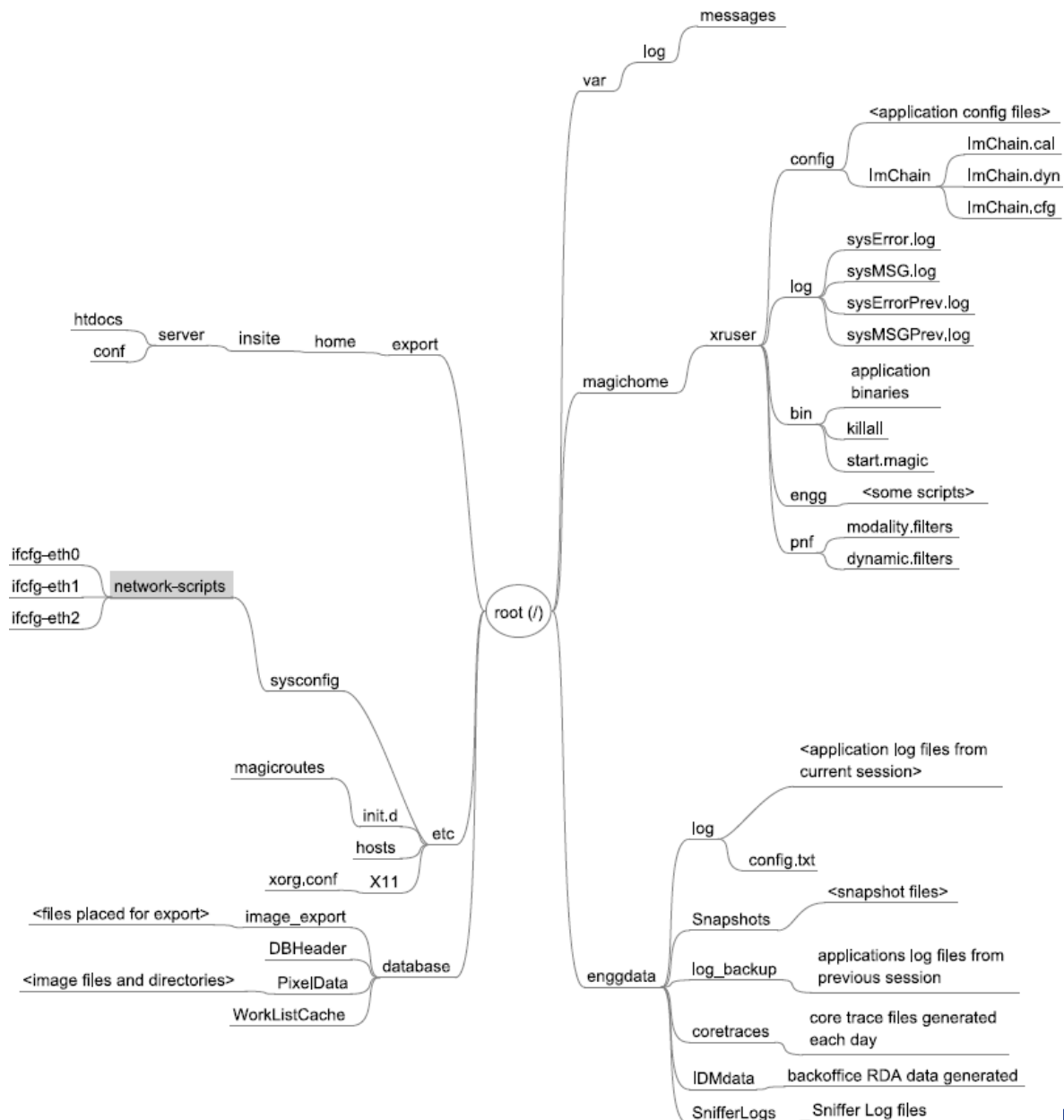
Snapshots on : `/magichome/ enggdata/Snapshots`



# Magic PC – usefull commmands

<b>man command</b>	=>	prints help for a given command
<b>/bin/df</b>	=>	Show information about the filesystems
<b>/sbin/ifconfig</b>		network configuration about all ethernet interfaces
<b>/sbin/ethtool</b> <b>/sbin/ethtool eth0</b>	=>	will print out eth0 settings such as (duplex level, speed, Link status etc) run as root user
<b>/usr/bin/locate</b>		
<b>/usr/bin/locate filename</b>	=>	will print the full path of all files matching the name filename
<b>/bin/netstat</b>	=>	prints network statistics
<b>netstat -i</b>	=>	prints packet statistics for all interfaces
<b>netstat -s</b>	=>	overall stats
<b>netstat -r</b>	=>	routing table
<b>/sbin/route</b>	=>	prints network routing table
<b>/bin/ps   grep -i "Executable"</b>	=>	lists the process information
<b>/usr/bin/free</b>	=>	prints the amount of memory and swap space used
<b>/usr/bin/top -d 1</b>	=>	prints all processes, memory use, keeps updating every 1 second. Press Ctrl+C to quit
<b>rpm -qa   grep -i "Platform"</b>	=>	prints the package version / name
<b>Copying snapshot files to usb drive:</b> <b>/bin/mount /mnt/usbdisk</b> <b>cd /engdata/Snapshots</b> <b>cp &lt;snapshot name&gt; /mnt/usbdisk</b> <b>umount /mnt/usbdisk</b>		
<b>CDROM</b> <b>/bin/mount /dev/cdrom</b> <b>/bin/umount</b>		

# Magic PC – software tree





# Magic PC- copy files to USB flash

## Procedure to copy files to a USB Jumpdrive:

1. Press **Ctrl+Shift+F5**. The Engineering UI will pop up.
  2. Click on the first icon to open an xterm (command) window.
  3. Type in: **tail<sub>[space]</sub>-f<sub>[space]</sub>/var/log/messages <enter>**.
  4. Plug the USB device into one of the USB ports on the front of the Magic PC.
  5. Look at the messages displayed on the screen and locate the line containing “new high speed USB device”. A few lines after this will be an “added mount point ... for /dev/xxxx” statement; for example, “added mount point LEXAR\_Media for /dev/uba1”. Take note of the “/dev/xxxx” at the end of this statement for later use.
  6. Press **Ctrl+C**.
  7. Type in: **su<sub>[space]</sub>~<sub>[space]</sub>root <enter>**.
  8. At the password prompt, type in **#superxr**.
  9. Type in: **mkdir<sub>[space]</sub>/mnt/usbdisk <enter>**.
  10. Type in: **mount<sub>[space]</sub>/dev/xxxx<sub>[space]</sub>/mnt/usbdisk <enter>**, where **/dev/xxxx** is what was noted in **Step 5**.
  11. Type in: **cd<sub>[space]</sub>/mnt/usbdisk <enter>**.
  12. Type in: **cp<sub>[space]</sub>~xruser/bin/gain0.img<sub>[space]</sub> <enter>** where **~xruser/bin/gain0.img** is the directory path and the specific file to be copied and **“.”** means the current directory (/mnt/usbdisk).
  13. Type in: **ls<sub>[space]</sub>-l <enter>** and verify the file is present.
  14. Type in: **cd <enter>**.
  15. Type in: **umount<sub>[space]</sub>/mnt/usbdisk <enter>**.
  16. Unplug the USB device.
  17. Type in: **exit <enter>** to exit root.
  18. Type in: **exit <enter>** to close the xterm window.
- on the bottom icon to exit the Engineering UI.



# Magic PC – copy files to CD

## Procedure to copy files to a CD:

1. Press **Ctrl+Shift+F5**. The Engineering UI will pop up.
2. Click on the first icon to open an xterm (command) window.
3. Type in: **su**<sub>[space]</sub>**root** **<enter>**.
4. At the password prompt, type in **#superxr**.
5. Type in: **mkdir**<sub>[space]</sub>**temp** **<enter>**.
6. Type in: **cd**<sub>[space]</sub>**temp** **<enter>**.
7. Type in: **cp**<sub>[space]</sub>**~xruser/bin/gain0.img**<sub>[space]</sub> **.** **<enter>** where **~xruser/bin/gain0.img** is the directory path and the specific file to be copied and **“.”** means the current directory (temp).
8. Type in: **mkisofs**<sub>[space]</sub>**-r**<sub>[space]</sub>**-o**<sub>[space]</sub>**./cdrom.iso**<sub>[space]</sub> **<enter>**.
9. Type in: **cd**<sub>[space]</sub>**..** **<enter>**.
10. Insert the CD in the drive and wait for the drive to spin up.
11. Type in: **cdrecord**<sub>[space]</sub>**-v**<sub>[space]</sub>**cdrom.iso** **<enter>**. At this point, the file will be written to the CD.
12. Type in: **mount**<sub>[space]</sub>**/mnt/cdrom** **<enter>**.
13. Type in: **cd**<sub>[space]</sub>**/mnt/cdrom** **<enter>**.
14. Type in: **ls**<sub>[space]</sub>**-l** **<enter>** and verify the file is present.
15. Type in: **cd** **<enter>**.
16. Type in: **umount**<sub>[space]</sub>**/mnt/cdrom** **<enter>**.
17. Type in: **eject** **<enter>**. The CD should be ejected.
18. Type in: **exit** **<enter>** to exit root.
19. Type in: **exit** **<enter>** to close the xterm window.
20. Click on the door icon to exit the Engineering UI.

# Magic PC – IDC calib files

**calib.hst and calib.log.**

they are both located in IDC.

you need to ftp in idc and pick them up using get command

```
ftp idc  
cd /idc  
get calib.hst  
get calib.log
```

# Magic PC – browse a CD

## Browse a CD:

- Insert CD in Magic PC
- Type **cntrl + Alt + F2** to get to shell
- Login : **root**
- password: #superxr**
- Type **mount<space>/mnt/cdrom**
- Type **cd<space>/mnt/cdrom**
- Type **cksum<space>\*** ( The following will be the contents of the CD )

2730415866	1498378	Athena_Thunder_Magic_Release_patch_2-5.3-15.rpm
1833959969	904058	ATLASIDC_PLATFORM-5.3-15_PATCH1.i386.rpm
389674997	42893	iui_thunder_m3_patch-1.0-1.i386.rpm
158308521	2949	M3patchInstall.sh
1927960340	1042	restartapps
2757657023	316	systemState.sh
3135689314	1087	updateANR.sh



imagination at work

3/  
GE Title or job number /  
11/09/2007



imagination at work

52 /  
GE Title or job number /  
10/20/2012

# Definium 8000 – annotation size too small

**Problem:** The annotation font is too small. The Default is set to N, and Customer wants +3. For every annotation they are having to adjust the Font Size. Need to change the Default Annotation Size to +3.

**Solution/Workaround:** This is now configurable. Please follow the instructions below:

The Default Annotation Size is made configurable and the options available are +3, +2, +1, N, -1, -2.

1. Logon to the System:

Login: xruser

Password: 4\$xray

2. Go to the Directory /magichome/xruser/config

```
$ cd /magichome/xruser/config
```

3. Edit the FONT\_COMBO\_DEFAULT\_SELECT\_OPTION value from the default value to the desired value (+3, +2, +1, N, -1, -2) in the PrintFontSize.prop file using vi Editor

```
$ vi PrintFontSize.prop
```

```
FONT_SIZE_MAGNIFICATION_FACTOR = 1
```

(Font Size Magnification factor options: 1,2,3)

```
FONT_COMBO_DEFAULT_SELECT_OPTION = +1
```

(Font Combo options: +3,+2,+1, N, -1, -2)

# Definium 8000 – worklist not populated

**Problem: The Worklist is not populating.** The worklist responses from the HIS/RIS system have invalid entries per DICOM, which causes the System to reject the WL entries during the Validation.

**Solution/Workaround:** *(NOTE: THE FOLLOWING TURNS OFF DICOM VALIDATION!! LEAVING THE SYSTEM IN THIS STATE RENDERS THE UNIT NON-DICOM PART 14 COMPLIANT!!)*

1. Make sure all exams and work is saved before continuing.
2. Press Ctrl+Alt+F2
3. Login as root. Password is #superxr.
4. Navigate to magichome/xruser/bin directory
5. Type the following command; ./kilall
6. All of the running software will be stopped. Now navigate to the following directory  
magichome/cots/terra/resources/NETWORK
7. Type the following into the prompt, vi mwl\_pps\_cfg.xml
8. Using the vi editor, change the following line:  
<ValidateMwlResult>true</ValidateMwlResult>  
to  
<ValidateMwlResult>>false</ValidateMwlResult>
9. Exit and save the file
10. Reset the system.

After the reset, if you see the worklist now fill in the issue is inside the DICOM header being sent by the HIS/RIS. It is either a value with incorrect data or is a null field. The field will need to be fixed on the HIS/RIS side and then the validation algorithm must be turned back on.

To turn the validation back on, follow the process but change the value back to true from false.

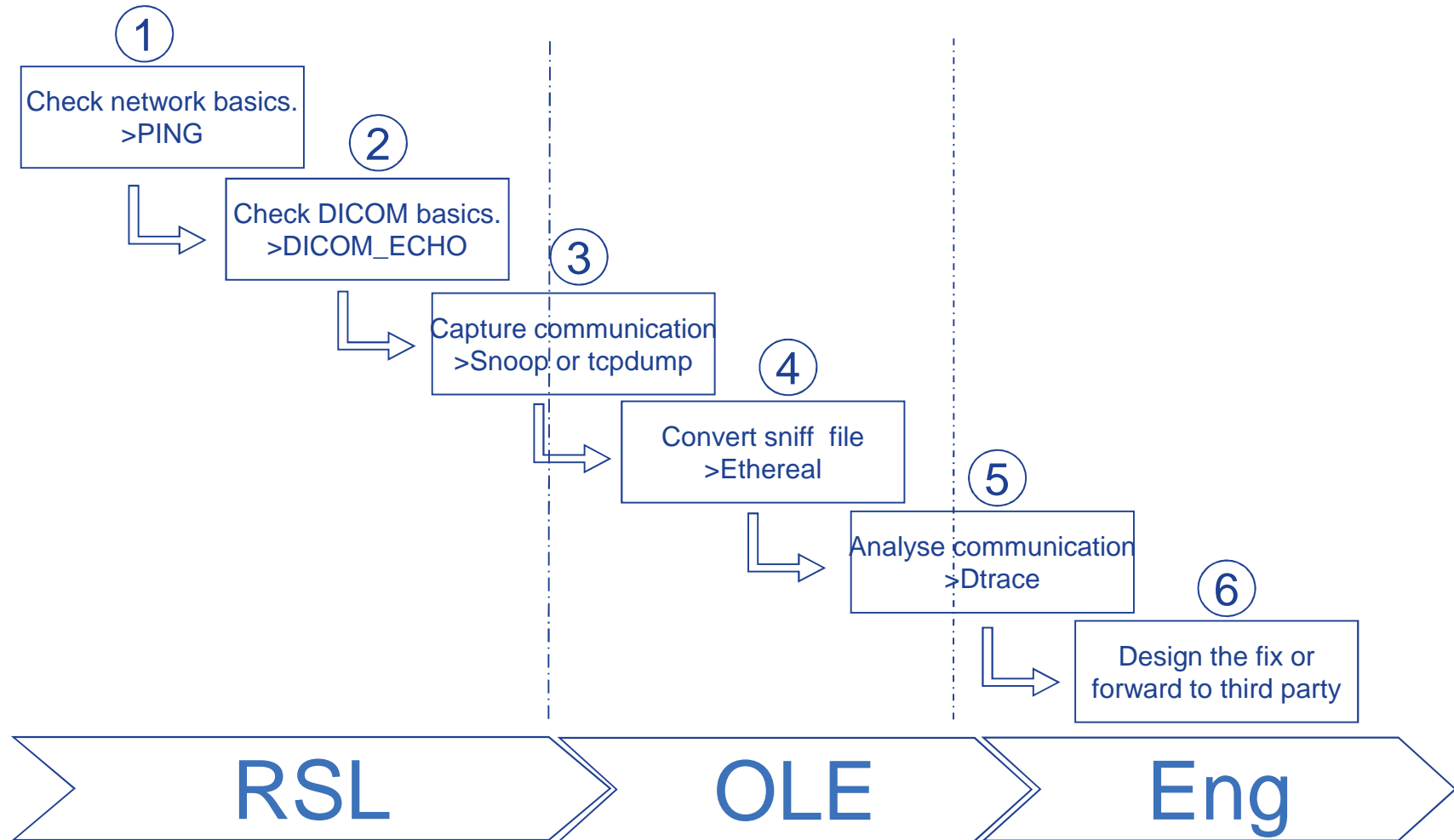
If turning off the validation did not resolve the issue, the root cause is something else. Hence, turn the validation ON and troubleshoot further.



# Dicom troubleshooting

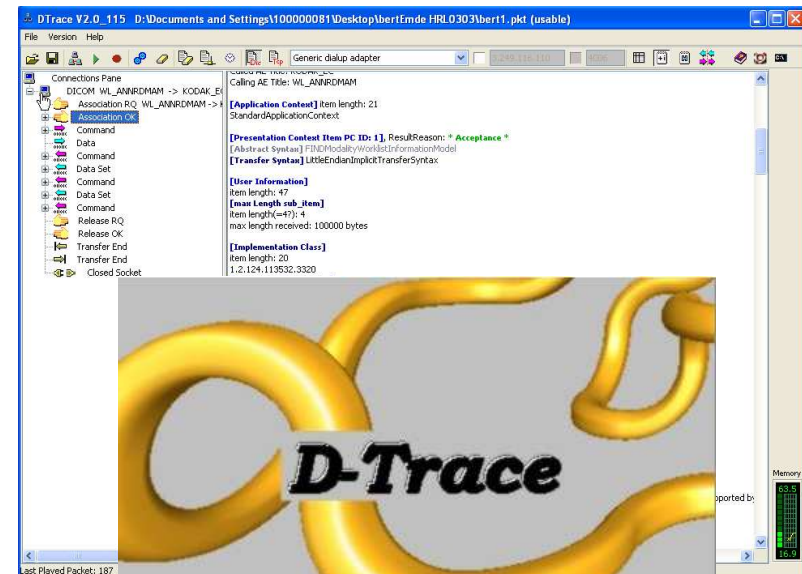
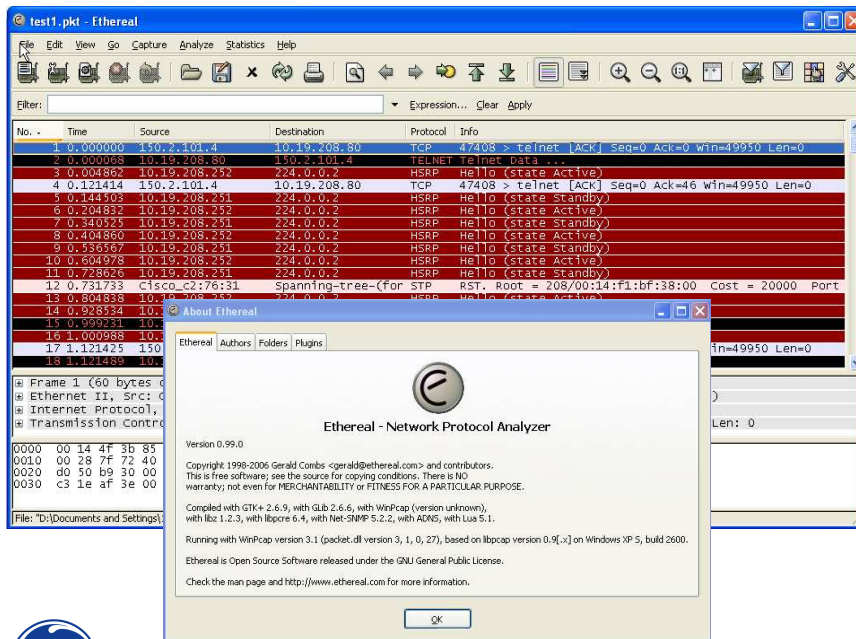
The following slides show how to capture a dicom session (sniff/snoop) – this dicom communication is very complex and it is simpler to download snoop file then send to OLC for analysis of tags etc

# DICOM troubleshooting Process overview



# DICOM troubleshooting Tools

- Ping & Dicom\_echo >> at system level.
- Snoop/Tcpdump >> at system level.
- Ethereal >> download from the web, run on your laptop.
- Dtrace >> GE tool, run on your laptop.
- Design fix or further analysis >> adv tools need expert help.

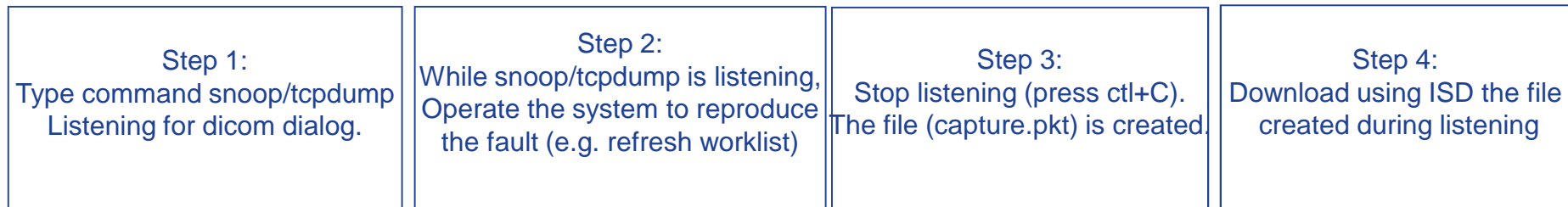


# Capture DICOM communication (snoop/tcpdump)

Objective : create a file (e.g. capture.pkt) on the system that contains the trace of a Dicom communication between local host and a remote host.

The file is downloaded for data conversion and then analysis using Dtrace.

- Unix systems (Seno DS ESS 2000D, revol XRd) > snoop
- Linux systems (Definium 8000, SenoAdvantage)> tcpdump



Next steps are at your laptop:

1. Convert data (Ethereal)
2. Analysis (Dtrace)

# snoop/tcpdump synthax

How to use the tcpdump command ?

**tcpdump -w myCapture.pkt -s 2000 -i <network port>**

Example for AW4.2\_04:

```
{awpc-7}[2]# tcpdump -w test.pkt -s 2000 -i eth0
tcpdump: listening on eth0
```

## 1. STOP the capture :

To stop listening press CTRL+C. That will return you to the command prompt

## 2. Check the file :

```
{lass}[5] ls -al test*
-rw-r--r-- 1 root  other  1731468 Jul 21 16:07 test.pkt
{lass}[6]
```

It is recommended to Zip the file.

## 3. Transfer the file in your laptop by FTP, [using the binary mode!](#)

## 4. In your Laptop, Unzip the file and open it with DTrace.

How to use the snoop command?

**snoop -d <network port> -o myCapture.pkt**

Example for AW3.1 & AW4.0:

```
snoop -d eth0 -o test.pkt
```

The name of the port is displayed by the ifconfig command

Example for AW4.0:

```
{lass}[3] ifconfig -a
lo0: flags=849<UP,LOOPBACK,RUNNING,MULTICAST> mtu 8232
    inet 127.0.0.1 netmask ff000000
hme0: flags=863<UP,BROADCAST,NOTRAILERS,RUNNING,MULTICAST> mtu
1500
    inet 3.249.116.135 netmask ffffffff broadcast 3.249.116.255
    ether 0:3:ba:3:75:34
```

Example of result:

## 1. Run the snoop command:

```
{lass}[4] snoop -d hme0 -o test.pkt
Using device /dev/hme (promiscuous mode)
2534
```

## 2. STOP the capture :

To stop listening press CTRL+C. That will return you to the command prompt

## 3. Check the file :

```
{lass}[5] ls -al test*
-rw-r--r-- 1 root  other  1731468 Jul 21 16:07 test.pkt
{lass}[6]
```

It is recommended to Zip the file.

## 4. Transfer the file in your laptop by FTP, [using the binary mode!](#)

## 5. In your Laptop, Unzip the file and convert your file to libpcap format

**The snoop format is not directly compatible with DTrace software.**

DTrace software can use only libpcap format.

You must use the **ethereal Software** to convert your snoop file to libpcap format. (see below)

# Appendix



# CSD Fails to launch by any method

This is most likely due to incorrect settings of pf filter.  
(but telnet/ftp works)

This can be overcome temporarily but Fe needs to configure correctly when next onsite.

## For mammo systems to disable firewall (pf)

Login as root

/etc/rc2.d/S65ipfboot stop

to re-enable reboot or type /etc/rc2.d/S65ipfboot

## For definium systems to disable firewall (pf)

Login as root

/usr/share/pnf/manager off

To re-enable type /usr/share/pnf/manager off

# Check part availability – FE tool

The screenshot shows the 'Integrated Service Desktop' web application. The main content area is titled 'FE Tools' and 'FEMC Select FE page'. It contains a form with the text 'Enter the SSO number of the FE you will be supporting:' and a text input field labeled 'SSO #:' with a 'Login' button below it. An orange arrow points to the 'SSO #' field, and another points to the 'Login' button. A text box with orange text says: '2- enter SSO of supported FE or your own SSO. Press LOGIN.'

On the right side, there is a 'Preferences' panel with a list of checkboxes. The 'FE Tools' checkbox is checked. An orange arrow points to the 'FE Tools' checkbox, and another points to the 'Preferences' link in the top right. A text box with orange text says: '1- From PREFERENCES, check FE tool box.'

At the bottom, there is a table titled 'RFS Queue (MUST)'. The table has a dropdown menu set to 'Unassigned' and a text field 'for HR-MAM'. Below the table header, there is a table with the following columns: Assign (\*), RFS #(\*), Status, Date & Time in Queue, Country Code, Modality / Sub-Modality, Activity (\*), Priority (\*), Customer Expectation, Type (\*) of Job, Site Name (\*), System Name, and Time in (\*) Remote Queue. The table body is currently empty.

# Check part availability

FE Tools  
[\[Help\]](#) [\[FE Profile\]](#) [\[Logoff\]](#)  
**FEMC Portal**

---

*You are supporting Alexandre, Bouche*

**Customer Authentication failed in Oracle System. You will not be able to access Part Order, Part Status and Part Debrief features.**  
**Sub System : CrossWorlds**

[RFS List](#)      [Area RFS List](#)

[Area Planning](#)

[Used Inventory](#)    [Unused Inventory](#)

[Parts Availability](#)    [Parts Status](#)

RFS

System

Ver. 7.3.0  
 Bld. FEMC\_7\_070610\_023

Press  
 "parts  
 Availability"

FE Tools  
[\[Main\]](#) [\[Help\]](#) [\[Logoff\]](#)

**Part Input**

Part #:

Select "New or Repaired Parts" below if government, contract or other restrictions with harvested parts exist.

Primary Search:  
 Harvested Parts  
 New or Repaired Parts

Enter  
 complete  
 part number.  
 Press "view  
 Part  
 information".

FE Tools  
[\[Main\]](#) [\[Help\]](#) [\[Logoff\]](#)

**Part Information**

- Technical approver required for this part.
- The **new part** is displayed below, the harvested part was not available.

Part #: 2281990  
 Part Type: GP TUBES  
 Part Weight: 6.50 KGM  
 Repairable: No  
 Returnable: Yes  
 Hazardous Material: N  
 Description: MAXIRAY 100TH-M1  
 FRU: Yes  
 Status: Orderable  
 Buy back Price: 1829.26 EUR  
 Sales Price: 24968.34 EUR

**Availability:**  
 Current GMT: 31-Oct 11:47  
 COT=Cut Off Time (in GMT)

Whse	Qty	COT	Est.Del
St. Witz	12	31-Oct 18:00	01-Nov 11:47
Chicago	5	01-Nov 01:00	05-Nov 11:47

Parts Offered as:  
 Current: 2281990  
 Harvested: Not Available  
 Exchange: Not Available  
 Comments:  
 \*\*\* 2ND OPINION NOTES \*\*\* Main failure mode is filament opened : If not need to further analyse. (PN check to be done for DMR.)

Read  
 availability at  
 warehouses

Take care of  
 comments.

# Part Search Tool - PST

You can get PST from CD or from Server (access application included)


**How to update the Part Search Tool on your PC ?**

The PART SEARCH TOOL is based on periodic extraction from GELS database (Updated 2 times per year). There are 2 ways to get a new Part Search Tool version.

- 1) BY USING THE CD-ROM DISTRIBUTED ACCORDING TO TAB LIST 1180 & 180. [for Europe only]
  - File name of part search tool is: Part Search Tool vxx.mda (xx is the version number) CAUTION: The application does not run correctly if you launch it from the CD
  - The file must be on the hard disk of your PC.
- 2) BY GETTING THE ZIP FILE FROM SERVERS
  - The zip file has the name: Part Search Tool vxx.zip.
  - a) From TechPub (link is in ePDM for part number 5191079-202): You can download the contents
  - b) From Service Tools Gateway:

\\hubudnap01\FE\_Central\1.Software\_Tools\1.Common\_Applications\Part\_Search\_Tool\ClientApp

[Click here to access Part Search Tool address](#)



**About the Part Search Tool**

Authors : *André HATTE & Jean-P*

Launched in December 2000 with a CD (Part Nur

Application deeply re-designed by: *Sebasti*

during summer 2001.

Last Update on 5-July-2006 by Abderrahim MAP

(abderrahim.margoum@ge.com):

GELS data and 5 years (2001-2006) MUST debr

update the tool.

New CD part number: 5191079-202 Rev1

Part Search Tool - [Part Search Tool V2.0]

File Name : PSTV2.0.ZIP Updated on : 19-Sep-06

MODALITY: X-RAY CATEGORY: ALL

Keywords Replacement history Products using the part Display Alternate Part Active From Alternate

Part number	Com	Part description	Dist y/n	Replacement	Product name	Must Code
Double click to see comment						



Link to PST >>

\\hubudnap01\FE\_Central\1.Software\_Tools\1.Common\_Applications\Part\_Search\_Tool

# Documentation – mammo blue house

Blue House

## Mammography

CEM Department - Service & User Documentation

Dedicated to “GE” mammo products.  
Instrumentarium not included here  
(cf.CDL)

What's new

Read me

### Analog Systems

#### Product history

- Acquisition
  - [Senix HF and 500/600T](#)
  - [Senographe 700/800T](#)
  - [Senographe DMR](#)
  - [Data Flash](#)

#### Common to Various Products

- Planned Maintenance by Field Engineers
  - [PM - Analog Systems](#)
  - [PM - Digital Systems](#)
- Quality Control by Radiologists and Physicists
  - [QC Manuals for Europe](#)
  - [QC Manuals for US](#)
- Service Tools
  - [Mammocom](#)

### Digital Systems

#### Product history

- Acquisition
  - [Senovision](#)
  - [Senographe 2000D](#)
  - [Senographe DS](#)
  - [Senographe Essential](#)
- CAD
  - [ImageChecker \(CAD R2\)](#)
  - [Second Look Digital \(CAD X or iCAD\)](#)
- Review
  - [RWS](#)
  - [Seno Advantage](#)

Click a product to get to :

➤ Service Manuals, Adv Service Manuals  
➤ PIM, OM, QC manuals, Dicom CS,  
➤ Service Notes, FMI.

➤ ...

Old & newest revisions.

All documents can be downloaded to your laptop

Link to the blue house:

[http://gein.euro.med.ge.com/  
engineering/bluehouse/](http://gein.euro.med.ge.com/engineering/bluehouse/)



Safety and regulatory  
FDA / CDRH / MQSA

Author guides

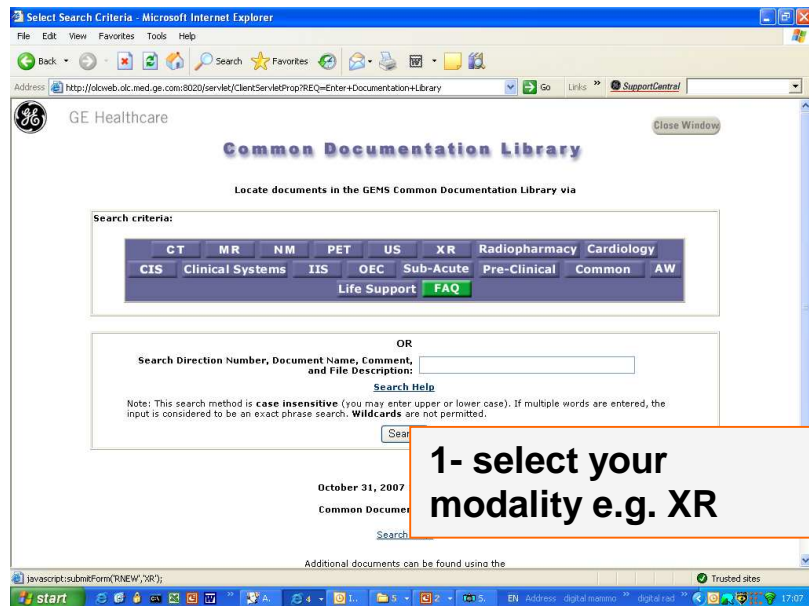
CEM Authoring team  
Mammography events



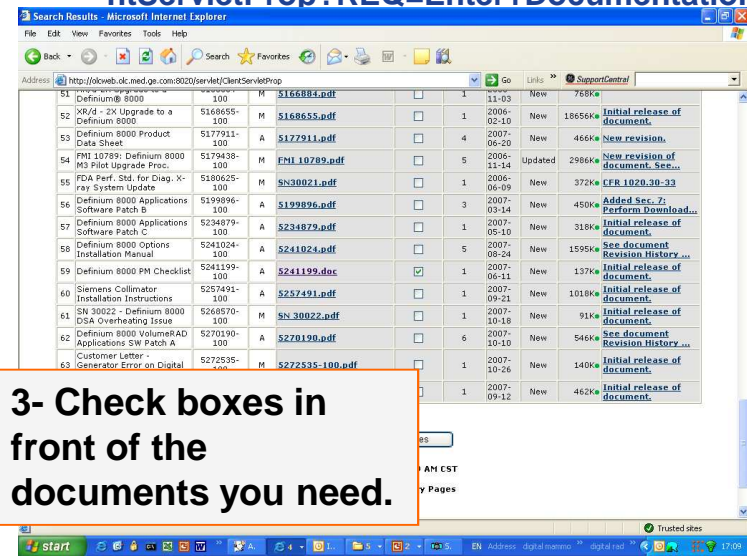
# Documentation – CDL

Link to CDL server :

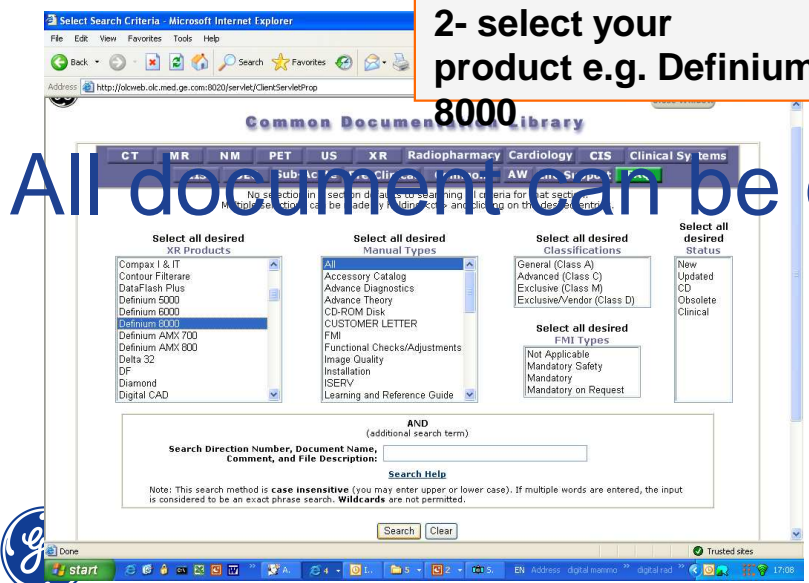
<http://olcweb.olc.med.ge.com:8020/servlet/ClientServletProp?REQ=Enter+Documentation+Lib>



1- select your modality e.g. XR

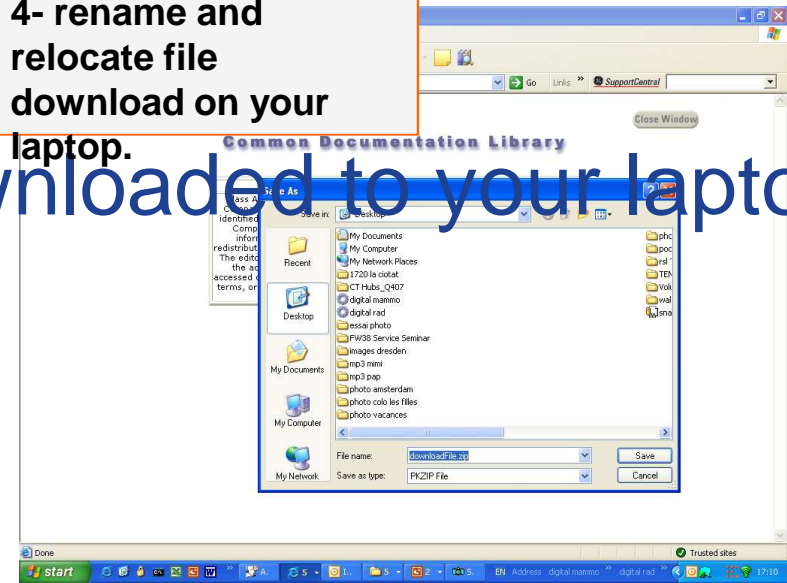


3- Check boxes in front of the documents you need.



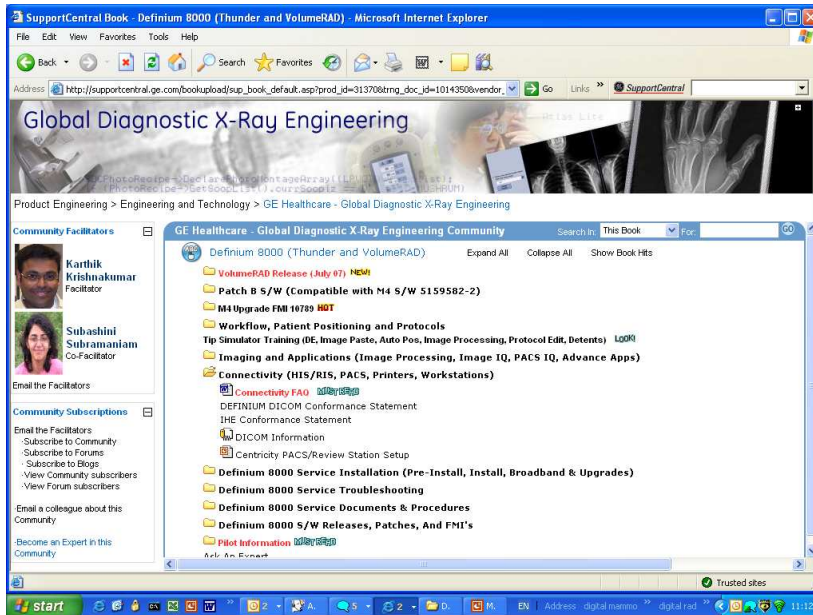
2- select your product e.g. Definium 8000

4- rename and relocate file download on your laptop.



All documents can be downloaded to your laptop

# Documentation – Support Central



## Link to Support Central Definium 8000:

[http://supportcentral.ge.com/bookupload/sup\\_book\\_default.asp?prod\\_id=31370&trng\\_doc\\_id=1014350&vendor\\_flag=11](http://supportcentral.ge.com/bookupload/sup_book_default.asp?prod_id=31370&trng_doc_id=1014350&vendor_flag=11)

## Tips & FAQ from engineering related to:

- Dicom connectivity
- imaging & application
- Installation
- Service troubleshooting
- ...

Similar pages exist for:

Lightning >

[http://supportcentral.ge.com/bookupload/sup\\_book\\_default.asp?prod\\_id=31370&trng\\_](http://supportcentral.ge.com/bookupload/sup_book_default.asp?prod_id=31370&trng_)

Precision 500D >

[http://supportcentral.ge.com/bookupload/sup\\_book\\_default.asp?prod\\_id=31370&trng\\_](http://supportcentral.ge.com/bookupload/sup_book_default.asp?prod_id=31370&trng_)

Definium 700 >

[http://supportcentral.ge.com/bookupload/sup\\_book\\_default.asp?prod\\_id=31370&trng\\_](http://supportcentral.ge.com/bookupload/sup_book_default.asp?prod_id=31370&trng_)

Definium 6000 >

[http://supportcentral.ge.com/bookupload/sup\\_book\\_default.asp?prod\\_id=31370&trng\\_](http://supportcentral.ge.com/bookupload/sup_book_default.asp?prod_id=31370&trng_)

Definium 5000 >

[http://supportcentral.ge.com/bookupload/sup\\_book\\_default.asp?prod\\_id=31370&trng\\_](http://supportcentral.ge.com/bookupload/sup_book_default.asp?prod_id=31370&trng_)





# Documentation – support CDs

GE X-Ray Technical Training

Home | My Cases | Help | Feedback | What's New | dPMM

Super Communities | Online Center - GEMS Americas | GEMS FE Admin Information Center | GE Healthcare Technical Training

X-Ray Technical Training Search This Community: All GO

About this Community: Support Central Learning Community for technical training on X-Ray products.

Community Keyword: @X-Ray Technical Training

**FACILITATORS**

Edward Singleton  
Facilitator

Perry Price  
Co-Facilitator

Collaborate & Share

Forums  
Open Forum

Shared Folders  
Community Chat  
Moderated Chat  
Community Calendar  
Facilitator Emails

**Training News/Course Sequences**

- Course Sequences (link to web-site)
- IR Course pre-requisites check
- How to Enroll in a Class
- Survey
- NPS Survey

**Rad and Fundamentals**

Course Profiles

- AMX 4
- Revolution System Differences
- Revolution Systems
- Fluoro Fundamentals
- Rad Fundamentals

Definium 8000

- Definium Detector Images CHECK THIS
- Definium 8000 Support Tool Rev.3 CHECK THIS

**R/F**

- CR Fuji
- CR Kodak
- Film Agfa Curix Ultra UVL
- Film Kodak Lanex Regular 400 Speed

Precision MPI

- MPI Support- Rev 27 CHECK THIS
- MPI Applications Overview CHECK THIS

Precision RXi

- RXi Support Tool -Rev.24 HOT
- RXi-Table-top Removal Procedure

Prestige II

- Prestige II Support Tool

**Mammography**

- Senograph 2000D
- Senograph DS
- Diamond Course
- Mammo Systems
- Performa

**Invasive Cardiology**

- Mac Lab Quick Reference Card
- First Responder Course Profile

**Vascular**

- Vascular Certification UPDATED
- View Online - Advanced Innova Mod 2

Course Profiles

- LC Advantx
- Advanced Vascular IQ

**Download support CDs from Edward Singleton**

**at:**

[http://supportcentral.ge.com/product/s/sup\\_products.asp?prod\\_id=21148](http://supportcentral.ge.com/product/s/sup_products.asp?prod_id=21148)

- >> troubleshooting tips, photo tour, service and application screen captures, LED view, block diagram, error codes, ...
- for definium 8000
- Precision 500D
- Precision RXi
- Precision MPI

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