



FlexView 3.1.x
Getting Started with RealFlex 6

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1. Getting Started

1. Getting Started.....	3
2. Connectivity Map	5
3. Conventions, Symbols and Terms Used	6
3.1. Installation Guide	7
3.1.1. Starting the Installation.....	8
3.1.2. Install Flex.Win Hardware Key	8
3.1.3. Install RealFlex 6 Hardware Key.....	8
3.1.4. Installing FlexView Software from CD on MS Windows PC	9
3.1.5. Upgrading Existing RealFlex 4 System.....	9
3.1.6. Installing QNX 6/RealFlex 6 Software on QNX/RealFlex PC	11
3.1.7. Configure RealFlex 6 Network.....	13
3.1.8. Configure Dual Boot PC.....	15
3.1.9. Restoring a RealFlex 4 Database.....	18
3.1.10. Creating a new empty Database.....	22
3.1.11. Backing up a RealFlex 6 Database	22
3.1.12. Restoring a RealFlex 6 Database	23
3.1.13. Testing HMI	24
3.1.14. Importing a Project from RealFlex 6 Server PC	27
3.1.15. Making a backup of project files	31
3.1.16. Configuring a Failover System	37
3.1.17. Configuring RealFlex 6	39
4. Connectivity options.....	43
4.0.1. Connection over LAN.....	43
4.0.2. Direct dial-up connection over telephone network.	43
4.0.3. Connection over Internet.	44
5. Configuring for Leased Line Modem or Serial Line	45
5.1. Security.....	45
5.2. Configuring PPP.....	46
5.2.1. New Accounts.....	46
5.2.2. New Scripts	49
5.3. Windows Connection Configuration	53
5.4. Windows XP.....	53
6. Configuring for Dialup Modem.....	59
6.1. Security.....	59
6.2. Configuring PPP.....	60
6.2.1. New Accounts.....	60
6.2.2. New Scripts	63
6.3. Windows Connection Configuration	67
6.4. Windows XP.....	67
7. Basic troubleshooting.	72
7.1. Troubleshooting of IP connection	72
7.2. Command Line Operation	73
7.2.1. Stopping RealFlex from command line	75
7.2.2. Starting RealFlex from command line.....	75
7.2.3. Display the RealFlex 6 processes running	75
7.2.4. Display the RealFlex state on the current PC	76

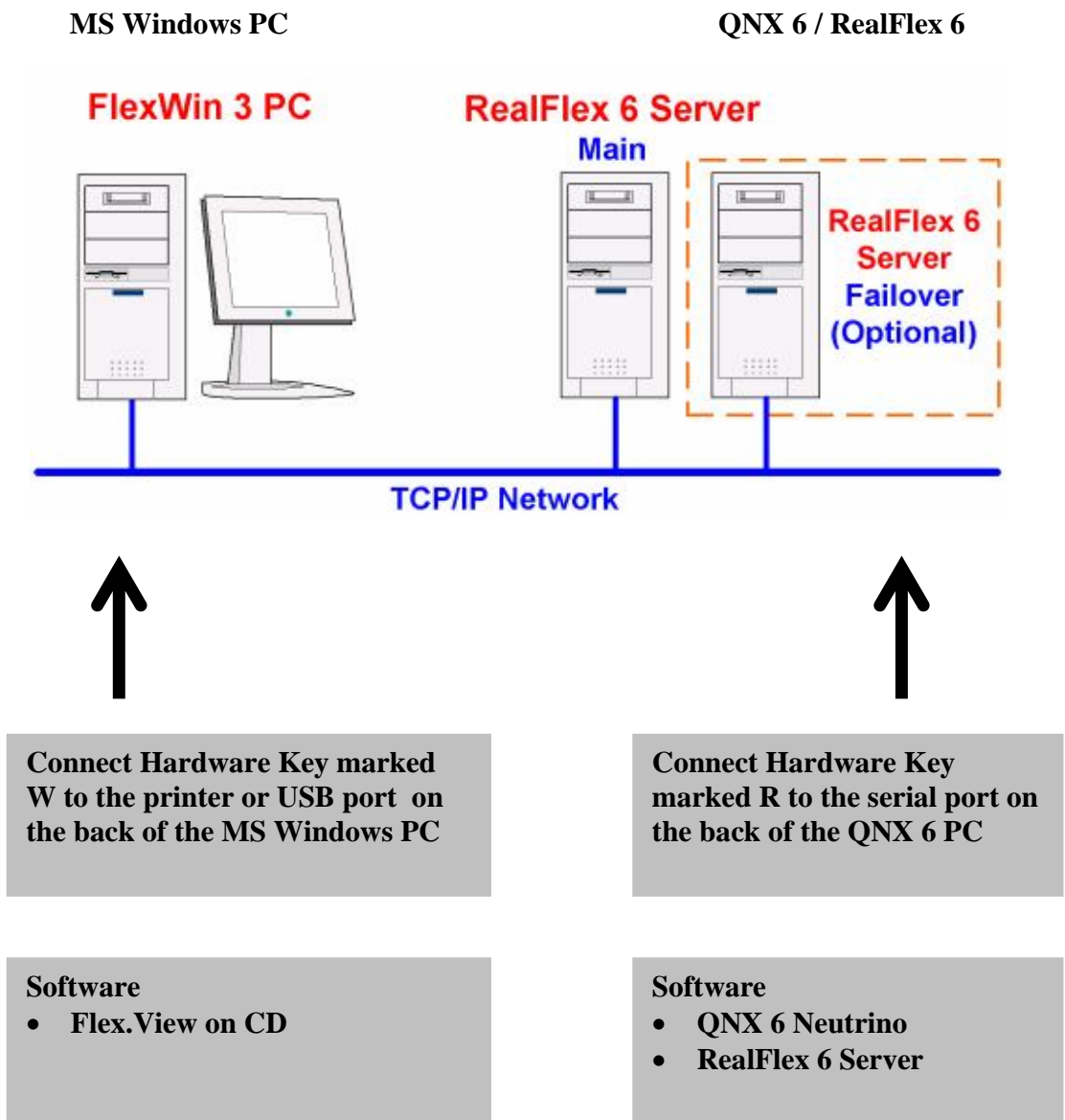


RealFlex 6 - Getting Started

7.2.5. Switching Active and Standby Nodes (Failing Over).....	76
8. Registration of Hardware Keys	77
9. Superkeys	78
9.1. Disabling a Superkey Procedure for Flex.View	78
9.1.1. Operator function for Superkey	79
9.1.2. Superkey interpretation for Flex.View	80



2. Connectivity Map






3. Conventions, Symbols and Terms Used

Throughout this manual the following conventions are used.

- **Characters** are used to indicate text on screen.
- **CAPITAL** letters are used for the names of options found on the menu strips and to highlight information such as file names.
- *Italic* characters are used to indicate something you have to type in or select.

In the margins you will find the following symbols used to highlight important information.

Symbol	Meaning
	A useful tip
	A warning or cautionary note
	An example

Term	Meaning
XXXX	is used in this manual to refer to a generic project name. Please replace XXXX with YOUR project name.
Test	The example used to generate this manual was a project named Test



3.1. Installation Guide

This section describes the installation process.

System Requirements

The following table outlines the minimum and recommended system requirements for installing and running the software.

RealFlex 6 Server PC

Equipment	Minimum	Recommended
Operating system	QNX 6 Neutrino 6.2.1 or above	QNX 6 Neutrino 6.3 or above
Computer	Pentium II. For initial installation only, a mouse, keyboard and a VGA graphics display	Pentium III, For initial installation only, a mouse, keyboard and a SVGA graphics display
Memory	128MB	256MB
Hard Disk	512MB	10GB for Historical and Event Storage
CD ROM	Required for installation	Required for installation

FlexView HMI PC

Equipment	Minimum	Recommended
Operating system	Windows 2000 or above	Windows 2000 or XP
Computer	Pentium, a mouse, keyboard and a VGA graphics display	Pentium, a mouse, keyboard and a SVGA graphics display
Memory	32MB	256MB
Hard Disk	200MB free space	512MB free space
CD ROM	Required for installation	Required for installation



3.1.1. Starting the Installation

In all there are 6 or 7 steps to a successful installation, these include:

STEP

- Install Flex.Win Hardware Key (Note: USB key, install **after** Flex.View)
- Install RealFlex 6 Hardware Key
- Installing Flex.View Software on the Microsoft Windows PC
- Backup RealFlex 4 database (if you are upgrading the system)
- Installing QNX 6 / RealFlex 6 Server Software on QNX/RealFlex PC
- Configure RealFlex 6
- Testing Flex.View

The software is protected using a hardware device, which plugs into the PC.

3.1.2. Install Flex.Win Hardware Key

Attach the Hardware key that is labelled with the letter 'W' to the printer port at the back of your Windows PC



If you are using a USB hardware key, insure you do NOT install the key before you install the Flex.View software, as the Flex.View installation installs a driver for the USB key, which is required when the USB key is plugged in.

3.1.3. Install RealFlex 6 Hardware Key

Attach the Hardware key that is labelled with the letter 'R' to the serial port at the back of your QNX 6 PC.



NOTE : This Marx hardware key does not act as a pass through device and therefore you can not connect other equipment to the back of this key.



3.1.4. Installing FlexView Software from CD on MS Windows PC

Insert the Flex.View CD into the PC running Microsoft Windows.

If your CD does not automatically start the installation click the Windows Start button and select Run. The Run dialog box appears.

In the Open field type:

D:\FVSETUP.EXE – or the applicable drive letter that is referring to your CD drive

Click OK. The Set-up program starts.

Follow Instructions

When requested to enter Console Name, this is the name FlexView clients will use to identify this PC to other FlexView users.

3.1.5. Upgrading Existing RealFlex 4 System

If you have an existing QNX 4 and RealFlex 4.3 system and are upgrading to QNX 6 / RealFlex 6, then you will need to do the following steps:

1. Backup existing RealFlex 4 system and store backup data.
2. Install QNX 6 / RealFlex 6 on a new PC or install QNX 6 / RealFlex 6 on the existing hardisk
3. Restore RealFlex 4 backup
4. Convert RealFlex 4 database to RealFlex 6 database

3.1.5.1. Backup RealFlex 4

There is a special backup script that has to be used to backup a RealFlex 4 database when upgrading to RealFlex 6. This script is located in the RealFlex 6 CD.

Place the RealFlex 6 CD in the CD drive of the RealFlex 4 PC.

Insure the CD driver is running.

Login as root user

sin -P Iso

If “Iso9660fsys“ is displayed, then the driver is running.

If the driver is not running then enter the following command

Iso9660fsys &

Wait a few seconds until the CD driver is running

Insure you exit RealFlex 4 before doing this backup.

Enter the following command to backup the data in the RealFlex 4 database



```
# /cd0/backup_rf4db DatabaseName
```

(where *DatabaseName* is any name you choose for the backup)

```
Begin project backup
```

```
Do you want to backup the historical data? y/[n]
```

If you want all the historical data and events backed up and later converted to RealFlex 6 then Enter y and press Return

NOTE – Depending on the lifetime for historical and the amount of time the system has been running, there may be a very large backup file and take along time to convert. As this backup file is being created on the QNX 4 hardisk in the /tmp folder, then insure your hardisk is not more that approx 50 % full if you select Y to this request, as it may fill the hardisk otherwise.

If you do not want to have the historical data and events backed up and converted to RealFlex 6 then Enter N and press Return

When the backup is completed there will be a file called
/tmp/ *DatabaseName*.tar.F

(where *DatabaseName* is any name you choose for the backup)
and it will give you an option to save the backup to Floppy disks.

```
The backup of project is placed to /tmp/ DatabaseName.tar.F
```

```
Do you want to copy it to floppy? y/[n]
```

Only use this option if your database is small and you have not backed up the Historical data as it may require a large number of floppy disks.

If you do not backup to floppy disks, and you are going to use the same hardisk for RealFlex 6 or you are you are using a new PC for RealFlex 6, then you will need to transfer the backup file to another PC. The easiest way is to transfer this file over the network to the QNX 6 PC or to a Microsoft Windows PC for temporary storage or writing to a CD.



3.1.6. Installing QNX 6/RealFlex 6 Software on QNX/RealFlex PC

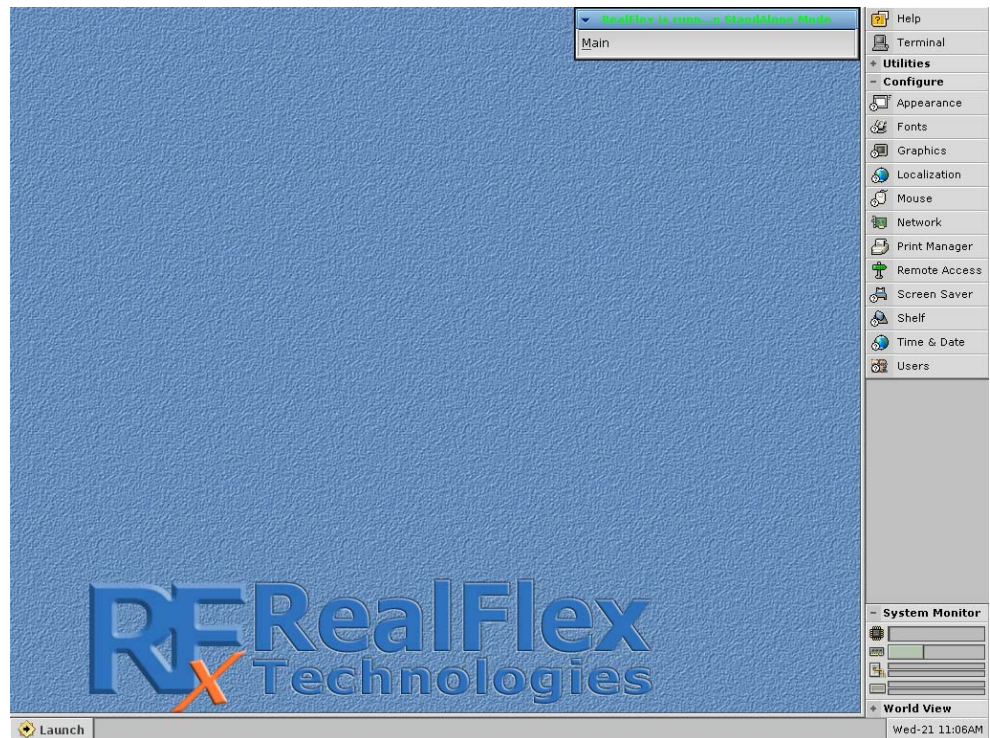
It is possible to install QNX 6 on a hard disk alongside an existing partition if there is a free space not used by the existing partition or it can be installed on an empty hard disk on its own.

- Reboot the PC, which is to be used for QNX 6 and RealFlex 6.
- Enter the BIOS setting screen by pressing the appropriate key as instructed on screen immediately after power up e.g. DEL, F2 e.t.c.
- Set the BIOS to boot from CD before the hard disk to allow it install QNX from the CD
- Insert CD and restart the PC
- Wait until it asks to “Press F1 to continue” (Install QNX Partition ...)
- Enter your license key when it asks “Please enter your license key: “
- Press F1 to accept the license agreement
- “Choose disk (F1) ?” - Select appropriate disk to install QNX (for single harddisk press F1)
- Press F1 “Allow the QNX partition to be anywhere on the disk “ if your PC is newer than 1998
- Press F1 if you want QNX 6 to use all the available free partition space on the hard disk.
 - **Microsoft Windows partition already on Harddisk**
 - If there is a Windows Partition on the harddisk, you will get a choice of “Installing a QNX partition boot loader”. You **MUST** Press F3 to “Use your existing boot loader ...” as the QNX boot loader will stop your Windows partition from booting
 - Press F1 “Make QNX the active partition. You will boot into QNX Neutrino by default”
- “Please choose type of installation :” “Enter choice: [S]” Press Enter to select Standard Bundle
- Read RealFlex License agreement and press F1 to accept.
- Wait until it finished copying files to the hard disk.
- “Please remove the installation media then press ‘Enter’ to reboot” – Remove the CD in the drive and press ‘Enter’ to reboot the PC.
- When a dialog appears indicating “A new video card has been detected.” Please select the appropriate Video Driver from the combo box. Try to select at least 1024 x 768 from the Resolution and the best Color Depth possible.
- When complete click on Continue button.
- Click on Continue on next dialog to select the new video mode.
- Enter the User Name : root and click on Go
- Photon now starts



RealFlex 6 - Getting Started

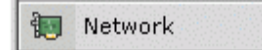
- The User's Configuration dialog now appears
- Select the appropriate Time Zone and click Apply
- Select the appropriate Time Zone and click Apply
- Click on the Language tab
- Select the appropriate Language and click Apply
- Click on the Keyboard tab
- Select the appropriate Keyboard Layout and click Apply
- Click on Done when completed.
- Insure the RealFlex 6 Marx Hardware key in the COM1 or COM2 or some serial port of the PC.
- Restart Photon by clicking on Launch button on bottom left corner
- Select Log Out
- Select Shut down and reboot
- Click OK
- Enter the User Name : root and click on Go
- When the PC reboots it will start Photon and automatically start RealFlex in standalone mode with a demo database called DemoRF6-1.05



3.1.7. Configure RealFlex 6 Network

3.1.7.1. Network Configuration

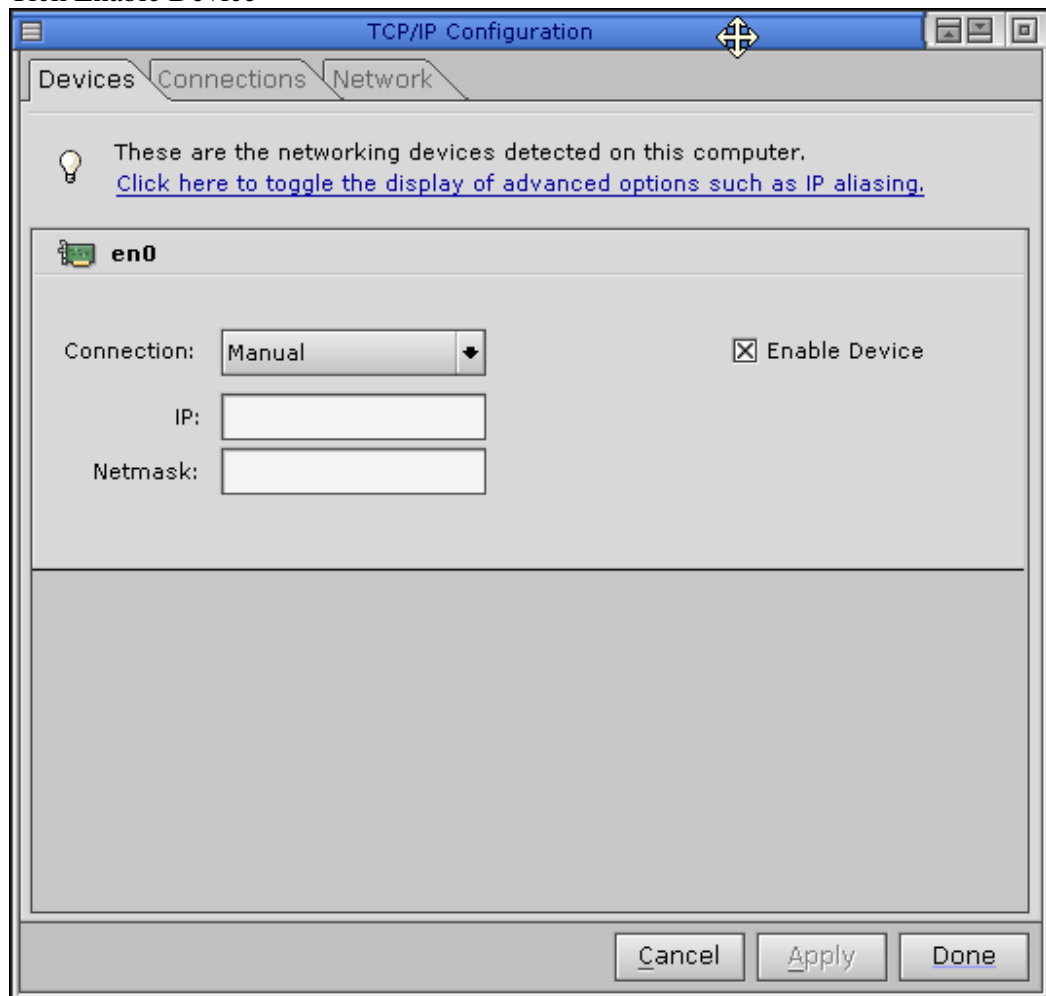
Select Network from the Configuration menu on the right side of the screen.



Select Devices Tab
Connection - Manual

Enter IP address for this PC on the TCP/IP network e.g. 192.168.0.200

Tick Enable Device



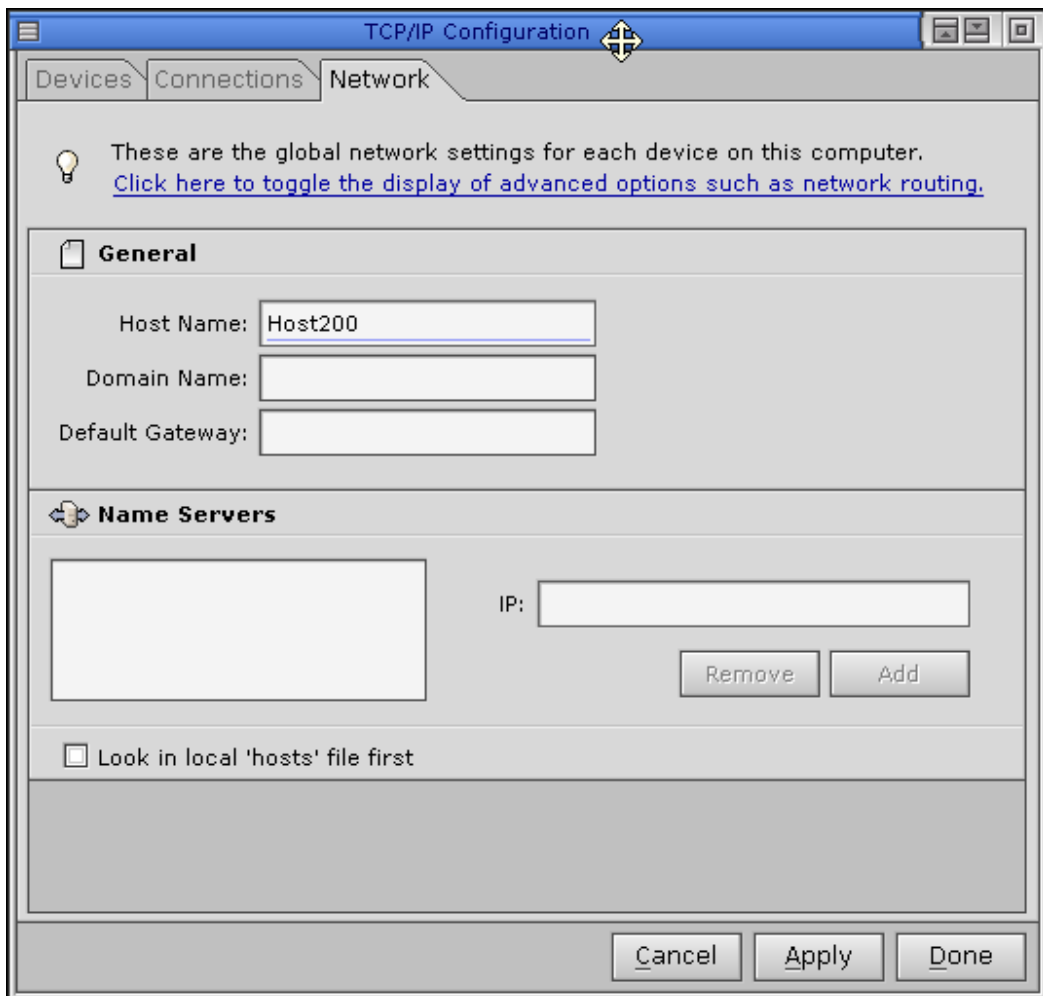
Click on Network Tab

In General, enter a unique Host Name instead of localhost. e.g Host200

This is the name that will be used by RealFlex to configure Primary and Secondary PC's in the configuration file.

Click on Apply button

Click on Done button.

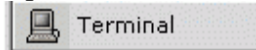


3.1.8. Configure Dual Boot PC

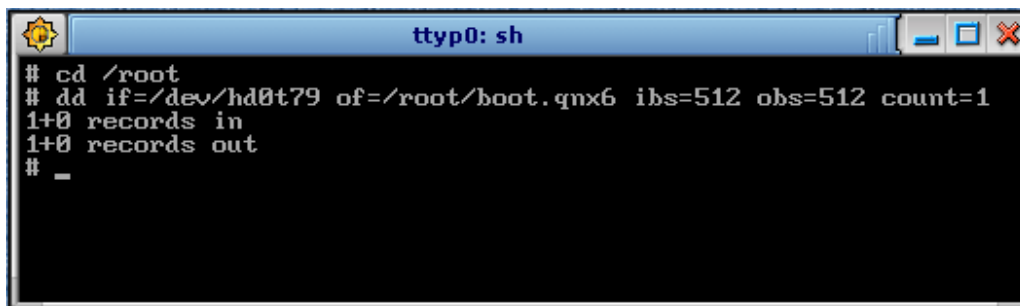
If your harddisk has a Microsoft Windows partition and also a QNX 6 partition, during the install process you selected to make QNX 6 the active boot partition. Now the system always boots into QNX 6.

If you want to have an option to boot into QNX 6 or Microsoft Windows you can do the following

Open a Terminal window by clicking on Terminal on the Toolbar

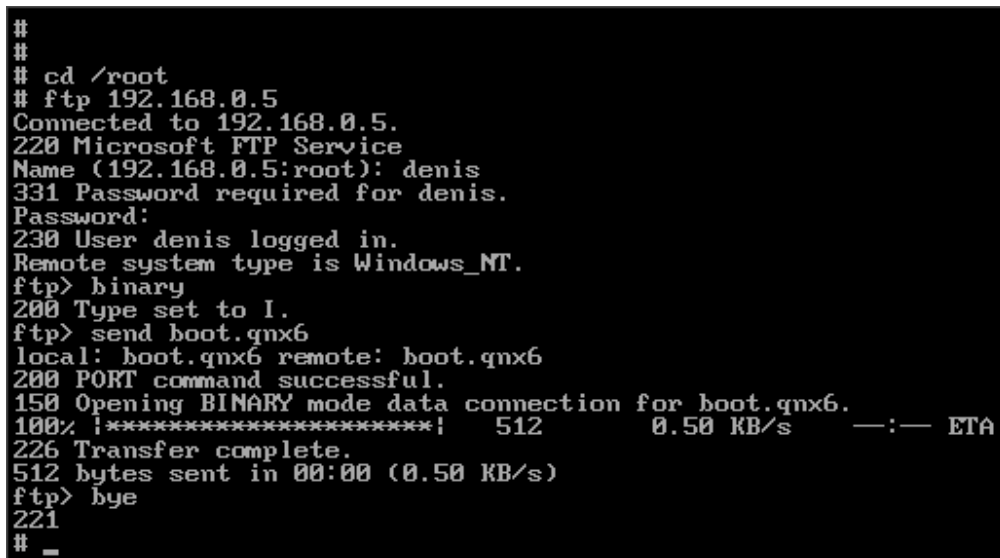


Use the dd command to create a file needed by the boot loader.

A screenshot of a terminal window titled "tty0: sh". The terminal shows the following commands and output:

```
# cd /root
# dd if=/dev/hd0t79 of=/root/boot.qnx6 ibs=512 obs=512 count=1
1+0 records in
1+0 records out
#
# -
```

It is necessary to transfer this boot.qnx6 file across to the Microsoft Windows partition. One way is to transfer file from QNX to another PC on the network using ftp

A screenshot of a terminal window showing an ftp session. The terminal shows the following commands and output:

```
#
#
# cd /root
# ftp 192.168.0.5
Connected to 192.168.0.5.
220 Microsoft FTP Service
Name (192.168.0.5:root): denis
331 Password required for denis.
Password:
230 User denis logged in.
Remote system type is Windows_NT.
ftp> binary
200 Type set to I.
ftp> send boot.qnx6
local: boot.qnx6 remote: boot.qnx6
200 PORT command successful.
150 Opening BINARY mode data connection for boot.qnx6.
100% |*****| 512 0.50 KB/s —:— ETA
226 Transfer complete.
512 bytes sent in 00:00 (0.50 KB/s)
ftp> bye
221
#
# -
```

If you do not have a network setup that's available, you could instead use a floppy disk to transfer this file.

```
# mount -t dos /dev/fd0 /fs/dos
# cp /root/boot.qnx6 /fs/dos
```



RealFlex 6 - Getting Started

Use fdisk to set Microsoft Windows as the active partition

```
# fdisk /dev/hd0_
```

Select the Microsoft Windows partition

```
FDISK
Ignore Next Prev 1 2 3 4 Change Delete Boot Unboot Restore Loader Save Quit

  OS          Start      End          Number      Size      Boot
  name        type      Cylinder    Cylinder    Cylinders  Blocks
  1. FAT32    ( 12)         0         1274         1275      20482812  10001 MB
  2. Extd' d  ( 15)       1275      3059         1785      28676025  14001 MB
  3. QNZ      ( 79)       3060      3647          588       9446220   4612 MB *
  4.          (  )

Choose a partition by typing the partition number OR moving the pointer
with the UP/DOWN arrows.
Then, choose one of the actions on the top line of the screen.

Drive : /dev/hd0          Config:  255 Heads
Size  : 28615 Mbytes      63 Sectors/track
Loader: QNX              3648 Cylinders
                          512 Block Size
```

Press B for BOOT

```
FDISK
Ignore Next Prev 1 2 3 4 Change Delete Boot Unboot Restore Loader Save Quit

  OS          Start      End          Number      Size      Boot
  name        type      Cylinder    Cylinder    Cylinders  Blocks
  1. FAT32    ( 12)         0         1274         1275      20482812  10001 MB *
  2. Extd' d  ( 15)       1275      3059         1785      28676025  14001 MB
  3. QNZ      ( 79)       3060      3647          588       9446220   4612 MB
  4.          (  )

Choose a partition by typing the partition number OR moving the pointer
with the UP/DOWN arrows.
Then, choose one of the actions on the top line of the screen.

Drive : /dev/hd0          Config:  255 Heads
Size  : 28615 Mbytes      63 Sectors/track
Loader: QNX              3648 Cylinders
                          512 Block Size
```



Press S to SAVE

```

FDISK
Ignore Next Prev 1 2 3 4 Change Delete Boot Unboot Restore Loader Save Quit

```

	OS		Start Cylinder	End Cylinder	Number		Size	Boot
	name	type			Cylinders	Blocks		
→ 1.	FAT32	(12)	0	1274	1275	20482812	10001 MB	*
2.	Ext'd	(15)	1275	3059	1785	28676025	14001 MB	
3.	QNX	(79)	3060	3647	588	9446220	4612 MB	
4.		()						

```

Choose a partition by typing the partition number OR moving the pointer
with the UP/DOWN arrows.
Then, choose one of the actions on the top line of the screen.

Drive : /dev/hd0          Config:  255 Heads
Size  : 28615 Mbytes     63 Sectors/track
Loader: QNX              3648 Cylinders
                          512 Block Size

```

Press Q to QUIT

Restart PC

PC will boot into Microsoft Windows

Copy previously saved file "boot.qnx6" back onto the PC and place in c:\

Edit the c:\boot.ini file with Notepad and add line at the end as follows

```

[boot loader]
timeout=30
default=multi(0)disk(0)rdisk(0)partition(2)\WINDOWS
[operating systems]
multi(0)disk(0)rdisk(0)partition(2)\WINDOWS="Microsoft Windows XP Professional" /noexecute=optin /fastdetect
c:\boot.qnx6="QNX 6.3 SP1"

```

Reboot PC and now you will have an option to boot into

Microsoft Windows XP Professional

Or

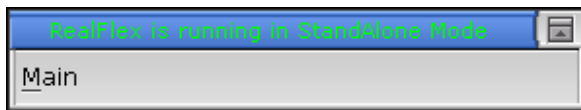
QNX 6.3 SP1



3.1.9. Restoring a RealFlex 4 Database

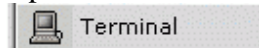
If you are upgrading from a RealFlex 4.3 system and have already backed up a RealFlex 4 database as described in Section 3.1.5, then you can restore that database on the QNX6 RealFlex 6.x PC as follows:

On RealFlex 6 PC stop RealFlex



Click on Main on the RealFlex toolbar and select Stop RealFlex

Open a Terminal window by clicking on Terminal on the Toolbar



If you now want to restore a RealFlex 4 database which you previously backed up using "backup_rf4db *DatabaseName* ", you must get the backed up file *DatabaseName.tar.F* onto the QNX 6/ RealFlex 6 PC.

Example: If you have both RealFlex 4 and RealFlex 6 PC on the same network, you can use ftp to transfer the backup file to the QNX 6 PC

```
ftp xxx.xxx.xxx.xxx
```

where xxx.xxx.xxx.xxx is IP Address of QNX 4 PC

```
Connected to xxx.xxx.xxx.xxx
```

```
FTP server ready
```

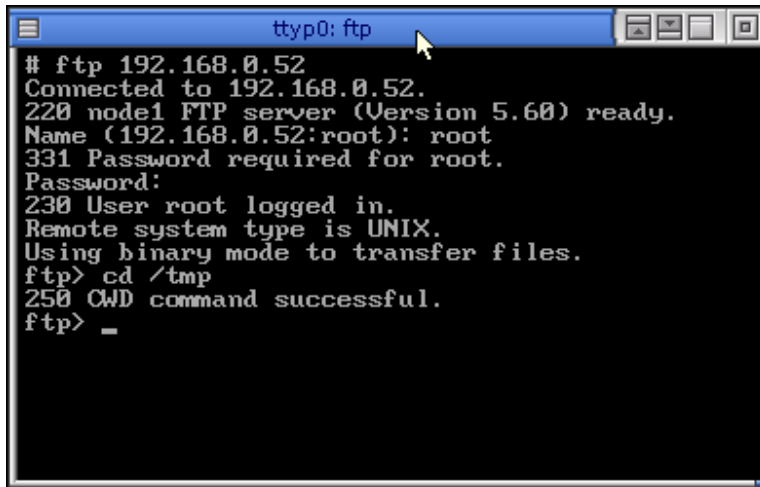
```
Name : root
```

```
Password required for root
```

```
Password : xxxxxxxx
```

Where xxxxxxxx is the password for the root user

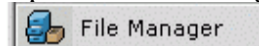




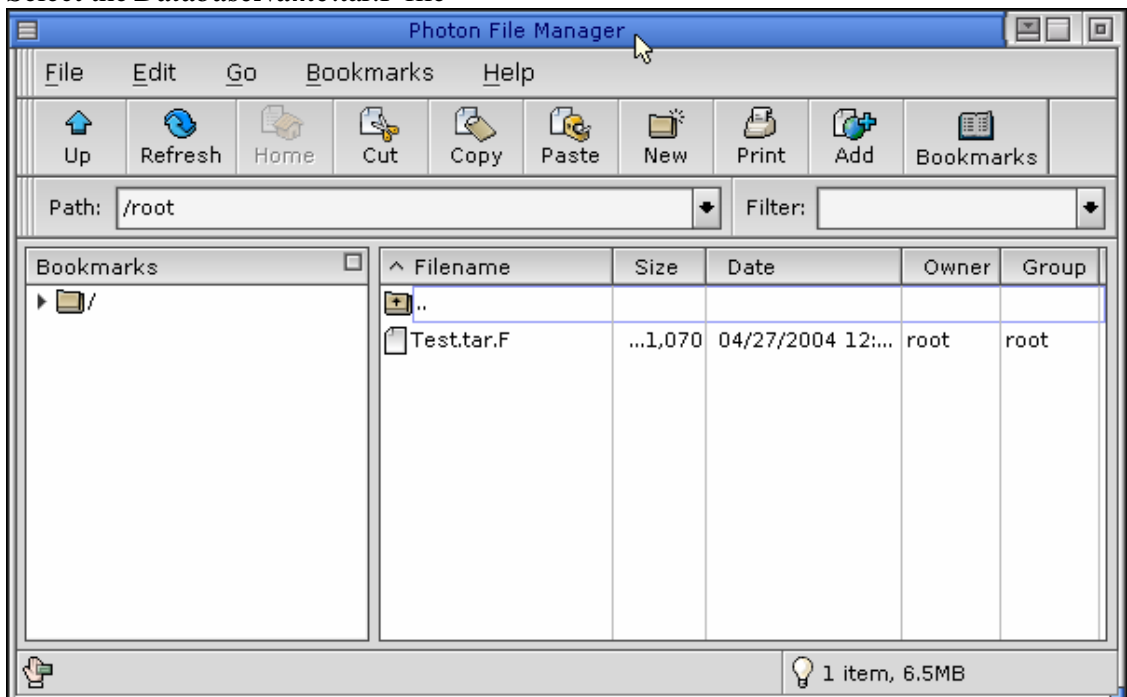
```
ftp> cd /tmp
CWD command successful.
ftp> get DatabaseName.tar.F
```

It should transfer the backup file to your QNX 6 PC
ftp> bye

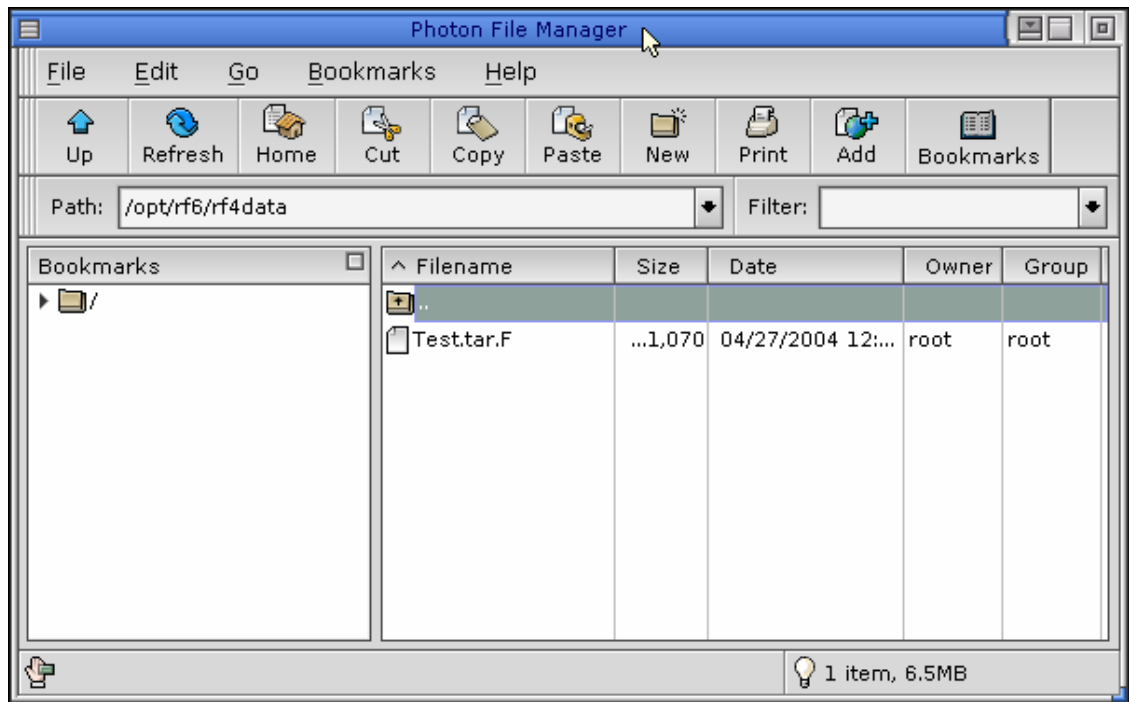
Open the File Manager by clicking on the File Manager on the Toolbar



Select the *DatabaseName*.tar.F file



- Right click and select Copy
- Double click on .. folder
- Double click on opt folder
- Double click on rf6 folder
- Double click on rf4data
- Click on Paste on File Manager Toolbar



Go to Terminal Window

Enter the following command to restore the RealFlex 4 database



cd /opt/rf6/rf4data

restore_rf4db *DatabaseName*

(where ***DatabaseName*** is any name you choose for the backup)

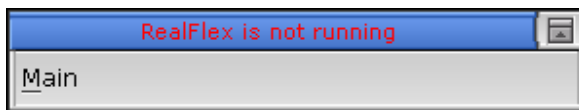
Enter the following command to convert and install the RealFlex 4 database

prjinstall *DatabaseName*

(where ***DatabaseName*** is any name you choose for the backup)

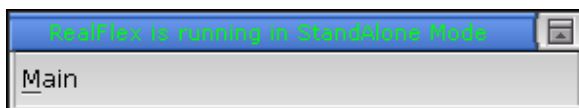
Note if there are Warnings converting some files e.g the coldstart file

When it is complete you can start RealFlex with the new converted database as follows:



Click on Main on the RealFlex toolbar and select Start RealFlex

When RealFlex is running it will be indicated on the RealFlex toolbar



3.1.10. Creating a new empty Database

If you are not restoring a backup of a RealFlex 4 database, but require creating a completely new empty database, then you need to do the following

Open a Terminal window by clicking on Terminal on the Toolbar

Enter the following command to create a new empty RealFlex 6 database.

```
# initprj_rf DatabaseName  
(where DatabaseName is any name you choose)
```

3.1.11. Backing up a RealFlex 6 Database

Open a Terminal window by clicking on Terminal on the Toolbar

Enter the following command to create a single file backup of the complete project.

```
# backup_rf6db DatabaseName  
(where DatabaseName is any name of the database you want to backup)
```

This creates a single backup file /tmp/DatabaseName.tar.gz

Alternatively you can backup the project to a single file in the /opt/rf6/data/CurrentProject/fw/files folder and this allows a FlexView console to schedule a file transfer of the backup file to the Microsoft Windows PC.

```
# backup_rf6db -f
```

This creates a single backup file
/opt/rf6/data/*CurrentProject*/fw/files/*CurrentProject*.tar.gz

Where *CurrentProject* is the name of the current project as defined in /opt/rf6/data/startup.ini

If you need to schedule an automatic backup to a file then you can add a backup_rf6db -f line to the rptcron file



Example

`/opt/rf6/data/CurrentProject/rptcron`

Line added to backup the database to a file at 00:05 every day. The backup file will be stored in `/opt/rf6/data/CurrentProject/fw/files/CurrentProject.tar.gz`

```
0 0 * * * /opt/rf6/bin/reportdo -c1 > /dev/null 2> /dev/null
0,10,20,30,40,50 * * * * /opt/rf6/bin/hdcheck > /dev/null 2> /dev/null
3 0 * * * /opt/rf6/bin/clocksycn -l > /dev/null 2> /dev/null
5,0 * * * * /opt/rf6/bin/backup_rf6db -f > /dev/null 2> /dev/null
```

3.1.12. Restoring a RealFlex 6 Database

Open a Terminal window by clicking on Terminal on the Toolbar

Enter the following command to restore a database from a backup file.

```
# restore_rf6db DatabaseName
```

(where *DatabaseName* is database name used on the single file backup in the current directory.

Example

```
# cp Demo.tar.gz /root
```

```
# cd /root
```

```
# restore_rf6db Demo
```



3.1.13. Testing HMI

The following is a set of instructions to open the DemoRF6-1.05 project in your Flex.View environment on the Microsoft Windows PC.

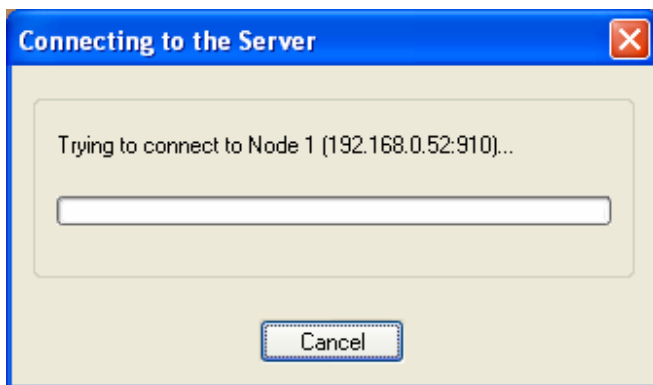
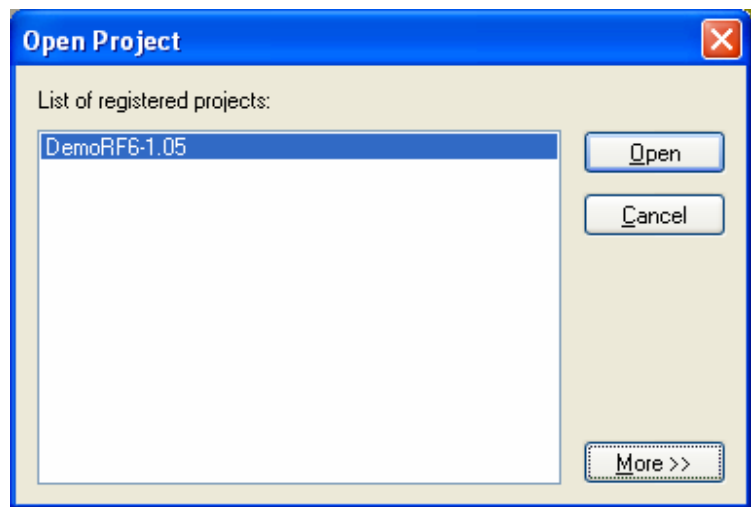


Start Flex.View by clicking on the Flex.View icon on the desktop

If your system asks for a 'Product ID' number go to 'Basic Troubleshooting'

**Select
CONFIGURATION –
Open Project**

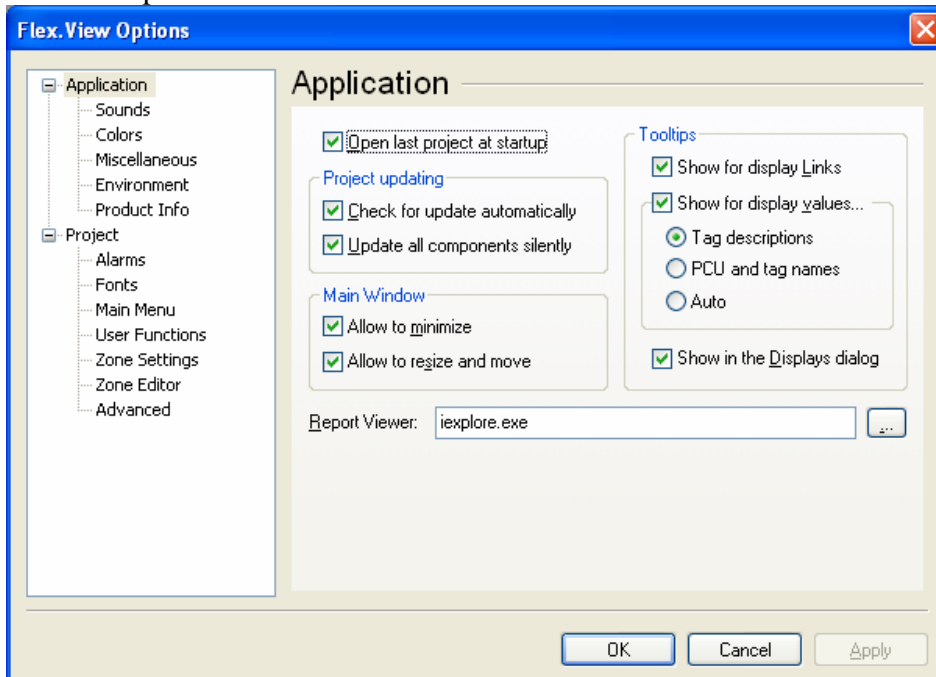
Select Project
“DemoRF6-
1.05” and Click
on Open button
to connect to the
QNX/Realflex
PC.



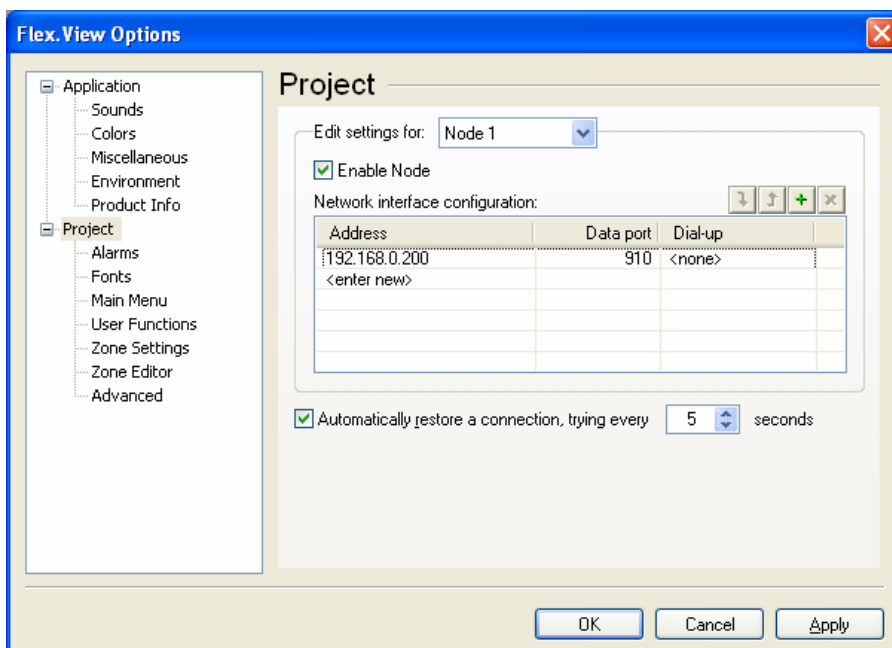
Click on Cancel in order to configure the correct IP address for the QNX 6 /RealFlex 6 PC
Click on Configurations on the Menu



Click on Options



Click on Project



Enter the IP address of the QNX 6/RealFlex 6 PC and Click on OK
 For Failover configuration Select Node 2 and enter its IP address as well.
 Click on Configuration on the Menu



RealFlex 6 - Getting Started

Click on Connect to the Server

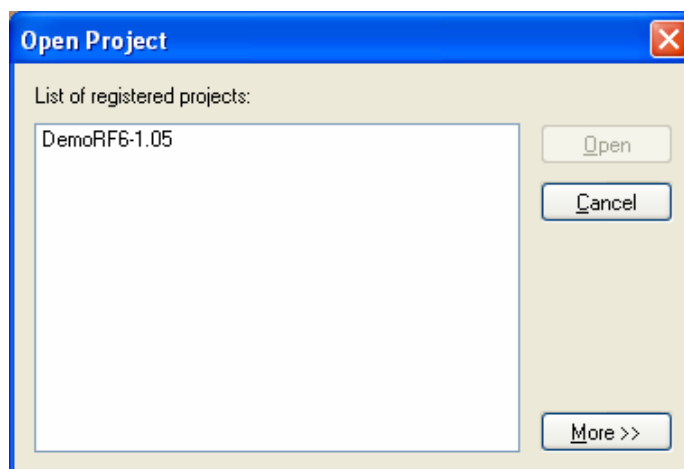
FlexView HMI now connects to the RealFlex 6 SCADA Server



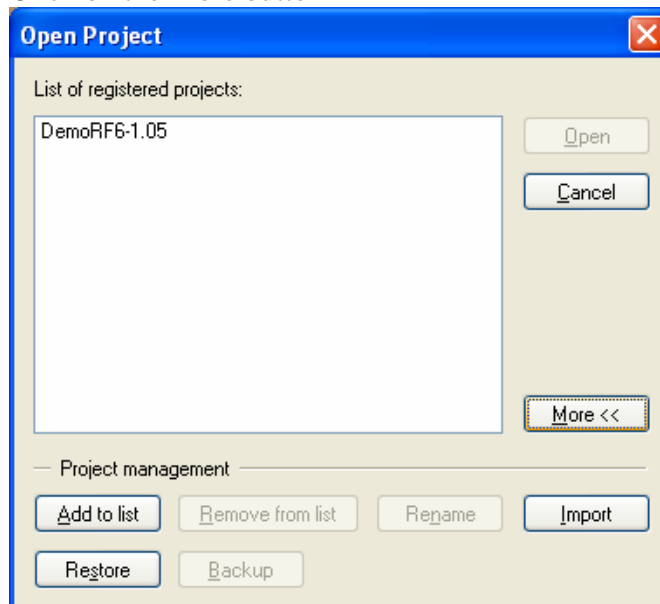
3.1.14. Importing a Project from RealFlex 6 Server PC

When a project has been restored from a RealFlex 4 backup, or a new empty project has been created on the RealFlex 6 Server PC, then it is necessary to do a once off, "Import of the Project" from the RealFlex 6 Server to create an associated project on the FlexView PC.

Start Flex.View by clicking on the Flex.View icon on the desktop
Select Configuration on the Main Menu
Select Open Project



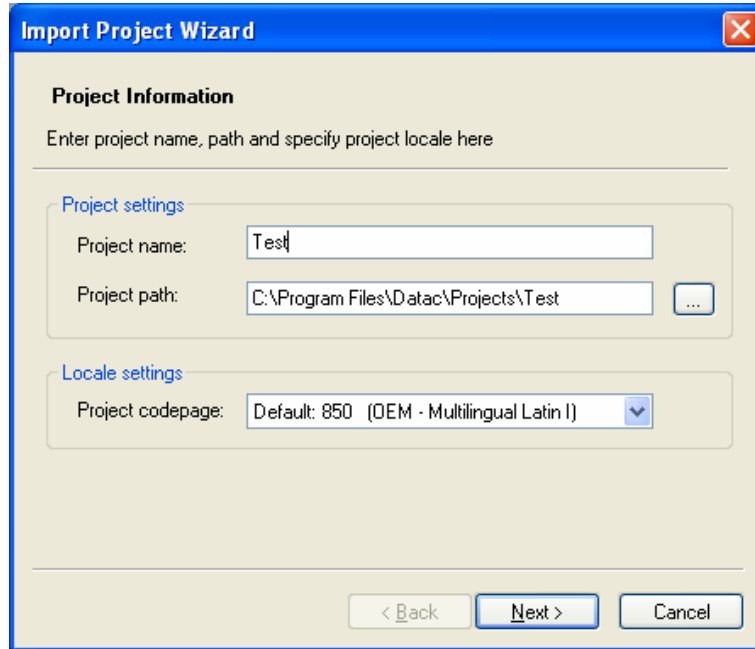
Click on the More button



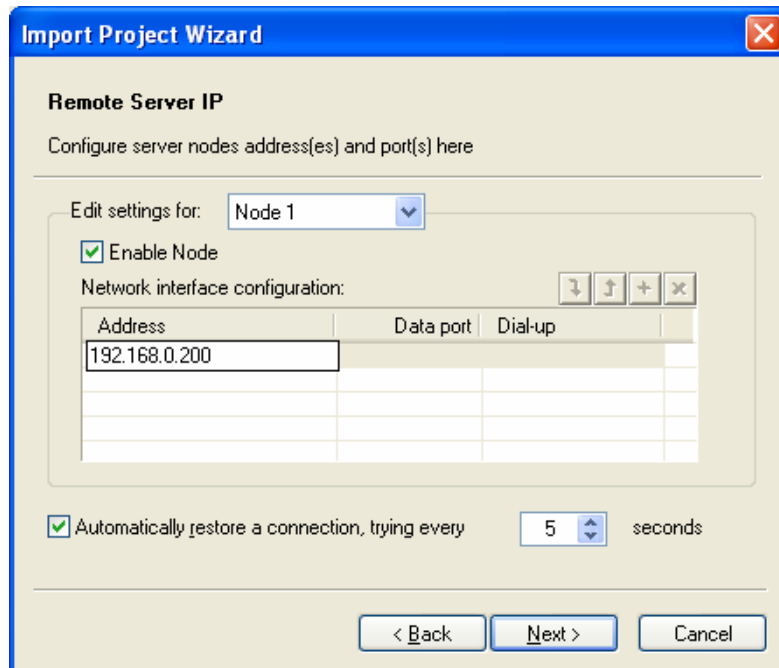
Click on Import button



If you are asked to enter a User ID for the DemoRF6-1.05 project, enter demo



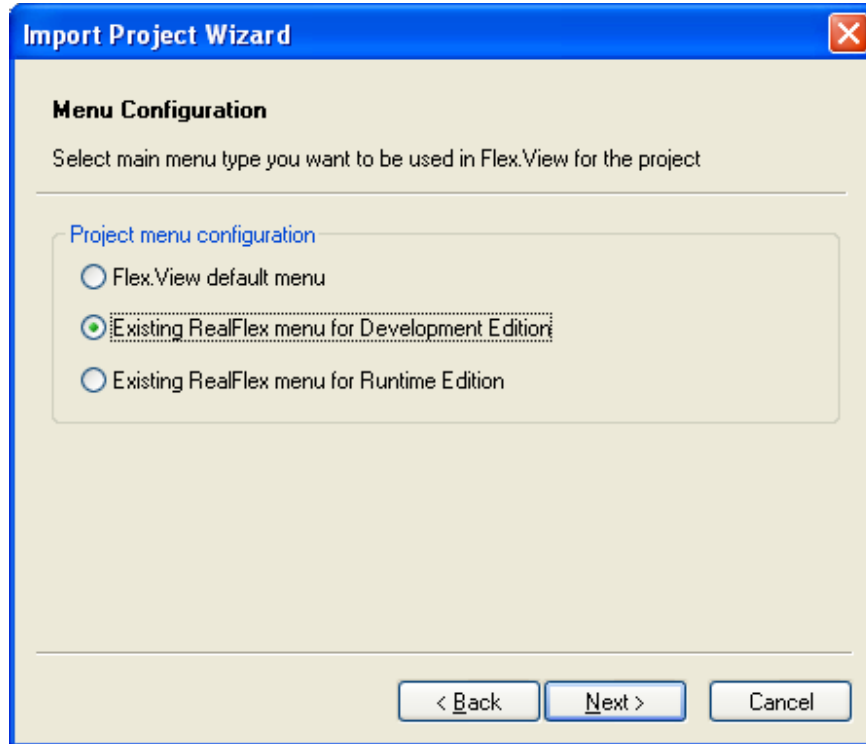
Enter a Project Name and it should create a Project path with the same name. Click on Next button



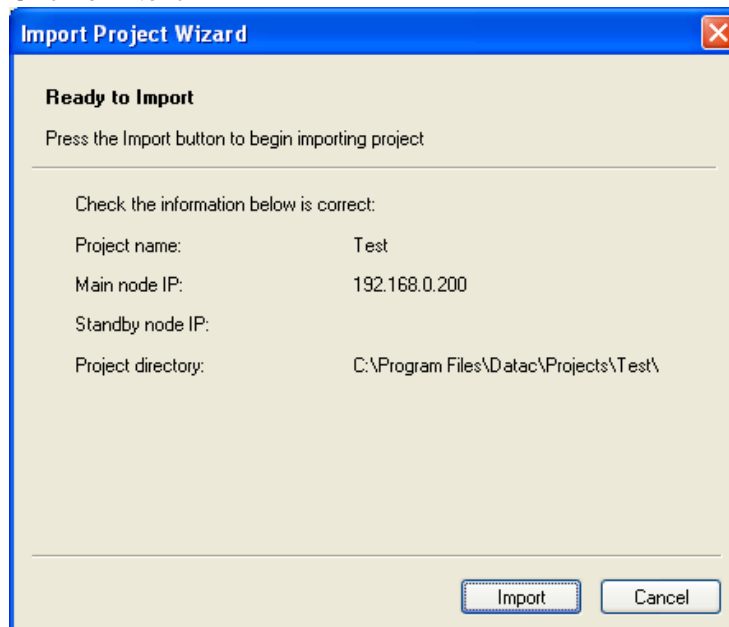
Enter the IP address of the Prime node RealFlex 6 Server PC



If it is a Failover system select Node 2 for the Secondary PC in the combo box and enter its IP address as well.

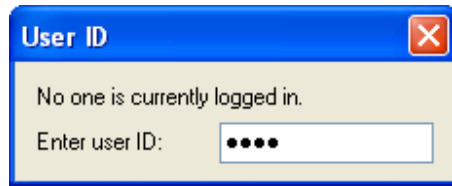


Click on Next



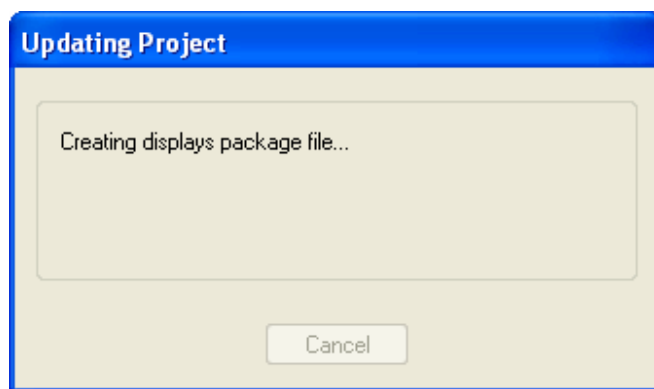
Click on Import





Enter the User ID and Password for the RealFlex 6 Project, if requested
You need to enter a User ID and Password that has ability to do Database Edit's on the database.

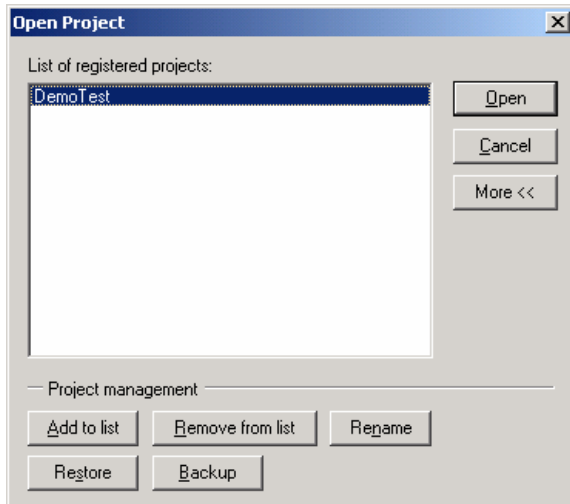
Wait until the process is complete as it may take some time on a large project



When completed it will automatically connect FlexView HMI to the RealFlex 6 SCADA Server.

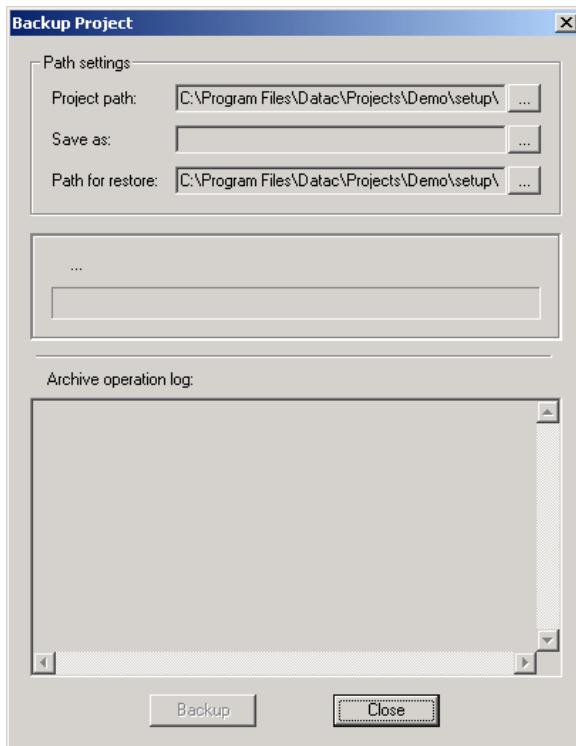
3.1.15. Making a backup of project files

1. Open Flex.View – Configuration - Open Project window.

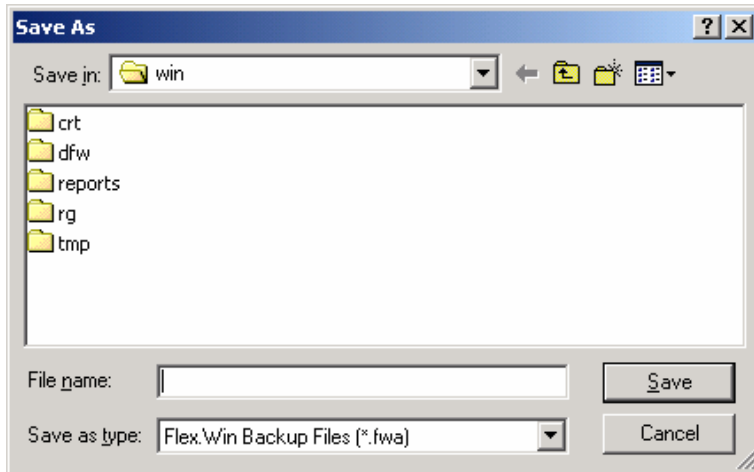


From the list of projects, click on and highlight the project to be backed up.

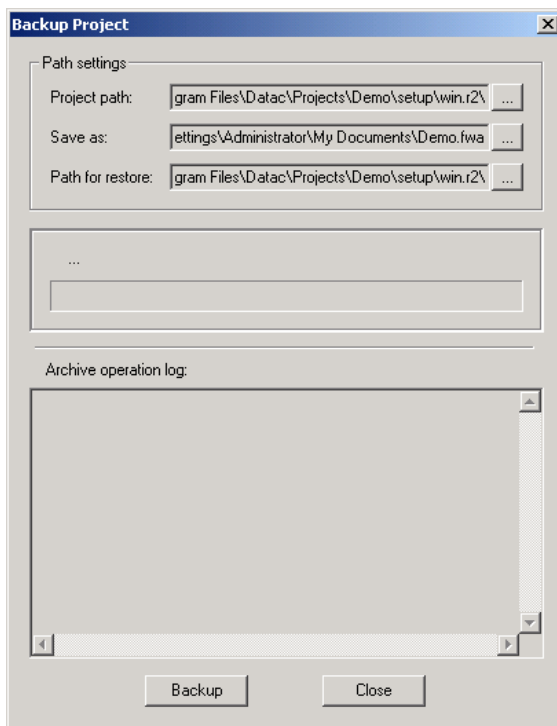
1. Click on the Backup button. the "Backup Project" window will appear:



3. In the "Project path:" field, the path of the project will have already been entered.
4. In the "Save as:" field, click on the button on the right of this field. The "[Save As](#)" dialog box will appear.

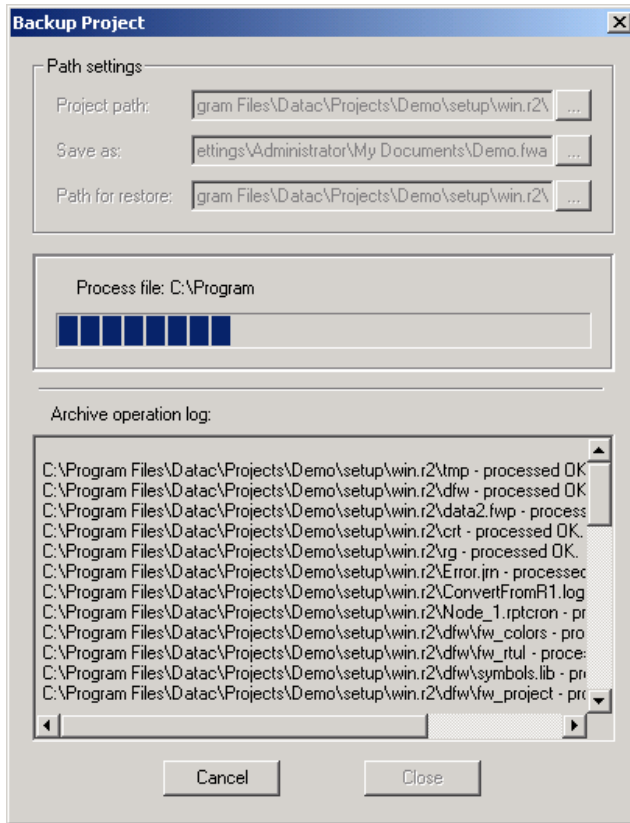


5. Indicate the location and the name of the file to be saved, the file name can differ from the original name, then click on the Save button.
You will be returned to the "Backup Project" window where the path and file name will now be entered in the "Save as:" field.

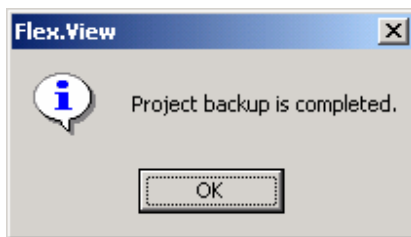


6. Click on the Backup button.





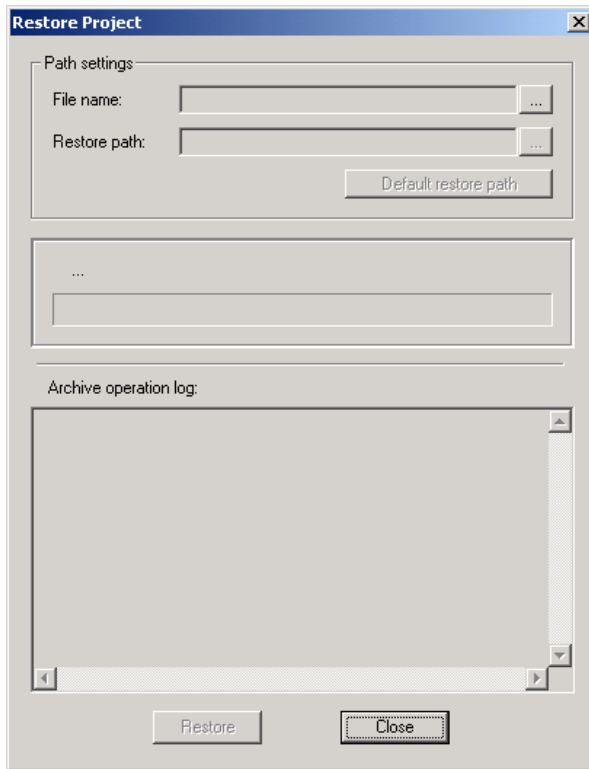
5. When the backup is finished the following window appears.



Click on “OK”. Then “close” the “Backup project window”.

3.1.15.1. Restoring project files to a remote FlexView Terminal

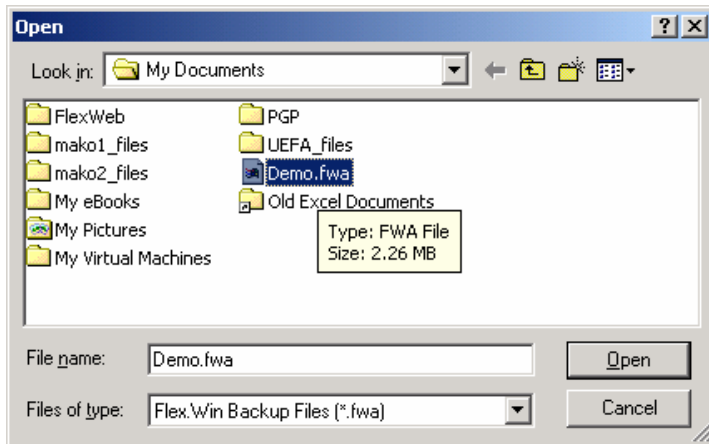
1. From the Open Project window, click on the More >> button to display the Project management section.
2. Click on the Restore button. The "Restore Project" window will appear:



3. In the "File name:" field, click on the button on the right of this field. The "[Open](#)" dialog box will appear.

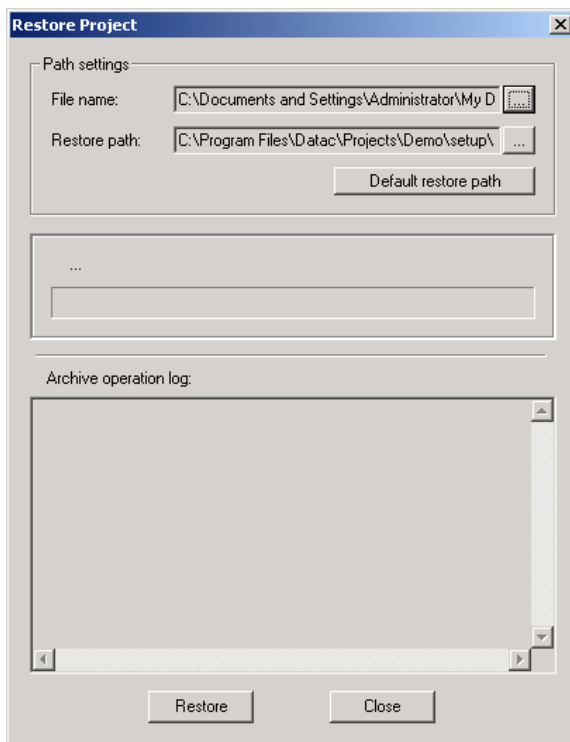


RealFlex 6 - Getting Started

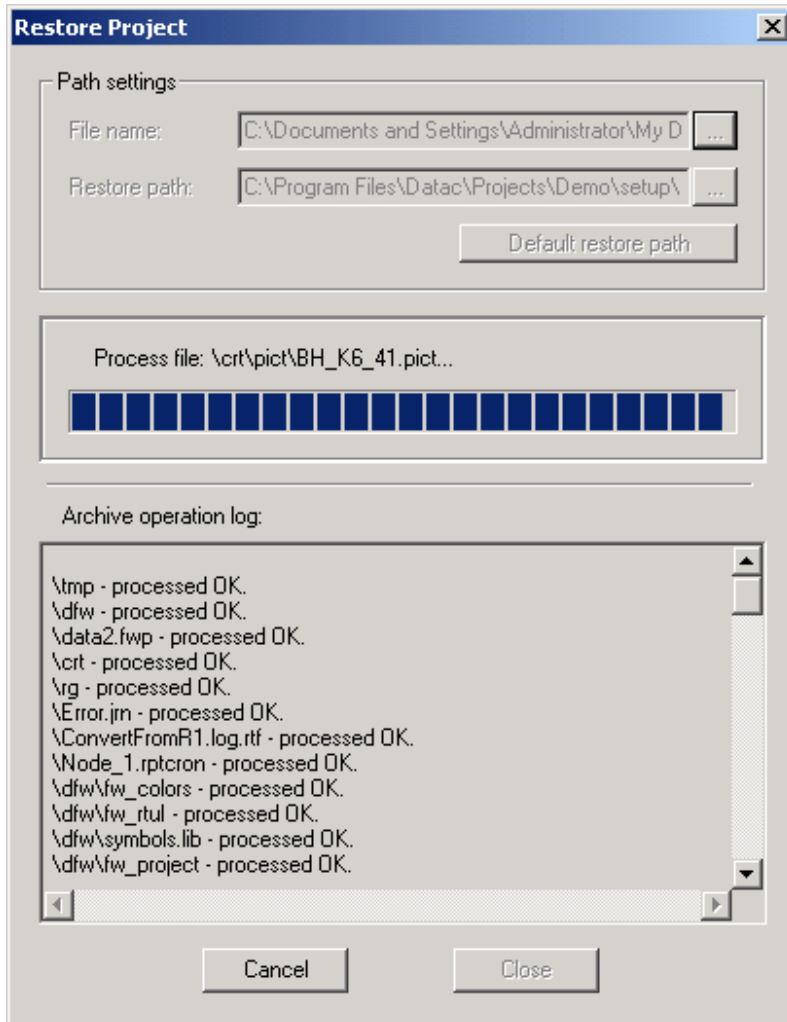


4. Locate the file to be restored, then click on the Open button.

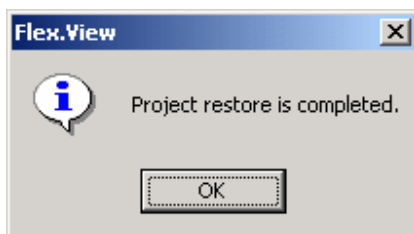
You will be returned to the "Restore Project" window where the path and file name will now be entered in the "File name:" field.



5. In the "Restore path:" field, the destination path for the restored file, based on where it was when it was backed up, will have been automatically entered.
7. Click on the Restore button.



When the project has been restored the following window appears.



Click on "OK". Now you will be able to open your restored project from this machine.



3.1.16. Configuring a Failover System

3.1.16.1. RealFlex 6 Failover Configuration

If you have a Failover Configuration then you need to configure it as follows:

Click on Launch button

Select RealFlex

Select Configuration

Select project.ini

Scroll to [FAILOVER] section

Remove # at the beginning of the 3 lines

```
[FAILOVER]
```

```
PRIMARY=Host200
```

```
SECONDARY=Host201
```

On the line with PRIMARY, enter the Host Name used in the Network Configuration of the Primary PC e.g. Host200

On the line with SECONDARY, enter the Host Name used in the Network Configuration of the Secondary PC e.g. Host201

Click on File

Select Save

Click on File

Select Exit

Repeat this process on the Secondary PC

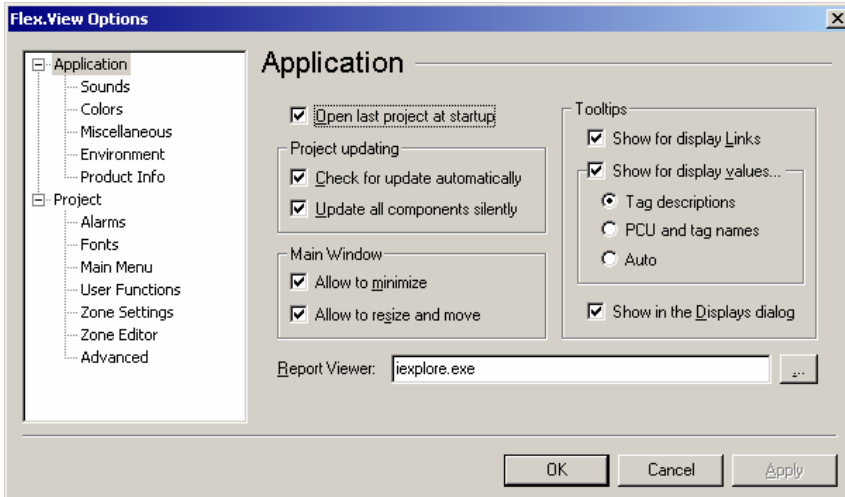


3.1.16.2. FlexView Failover Configuration

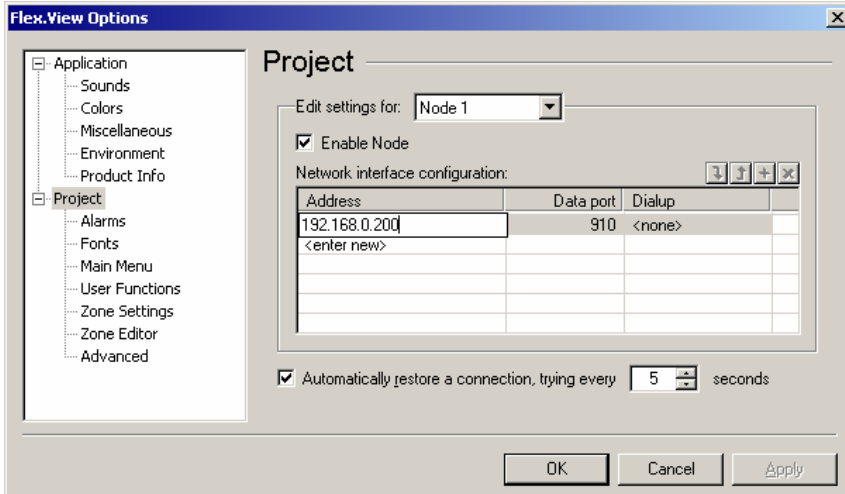
Insure both Primary and Secondary Nodes are configured in FlexView.

Click on Configurations on the Menu

Click on Options



Click on Project



Enter the IP address of the QNX 6/RealFlex 6 Primary PC and Click on OK

On the combo box “Edit Setting for :” select Node 2 , Tick the “Enable Node” check box and enter the IP address of the Secondary QNX 6 PC. Also insure to tick the “Automatically restore a connection, “

Click on OK button.



3.1.17. Configuring RealFlex 6

3.1.17.1. Database / Project Selection

RealFlex 6 stores each Project or Database in different folders

The currently Active Project is defined in startup.ini

To view or change this you can do the following

Click on Launch Button

Select RealFlex

Select Configuration

Select startup.ini

The currently active project is the line which does not have a # at the beginning of the line. If there are multiple projects available then you can switch by commenting out one and uncomment another.

If you make any changes, then save and close file. Then restart RealFlex for change to take effect.

3.1.17.2. Project Configuration

RealFlex 6 allow the user to configure some project options in project.ini

To view or change this you can do the following

Click on Launch Button

Select RealFlex

Select Configuration

Select project.ini

This file contains a number of user modifiable options

```
[STARTUP]
#cold start or warm start
COLD_START=NO

#Set each point as no reply on a cold or a warm start
NO_REPLY_RESET=YES

#Clear each point's instrument fail flag and unacknowledged flag on a warm
start
RESET_INSTRUMENT_UNACK=NO

#Clear each point's instrument fail flag on a cold or a warm start
RESET_INSTRUMENT_FAILURE=NO
```



RealFlex 6 - Getting Started

```
[DATA_PROCESSES]
DEAD_BAND= 1.0
ENABLE_ACTION=NO

[ALARMS]
#Automatically acknowledge any alarm that returns to normal state
AUTO_CLEAR=NO

#number of alarms to display in alarm banner
#max of 10 lines
#min of 2 lines
ALARM_BANNER_LINES=5

# size of active alarms database
ALARM_SIZE=1024

# Enable the action processor by uncommenting the action from
/opt/rf6/data/project/startrf.
# Set ENABLE_ACTION to YES under [DATA_PROCESSES]

#Trigger an action when an alarm is acknowledged. Requires the process
'action' be uncommeted in the file 'startrf'
TRIGGER_ACTION=NO

# Activate the ACR using the 'beep.control' file
ALARM_RELAY_CONTROL=NO

### MAW ###
#Active MAW callout in action
ACTION_MAW=NO

#The console name of the FlexView where MAW resides
ACTION_MAW_CONSOLE=BRODGERS

#DOS path to MAW
ACTION_MAW_DOS_PATH=C:\Program Files\MsgServer

#The max number of voice messages to deliver per call out
ACTION_MAW_MAX_MSGS=5

[HISTORY]
SAMPLES=120
FLUSHTIME=3600

#Make daily files instead monthly hist files.
#DAYFILES=YES

#Number of days or months to keep files
#If daily files, LIFETIME = days. If monthly files, LIFETIME = months.
#If using day files and the lifetime is more than 31 days, month files
will be automatically be used instead.
LIFETIME=5
```



RealFlex 6 - Getting Started

#ENDOFDAY is the time of day when the current days history file is moved to the daily/monthly files and a new history file is started.

#must be 5 characters and in 24 hr format.

ENDOFDAY=00:30

Dates and Time for Resetting of METER tags

Please remove all entries in rptcron that have reportd0 -m....

[METERRESET]

#0 to 23

HOUR=0

#0 to 59

MINUTE=0

#1 to 28, greater than 28 defaults to last day of month

DAY=1

1 to 12

MONTH=1

for failover configuration uncomment following section

and set Primary and Secondary hosts names

#[FAILOVER]

#PRIMARY=Host201

#SECONDARY=Host203

heart beat settings for failover configuration

#[HBPROC]

polling interval in milliseconds - default 200ms

#HB_FREQUENCY=200

timeout interval in milliseconds, if standby does not

receive reply from main within this interval it becomes main

default - 500 ms

#HB_TIMEOUT=500

serial port used for heart beat

default /dev/ser1

#HB_SERIALPORT=/dev/ser1

baud rate used for heart beat

#HB_BAUD

following settings for internal RealFlex usage

do not change them

[RFNODE]

16

[ICF]

KEEP_DELETED=NO

[USERG]

KEEP_DELETED=NO

[URT]

KEEP_DELETED=NO



3.1.17.3. Customer Configuration

RealFlex 6 allow the user to configure drivers, CSL's or other QNX 6 process in startrf.local

This file can be edited from QNX6/RealFlex 6 PC or from the FlexView PC's using Configuration File Editor

To view or change this on QNX 6 you can do the following

Click on Launch Button

Select RealFlex

Select Configuration

Select startrf.local

This file contains list of process the customer needs to run on the system e.g drivers, CSL's and any other QNX 6 applications

The file is made up of 5 columns

PRIO WAIT RESOURCE_NAME TIMEOUT TASK_NAME

PRIO is Priority at which the task will run. This ranges from the highest at 9 to the lowest at 5.

It is recommended to run drivers at priority 9 and CSL's at priority 8 e.g

```
08 0 * * csl -f status.csl -e
```

```
09 0 * * modscan -c1
```

WAIT – If you use 1 then it will wait until this process is completed before continuing with the other processes.

0 is the normal option used to indicate it does not wait.

RESOURCE_NAME – Always leave at *

TIMEOUT – Always leave at *

TASK_NAME – Name of the Process to be run with parameters if needed.



4. Connectivity options.

Flex.View HMI can be connected to RealFlex 6 Server over any TCP/IP network including LAN, Intranet, dial-up, Internet, etc. Described below are the most common connectivity options between Flex.View and RealFlex systems. Before starting Flex.View you need to have TCP/IP configured both on MS Windows and QNX 6 PCs. The only common requirement for all connectivity options is that RealFlex PCs (both main and stand-by) should have predefined IP addresses. Using of dynamically assigned IP addresses (DHCP) is allowed for the Flex.View PC and not for RealFlex.

4.0.1. Connection over LAN.

You need to have LAN cards installed on MS Windows and QNX 6 PCs. TCP/IP should be configured for LAN interfaces on both PCs.

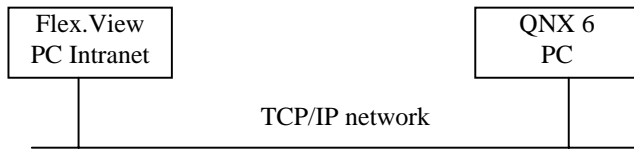


Fig. 1. Permanent connection over network

4.0.2. Direct dial-up connection over telephone network.

Dial-up networking should be installed on MS Windows PC. On QNX PC you need to have TCP/IP installed with PPP protocol configured.



Fig. 2. Dial-up connection to a single RealFlex PC

If you have RealFlex fail over configuration you will need separate phone numbers and modems for each RealFlex PC. Flex.View will automatically establish an alternative dial-up connection to the stand-by node when it becomes the master node.



If you have only one phone number then you need to use dial-in modem access IP router. For this option you need dial-up networking installed MS Windows PC, modem router configured for dial-in access, LAN card and TCP/IP installed and configured on QNX PCs:

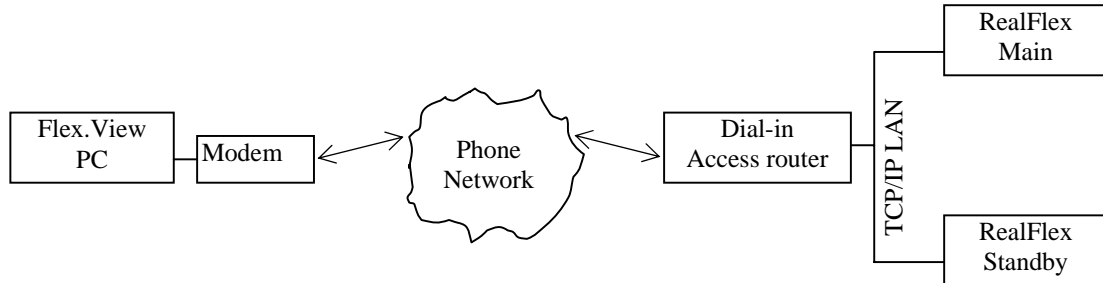


Fig. 3. Dial-up connection using access router

4.0.3. Connection over Internet.

Firewalls and/or proxy servers might cause certain problems when you establish connection over Internet. In this case consult your network administrator or apply for technical support from your RealFlex 6 distributor.

Information for advanced users.

Flex.View uses the following TCP port numbers:

- 910 – FlexView to RealFlex.
 - 20 – Optional for FTP
 - 21 – Optional for FTP
 - 23 – Optional for FlexTelnet
- Flex.View does not use UDP service.

5. Configuring for Leased Line Modem or Serial Line

If it is required to allow FlexWin clients to connect to the RealFlex 6 PC using a leased line modem or serial cable, then it is necessary to configure the QNX 6 PC for PPP and also setup new connection on Windows XP PC. If you are using just a Serial Cable then it should be full null modem cable. If you are using Leased line modems then they should be setup to automatically connect and they should supply DTR and DCD active to the serial port.

5.1. Security

When setting up a remote login it is essential that you set a password for the superuser login.

Login as a superuser i.e open a shell and login as root

```
login: root <CR>  
#
```

Set a password for root

```
# passwd  
# New password: xxx  
# Retype new password: xxx  
#
```



5.2. Configuring PPP

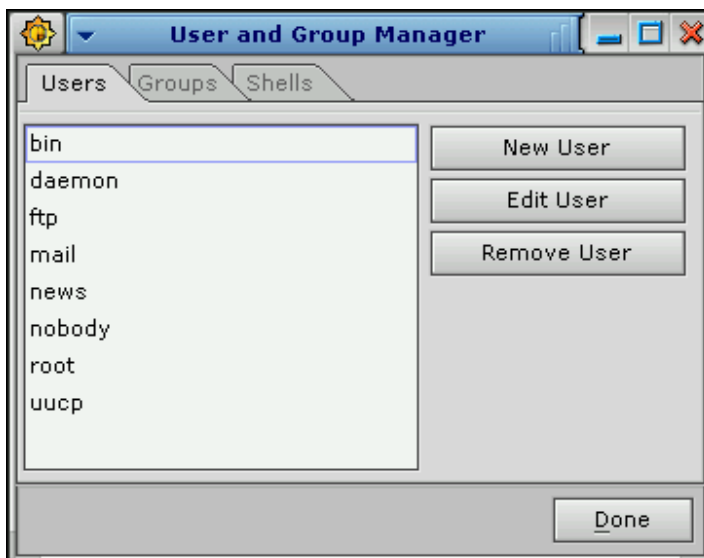
5.2.1. New Accounts

Create a new user account for each PPP connection i.e. if you have more than 1 serial port with PPP connections, then you need to create a new user account for each connection e.g. if you have 3 FlexView clients on serial lines or leased line modems which allow 3 simultaneous connections, then you need 3 new accounts e.g. (flexwin1, flexwin2, flexwin3) These are the accounts which FlexView logs into when it connects. i.e. the username and password used on the FlexView PC

Select Users from the Configure menu on the right side of the screen.



Click on Advanced



Click on New User



RealFlex 6 - Getting Started



Full Name: FlexWin1
Login ID: flexwin1
Home Directory: /home/flexwin1
Shell: /bin/sh
User ID: 100
Group: Unknown Group

Prevent this user from logging in.

Click the image to select a new face.

Buttons: Reset, Cancel, Apply, Done, Set Password, Browse, Browse

Enter Full Name, Login ID and Home Directory for the user account.
Click on Set Password and enter and verify the password



New Password

Verify Password

Buttons: Cancel, OK

Click OK



Full Name: FlexWin1
Login ID: flexwin1
Home Directory: /home/flexwin1
Shell: /bin/sh
User ID: 100
Group: Unknown Group

Prevent this user from logging in.

Click the image to select a new face.

Buttons: Reset, Cancel, Apply, Done, Set Password, Browse, Browse

Click Apply
Click Done





You should add a User for each serial port used for PPP.
When finished
Click Done
Click Done

5.2.2. New Scripts

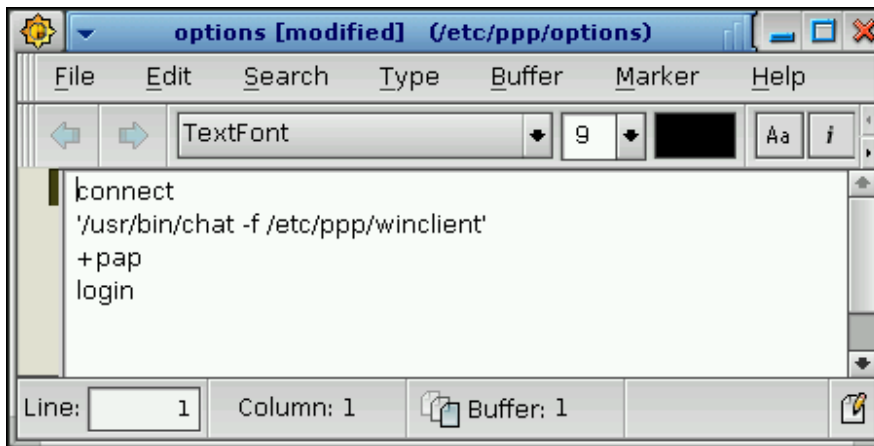
Open the File Manager by clicking on the File Manager on the Toolbar



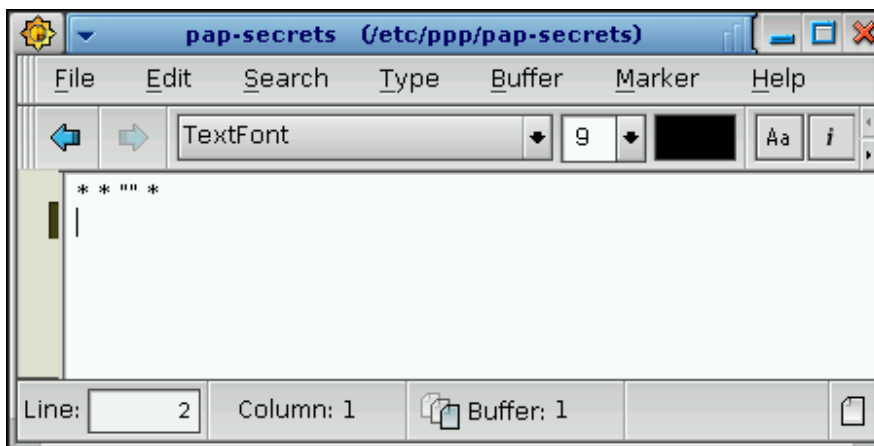
Go to /etc/ppp folder (If ppp folder does not exist, then create a folder called ppp)
Create a /etc/ppp/options file with the following line

Create a file called options
Right click in options and select Open With
Type ped
Click Open

And add the following lines

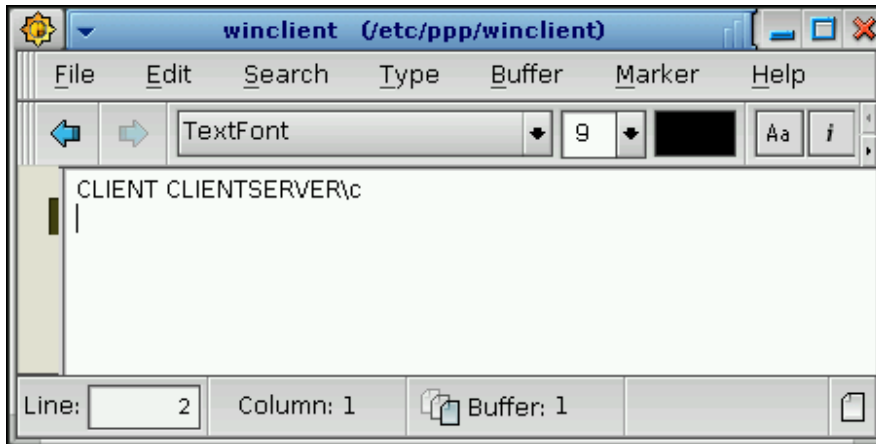


Create a /etc/ppp/pap-secrets file with the following line

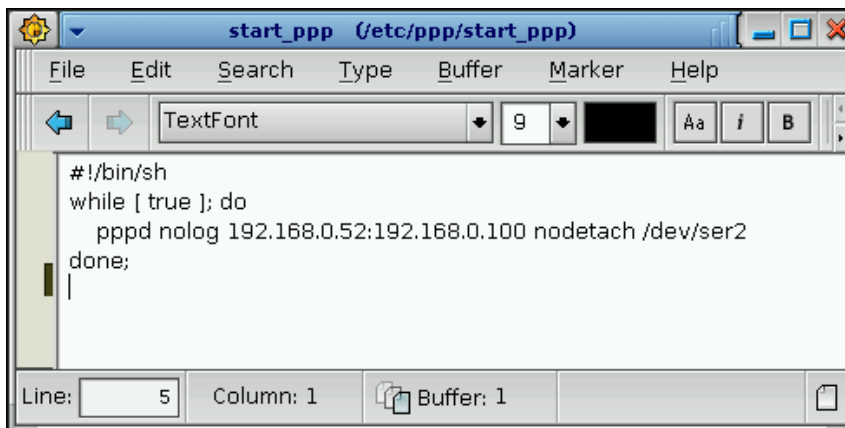


Create a /etc/ppp/winclient file with the following line





Create a /etc/ppp/start_ppp executable script file with the following lines



Note : There should be a pppd line for each serial port used for ppp

Example : When using 2 serial lines

```
pppd nolog 192.168.0.52:192.168.0.100 /dev/ser2
```

```
pppd nolog 192.168.0.52:192.168.0.101 /dev/ser3
```

The IP addresses are as follows

<local IP address>:<Assigned IP address>

Where <local IP address> is the fixed IP address of the QNX 6 PC (# netstat -in)

And <Assigned IP address> is the address which will be assigned to the FlexView PC which is connecting over the serial line or leased line modem.

Save the file and exit the editor.

File – Save

File – Exit

Right click on the start_ppp file and select Inspect

Tick the Exec boxes across from User and Group



RealFlex 6 - Getting Started



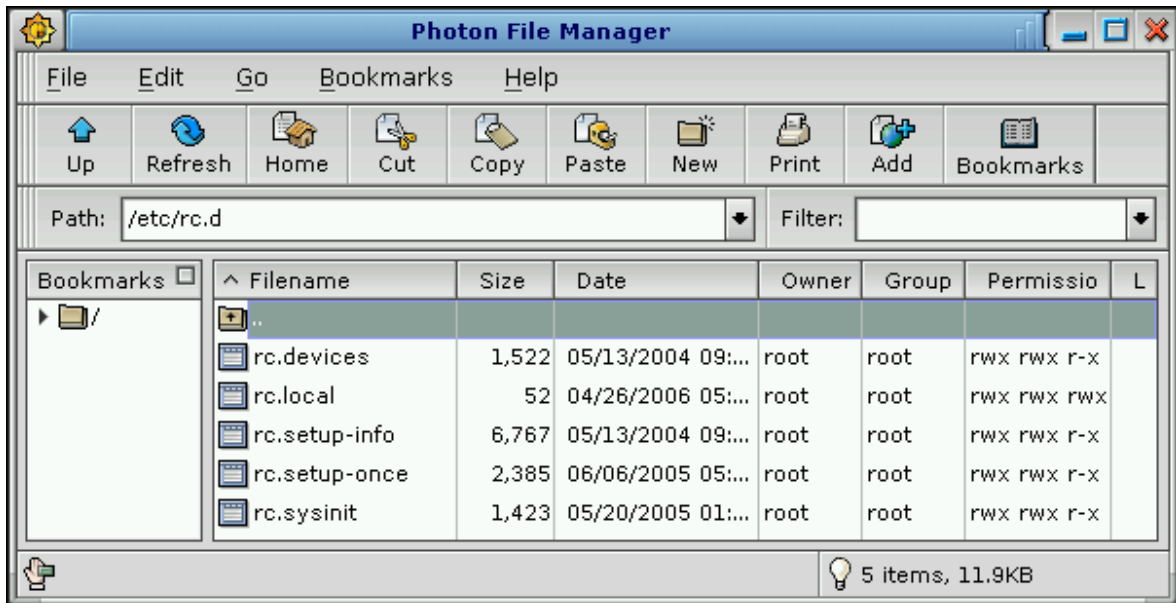
Click on Done



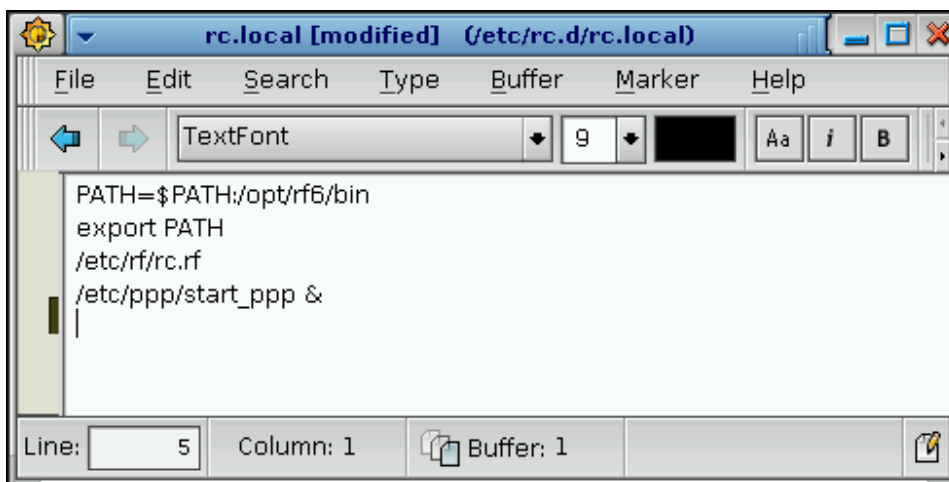
RealFlex 6 - Getting Started

It is necessary to have this script run automatically on startup of the QNX 6 PC, so it is necessary to add in into the rc.local file.

Go to /etc/rc.d folder



Right click on rc.local
Select Open With
Type in ped, click Open
Add the following line at the bottom
/etc/ppp/start_ppp &



File – Save
File – Exit



5.3. Windows Connection Configuration

5.4. Windows XP

Add a new connection in windows for FlexView

Start – Control Panel – Network Connections – New Connections

Or

Start – Connect To – Show all Connections

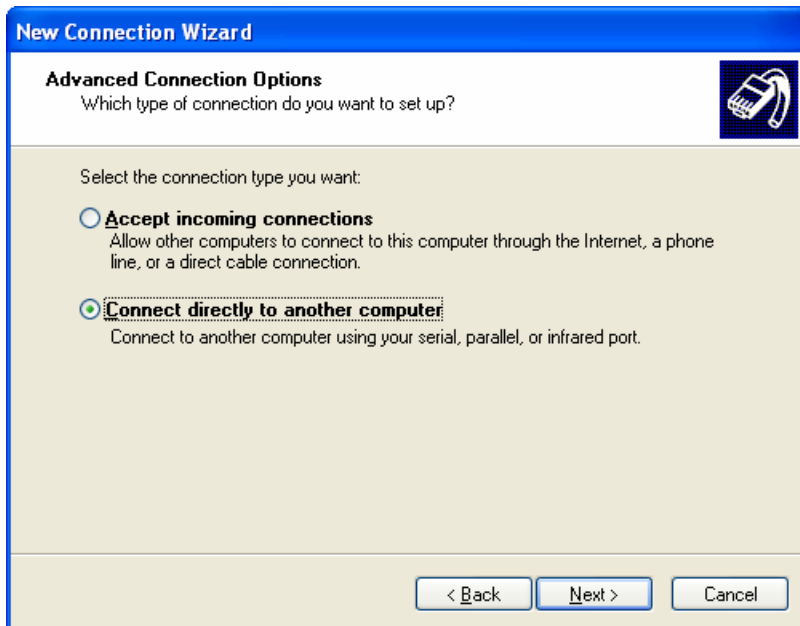


Click Next

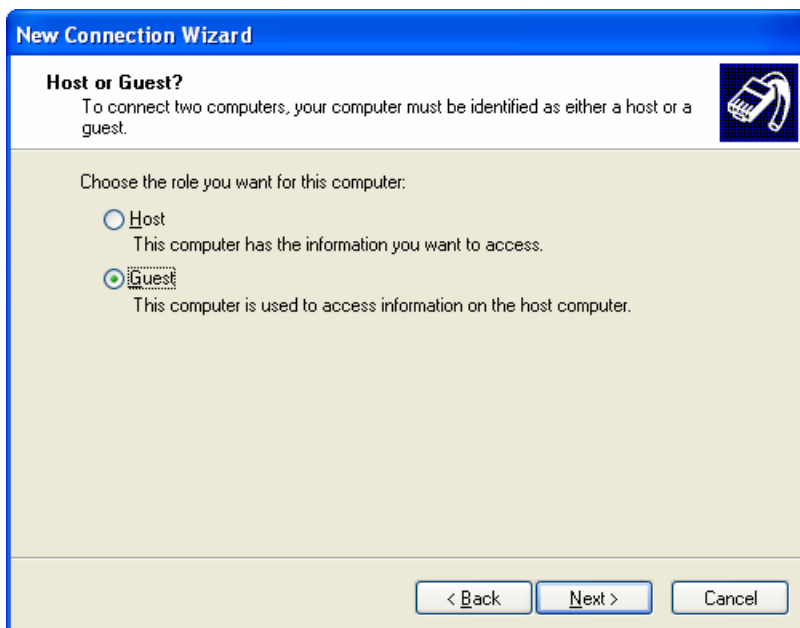


Select “Set up an advanced connection” and Click Next





Select "Connect directly to another computer" and Click Next



Select "Guest" and Click Next



RealFlex 6 - Getting Started



New Connection Wizard

Connection Name
What is the name of the other computer you are connecting to?

Type the name of the other computer in the following box.

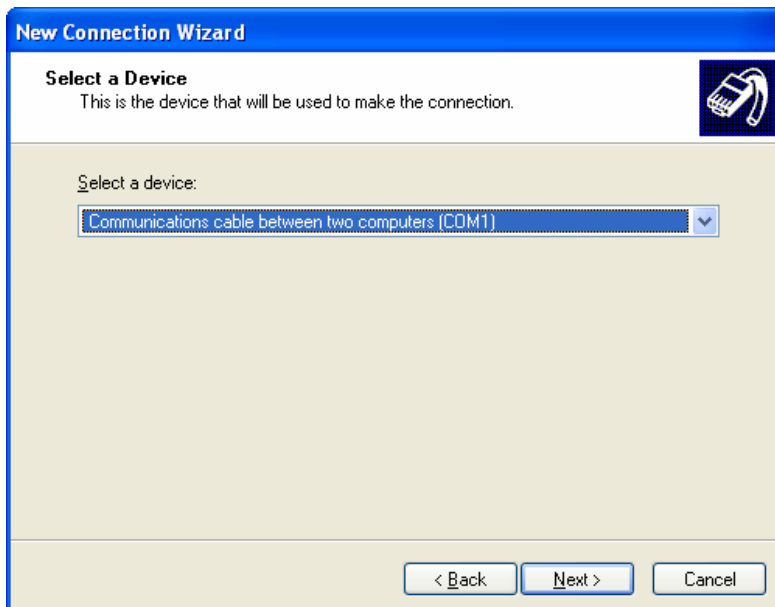
Computer Name

RealFlex 6 Server

The name you type here will be the name of the connection you are creating.

< Back Next > Cancel

Enter connection name e.g FlexWin1 and Click Next



New Connection Wizard

Select a Device
This is the device that will be used to make the connection.

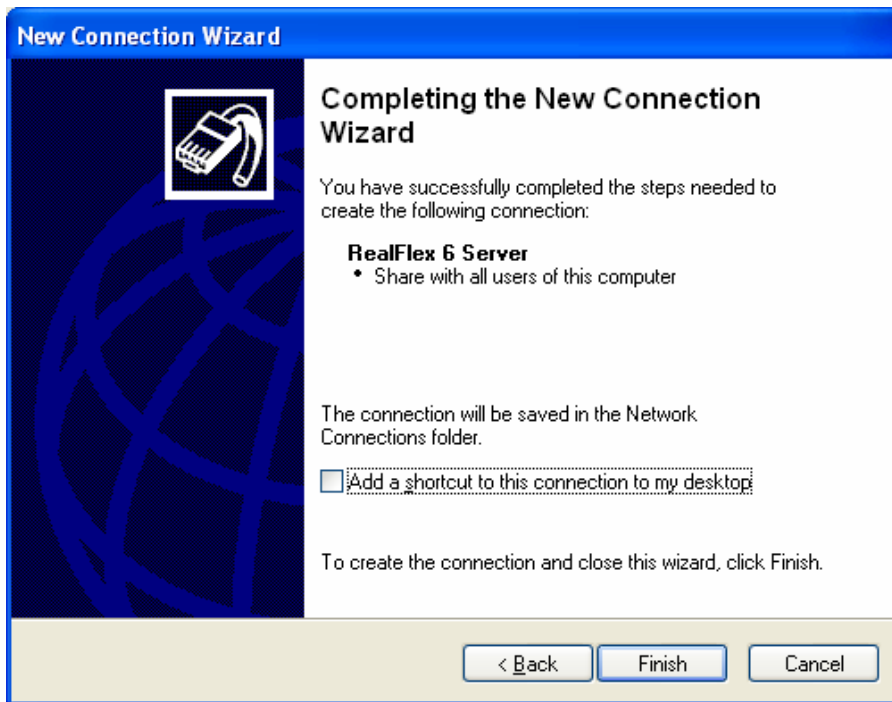
Select a device:

Communications cable between two computers (COM1)

< Back Next > Cancel

Select an appropriate serial port and Click Next





Click Finish



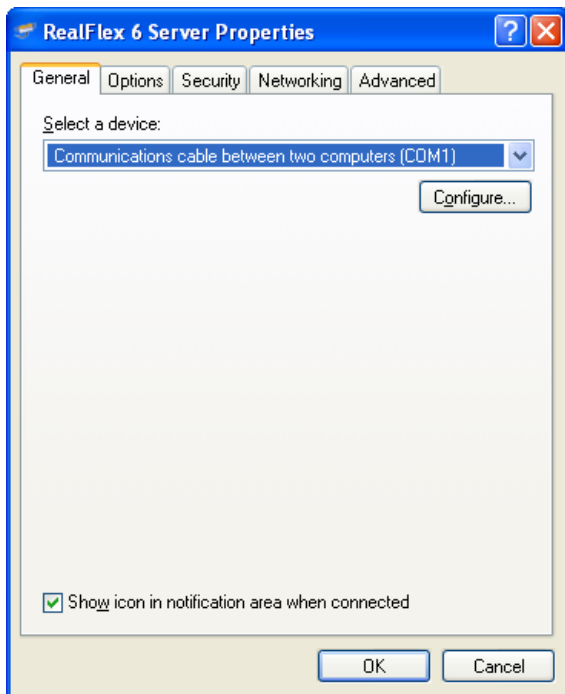
RealFlex 6 - Getting Started

Enter User name and Password (As used when creating the account on the QNX PC.)

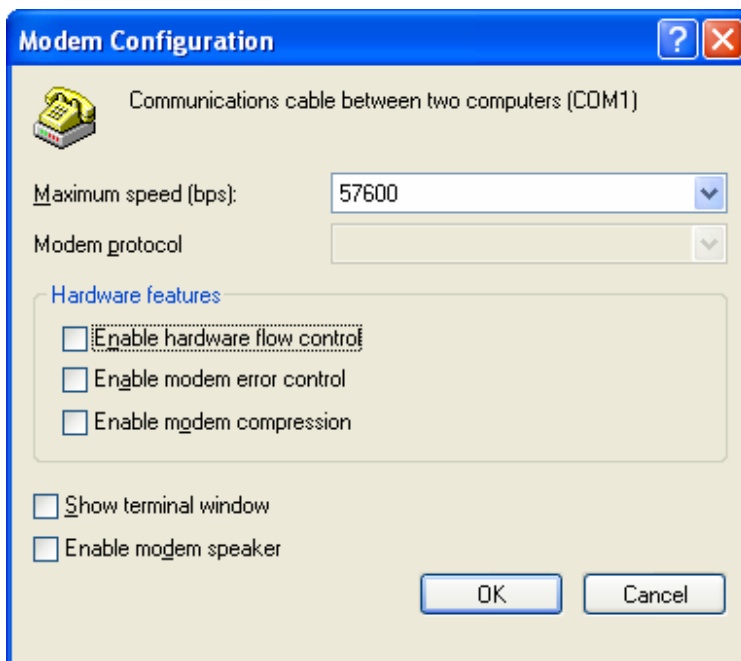
Tick the “Save this username and password for the following users)

Select the option which is appropriate for the particular setup.

Click Properties and Options tab



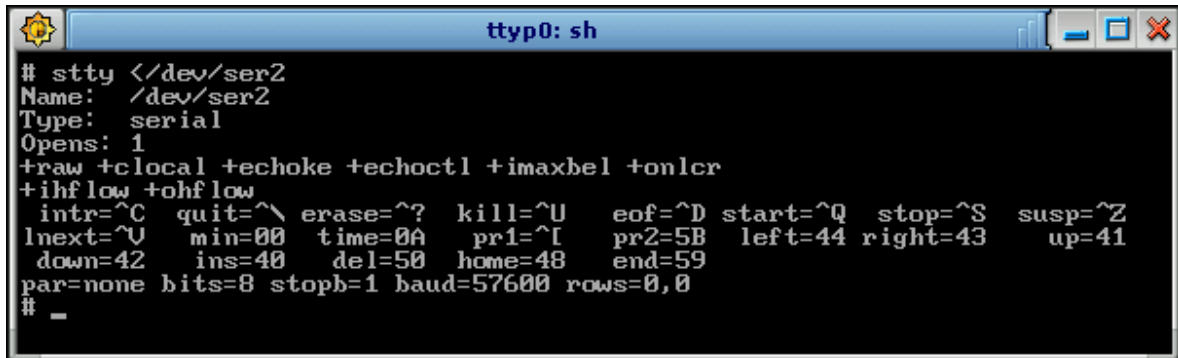
Click on Configure



Insure the Maximum speed matches the speed of the serial port on the QNX 6 port

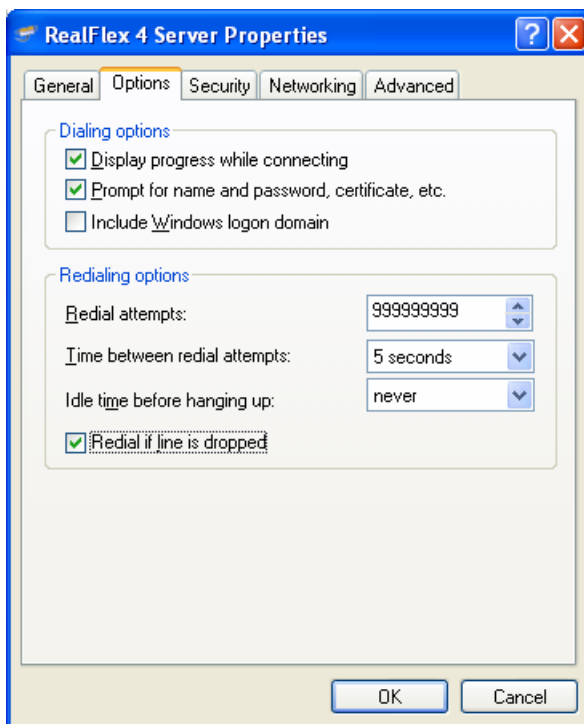


RealFlex 6 - Getting Started



```
ttyp0: sh
# stty </dev/ser2
Name: /dev/ser2
Type: serial
Opens: 1
+raw +clocal +echoke +echoctl +imaxbel +onlcr
+ihflow +ohflow
intr=^C  quit=^\  erase=^?  kill=^U  eof=^D  start=^Q  stop=^S  susp=^Z
lnext=^V  min=00  time=0A  pr1=^I  pr2=5B  left=44  right=43  up=41
down=42  ins=40  del=50  home=48  end=59
par=none bits=8 stopb=1 baud=57600 rows=0,0
# _
```

Click on the Options tab



Set “Redial attempts” to 5, “Time between redial attempts” to 5 seconds, and tick the “Redial if line is dropped.

Click OK

Click Connect and wait to establish a connection, this allows the username and password to be saved by windows.



6. Configuring for Dialup Modem

If it is required to allow FlexWin clients to connect to the RealFlex 6 PC using a dialup modem, then it is necessary to configure the QNX 6 PC for PPP and also setup new connection on Windows XP PC. The modems used at the RealFlex 6 PC, should be setup to **not** automatically answer incoming calls, should have echo on and verbose responses so that an AT command should be responded with OK

```
ATS0=0  
AT&W
```

6.1. Security

When setting up a remote login it is essential that you set a password for the superuser login.

Login as a superuser i.e open a shell and login as root

```
login: root <CR>  
#
```

Set a password for root

```
# passwd  
# New password: xxx  
# Retype new password: xxx  
#
```



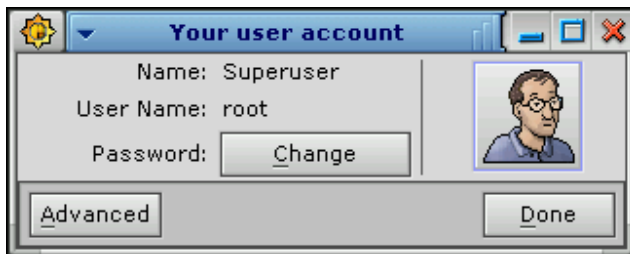
6.2. Configuring PPP

6.2.1. New Accounts

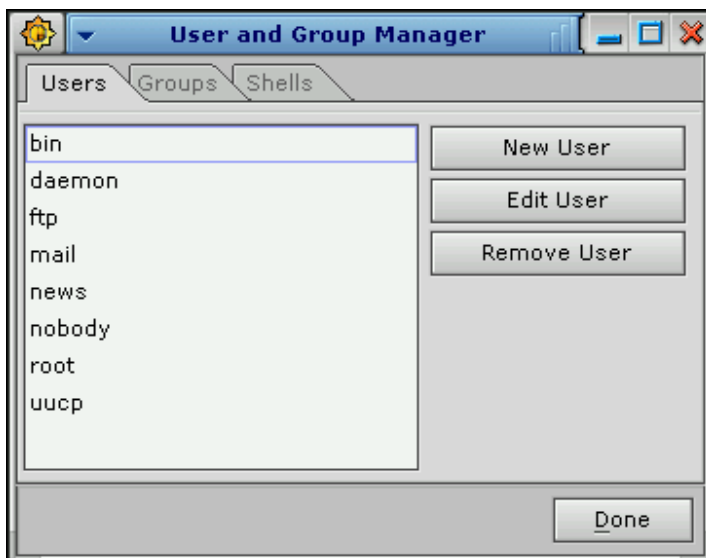
Create a new user account for each PPP connection i.e. if you have more than 1 serial port with a dialup modem, then you need to create a new user account for each connection e.g. if you have 3 FlexView clients that which to simultaneously connect to the RealFlex 6 server, then you need 3 new accounts e.g. (flexwin1, flexwin2, flexwin3)

These are the accounts which FlexView logs into when it connects i.e. the username and password used on the FlexView PC

Select Users from the Configure menu on the right side of the screen.



Click on Advanced



Click on New User



RealFlex 6 - Getting Started



Create a new user

Full Name: FlexWin1

Login ID: flexwin1

Home Directory: /home/flexwin1

Shell: /bin/sh

User ID: 100

Group: Unknown Group

Prevent this user from logging in.

Click the image to select a new face.

Buttons: Reset, Cancel, Apply, Done, Set Password, Browse

Enter Full Name, Login ID and Home Directory for the user account.
Click on Set Password and enter and verify the password



Set users password

New Password: *****

Verify Password: *****

Buttons: Cancel, OK

Click OK



Create a new user

Full Name: FlexWin1

Login ID: flexwin1

Home Directory: /home/flexwin1

Shell: /bin/sh

User ID: 100

Group: Unknown Group

Prevent this user from logging in.

Click the image to select a new face.

Buttons: Reset, Cancel, Apply, Done, Set Password, Browse

Click Apply
Click Done





You should add a User for each serial port/modem used for PPP.
When finished
Click Done
Click Done

6.2.2. New Scripts

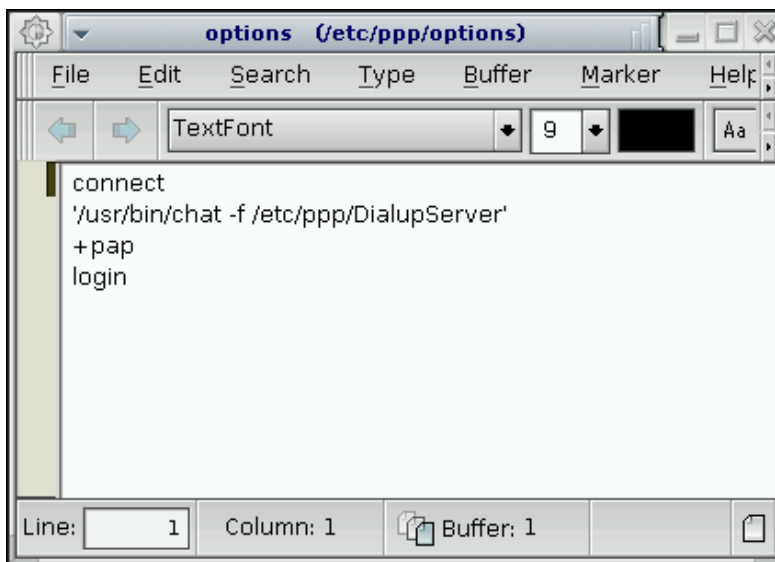
Open the File Manager by clicking on the File Manager on the Toolbar



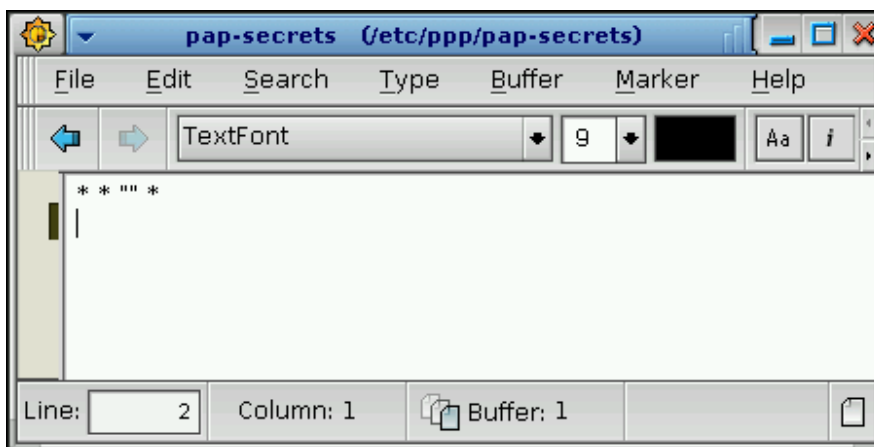
Go to /etc/ppp folder (If ppp folder does not exist, then create a folder called ppp)
Create a /etc/ppp/options file with the following line

Create a file called options
Right click in options and select Open With
Type ped
Click Open

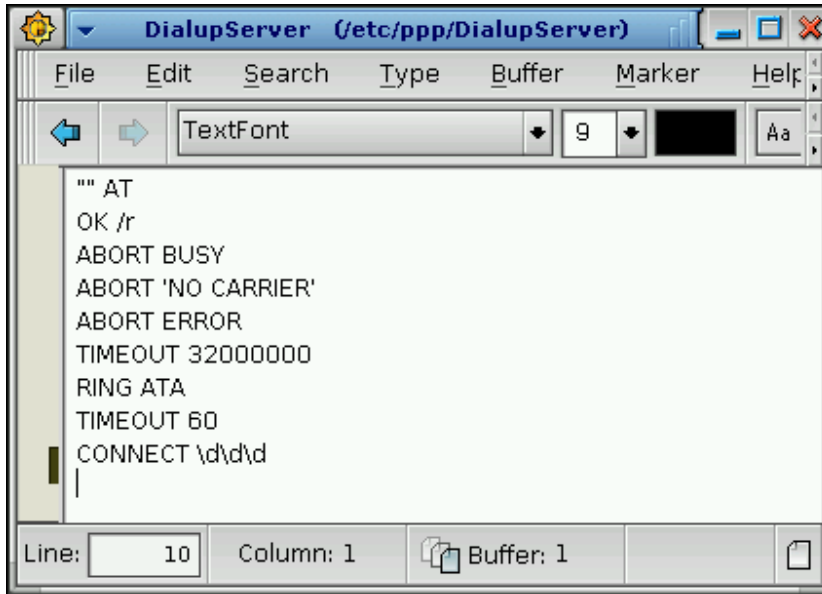
And add the following lines



Create a /etc/ppp/pap-secrets file with the following line

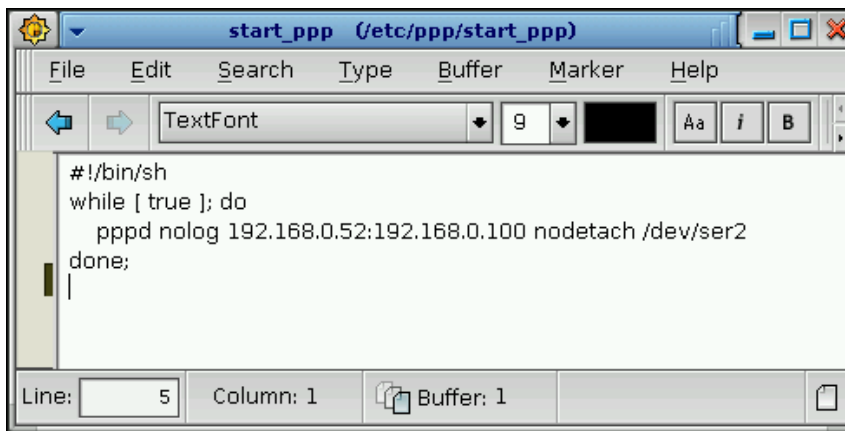


Create a /etc/ppp/DialupServer file with the following line



```
"" AT
OK /r
ABORT BUSY
ABORT 'NO CARRIER'
ABORT ERROR
TIMEOUT 32000000
RING ATA
TIMEOUT 60
CONNECT \d\d\d\d
|
```

Create a /etc/ppp/start_ppp executable script file with the following lines



```
#!/bin/sh
while [ true ]; do
  pppd nolog 192.168.0.52:192.168.0.100 nodetach /dev/ser2
done;
|
```

Note : There should be a pppd line for each serial port + modem used for ppp
Example : When using 2 serial lines
pppd nolog 192.168.0.52:192.168.0.100 /dev/ser2
pppd nolog 192.168.0.52:192.168.0.101 /dev/ser3

The IP addresses are as follows

<local IP address>:<Assigned IP address>

Where <local IP address> is the fixed IP address of the QNX 6 PC (# netstat -in)

And <Assigned IP address> is the address which will be assigned to the FlexView PC which is connecting over the dialup modem line.

Save the file and exit the editor.



RealFlex 6 - Getting Started

File – Save

File – Exit

Right click on the start_ppp file and select Inspect

Tick the Exec boxes across from User and Group



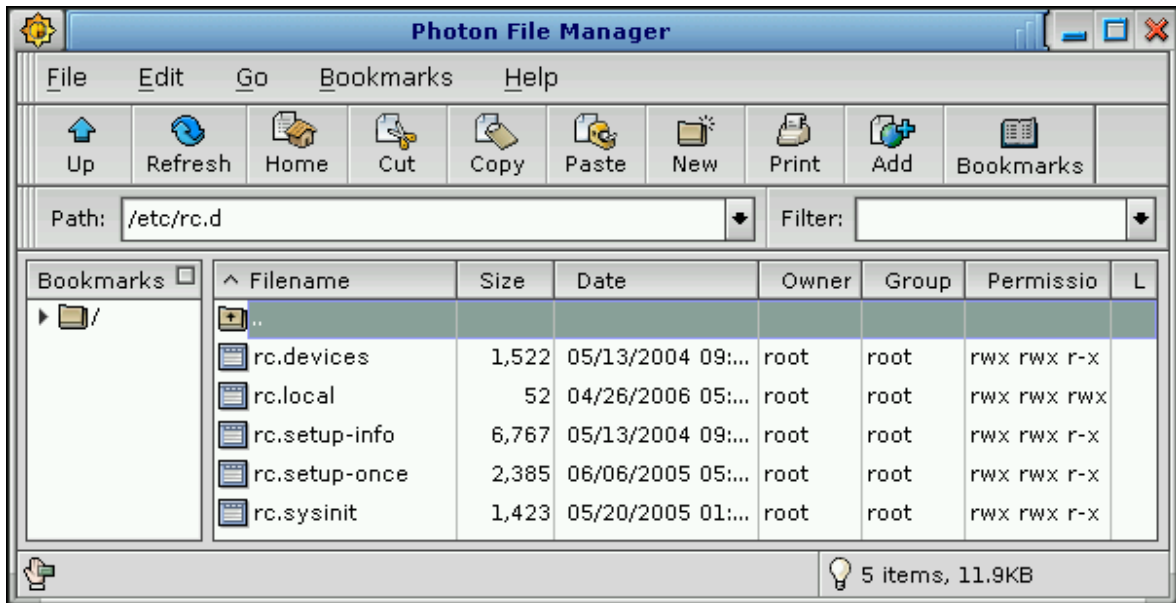
Click on Done



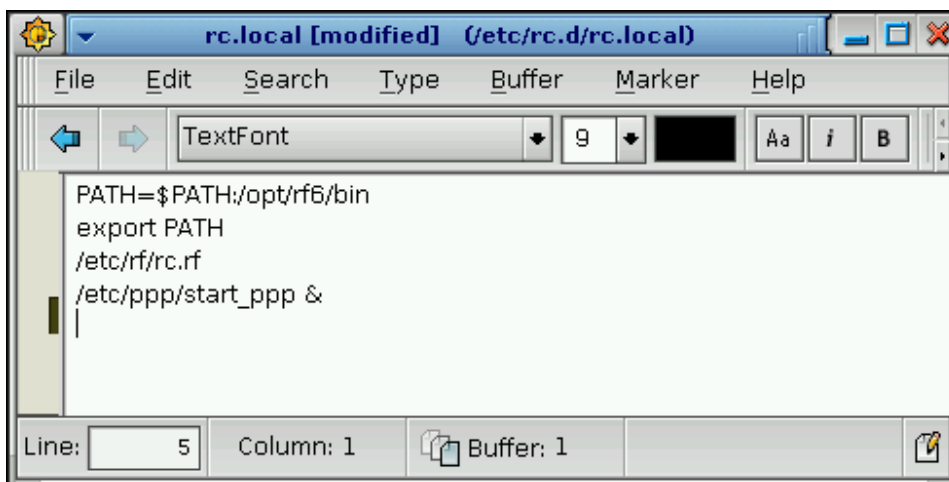
RealFlex 6 - Getting Started

It is necessary to have this script run automatically on startup of the QNX 6 PC, so it is necessary to add in into the rc.local file.

Go to /etc/rc.d folder



Right click on rc.local
Select Open With
Type in ped, click Open
Add the following line at the bottom
/etc/ppp/start_ppp &



File – Save
File – Exit



6.3. Windows Connection Configuration

6.4. Windows XP

Add a new connection in windows for FlexView

Start – Control Panel – Network Connections – New Connections

Or

Start – Connect To – Show all Connections



Click Next

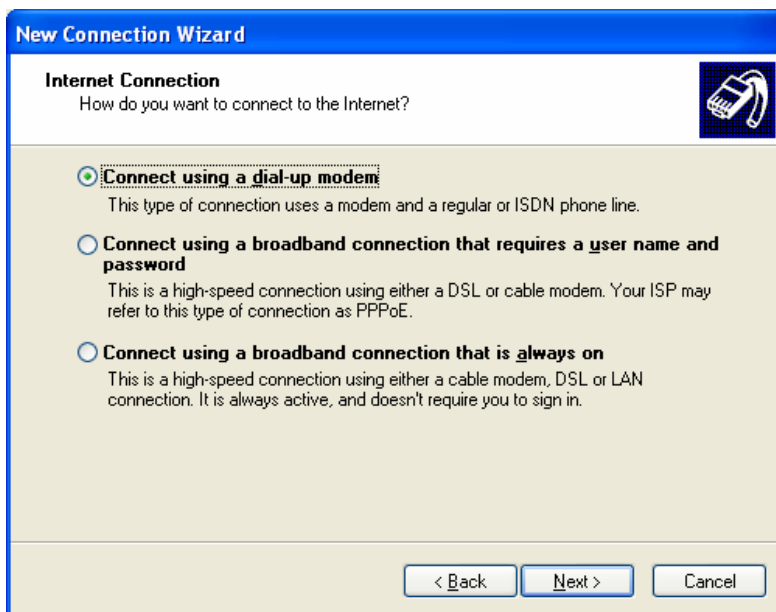


Select “Connect to the Internet” and Click Next





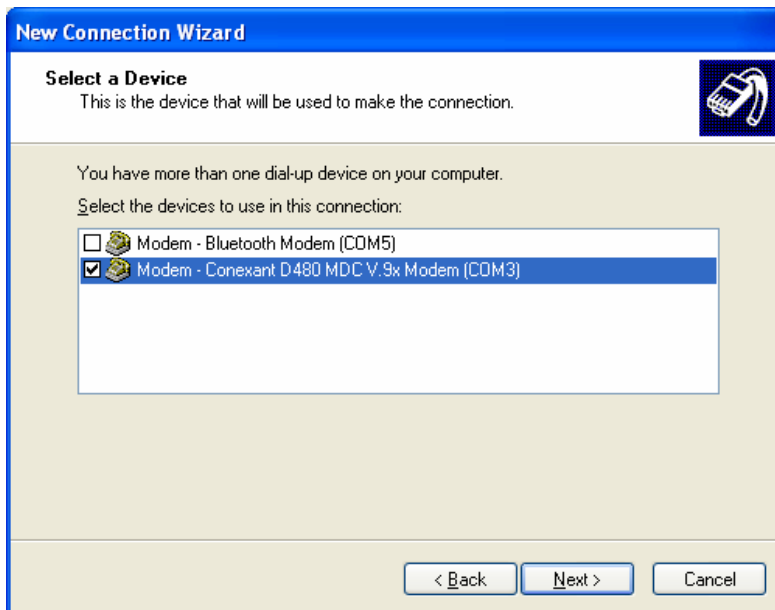
Select "Set up my connection manually" and Click Next



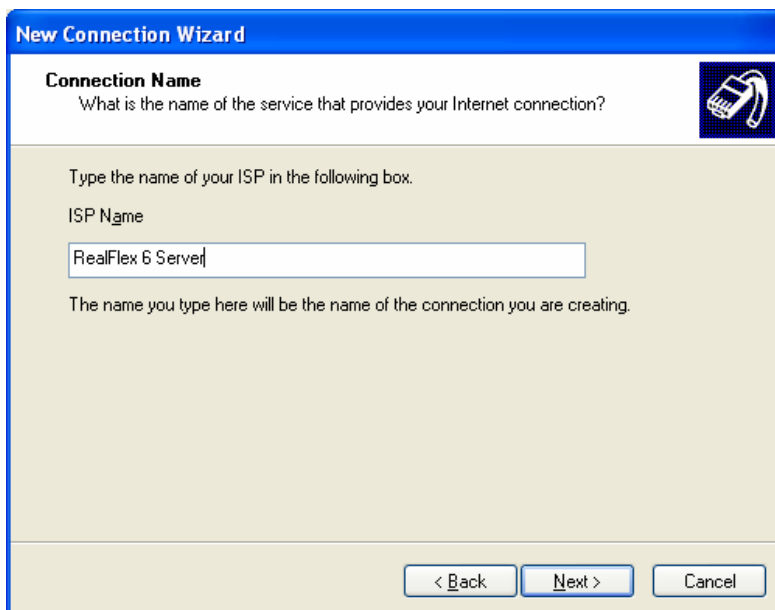
Select "Connect using a dial-up modem" and Click Next



RealFlex 6 - Getting Started



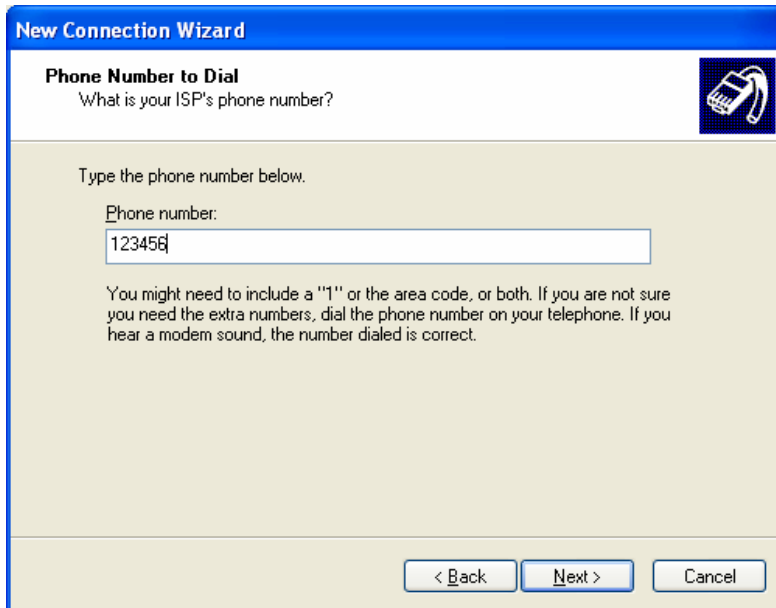
Select the appropriate modem and Click Next



Enter an appropriate name and Click Next



RealFlex 6 - Getting Started



New Connection Wizard

Phone Number to Dial
What is your ISP's phone number?

Type the phone number below.

Phone number:
123456

You might need to include a "1" or the area code, or both. If you are not sure you need the extra numbers, dial the phone number on your telephone. If you hear a modem sound, the number dialed is correct.

< Back Next > Cancel

Enter the phone number of the line connected to the modem at the RealFlex 6 Server and Click Next



New Connection Wizard

Internet Account Information
You will need an account name and password to sign in to your Internet account.

Type an ISP account name and password, then write down this information and store it in a safe place. (If you have forgotten an existing account name or password, contact your ISP.)

User name: flexwin1

Password: ●●●●●●

Confirm password: ●●●●●●

Use this account name and password when anyone connects to the Internet from this computer

Make this the default Internet connection

< Back Next > Cancel

Enter the User name and Password of the user you have already setup on the RealFlex 6 PC.
See previous section on "New Accounts"
Click Next





Click on Finish.



Click on Dial to test the connection.



7. Basic troubleshooting.

7.1. Troubleshooting of IP connection

The most common way to check that you have TCP/IP connection to QNX 6 / RealFlex 6 PC properly established is to use `ping` command from your Flex.View PC. From the Windows 'Run' menu type:

```
ping <IP address of QNX 6/Realflex 6 PC> <Enter key>
```

You should see a message like this one:

```
Reply from <IP address>: bytes=32 time=NN ms TTL=xxx
```

If you don't have valid connection, you see this message:

```
Request time out
```

In this case make sure your network or modem connected and TCP/IP is configured properly.

If your IP connection is OK but Flex.View still cannot connect to RealFlex 6 then check the reason why you cannot connect. Click on connectivity icon at the top bar of Flex.View window.



7.2. Command Line Operation

On QNX 6 / RealFlex 6 PC, open a Terminal or use Telnet from FlexView PC

There is an “rf” command which can be used to manually start and stop RealFlex and it shows extra information about process starting e.t.c. This can be useful in debugging problems.

7.2.0.1. Help for rf command

To get help on the rf command you can use “rf -?” or “rf help”

```
# rf -?
```

```
Copyright (C) 1996-2005  
Datac Technologies, Ltd  
v6.3.0r9.79 build 195.0.0.1  
Registration ID: Not found
```

rf supports following commands:

```
start [-P<PrjName>] [-m] [-N<num>] - Start RF6  
stop [-l] [-m] [-N<num>] - Stop RF6  
ps - Display the RF6 Process names running in the system  
check -n <ProcessName> - Check to see if a given realflex procss is running  
state - Display the current RealFlex state  
switch - Switch between main and standby nodes  
version - Display the version of the RealFlex modules  
help - Show help
```

To display additional information use "rf <command> -?"

```
#
```

To get more detailed help on specific options, use “rf <option> -?”

```
# rf start -?
```

```
Copyright (C) 1996-2005  
Datac Technologies, Ltd  
v6.3.0r9.79 build 195.0.0.1  
Registration ID: Not found  
-P<str> Change default project name (value is <>)  
-m Enable Monitor Mode  
-N<num> Node number(1 - current, 2 - remote, 0 - both) (value is 0 )  
-p<str> Device name with HW key (value is <>)  
#
```



RealFlex 6 - Getting Started

rf stop -?

Copyright (C) 1996-2005

Datac Technologies, Ltd

v6.3.0r9.79 build 195.0.0.1

Registration ID: Not found

-l Stop all

-m Enable Monitor Mode

-N<num> Node number(1 - current, 2 - remote, 0 - both) (value is 0)

#

rf check -?

Copyright (C) 1996-2005

Datac Technologies, Ltd

v6.3.0r9.79 build 195.0.0.1

Registration ID: Not found

-n<str> Process name (value is <>)

#



7.2.1. Stopping RealFlex from command line

Stop RealFlex on both Active Node and Standby Nodes

```
# rf stop
```

Stop RealFlex only on the current Node

```
# rf stop -N1
```

Stop RealFlex only on the remote Node

```
# rf stop -N2
```

7.2.2. Starting RealFlex from command line

Start RealFlex on both Active Node and Standby Nodes (Current Node will be Active Node)

```
# rf start
```

Start RealFlex only on the current Node

```
# rf start -N1
```

Start RealFlex only on the remote Node

```
# rf start -N2
```

7.2.3. Display the RealFlex 6 processes running

```
# rf ps
```

Pid	Prio	Level	Flags	Name&&Args
2834467	16	20	00000006	syncproc
2834468	10	10	00000006	fileproc
2834469	10	20	00000006	flexserv
2834470	16	10	00000006	hscproc -m
2850856	10	0	00000006	eventwriter
2850857	13	0	00000006	eventproc
2850858	16	0	00000006	dbproc
2850859	13	0	00000002	histproc
2850860	9	0	00000002	histmgr
2850861	13	0	00000006	rawproc
2850862	13	0	00000006	alarmproc
2850863	10	0	00000006	contdo
2850864	14	0	00000006	cntlproc
2850865	14	0	00000006	rupdate
2850866	10	0	00000002	crtproc
2850867	10	0	00000002	symproc



RealFlex 6 - Getting Started

```
2850868 13 0 00000006 anaproc
2850869 13 0 00000006 statproc
2850870 13 0 00000006 meterproc
#
```

7.2.4. Display the RealFlex state on the current PC

```
# rf state
RealFlex is running in Standby mode.
#
```

7.2.5. Switching Active and Standby Nodes (Failing Over)

Switch the Standby Node to being the Active Node and the Active Node to being the Standby Node

```
# rf switch
#
```



8. Registration of Hardware Keys

For security purposes Hardware Keys have to be activated on a product-by-product scenario. If for some reason your product is not enabled, when you open OPC RTU Configurator, the following screen may appear:



The image shows a 'Product Registration' dialog box with a blue title bar and a close button (X) in the top right corner. The text inside the dialog reads: 'If you have purchased this product and received a Product ID from your supplier, please enter your Product ID here EXACTLY as it appears in the instructions.' Below this, it says: 'Otherwise, if you want to purchase the program, send this Registration ID to the supplier of this product to receive your Product ID.' There are two input fields: 'Registration ID:' with the value '0IHK-1SEU-FUE6-2TX1' selected, and 'Product ID:' with three empty sub-fields separated by vertical bars. At the bottom are 'OK' and 'Cancel' buttons.

Copy the Registration ID by selecting it and paste into your email facility

Send email to sales@realflex.com with your details and the Registration ID

Upon receiving your request we can validate that you are the correct customer and we will initialize the 'Product ID' for you immediately using in-house software. Upon receiving the email from us please enter the details into the relevant section, therefore initializing the product.

9. Superkeys

Not all Superkey procedures in RealFlex are converted properly to Flex.View.

For examples superkey procedures, which call the shell function, can execute various proprietary executables on the QNX/RealFlex PC.

After conversion this type of superkey is executed on the QNX/RealFlex PC by default. If however you wish to disable these types of superkey procedures on the Flex.View PC's, it can be done as follows

9.1. Disabling a Superkey Procedure for Flex.View

Using the Configuration File Editor to edit the superkey file

```
superkey Test1  
....  
....  
endkey
```

Change to this

```
superkey Test1 ; fw_disabled  
....  
....  
endkey
```

Exit and save the changes

Now Superkey Test1 will show on the tooltip that it is disable and Flex.View users will not be able to use Test1 superkey button.



9.1.1. Operator function for Superkey

If you have a superkey with the operator function we recommend removing the operator statement for the moment until we implement a replacement function.

Example

```
superkey onoff
if [rt, PCU1] = PCU_ON
  operator Turn ON ?
  if REPLY = YES
    send[rt, PCU1] = PCU_OFF
  endif
else
  operator Turn OFF ?
  if REPLY = YES
    send[rt, PCU1] = PCU_ON
  endif
endif
endkey
```

change to the following

```
superkey onoff
if [rt, PCU1] = PCU_ON
  send[rt, PCU1] = PCU_OFF
else
  send[rt, PCU1] = PCU_ON
endif
endkey
```

Now Superkey onoff will operate from a Flex.View PC.



9.1.2. Superkey interpretation for Flex.View

When Flex.View reads a superkey files it interpret the command for execution on the Flex.View PC where the button is pressed.

Example

```
superkey Report1  
    shell Crg_exec .....  
endkey
```

When this superkey is executed on the Flex.View PC, it generates the report and send the output to a temporary file and transferred to the Flex.View PC and displays it on the screen using notepad or wordpad.



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