
# FlexView 3.1.x
# Getting Started with RealFlex 6

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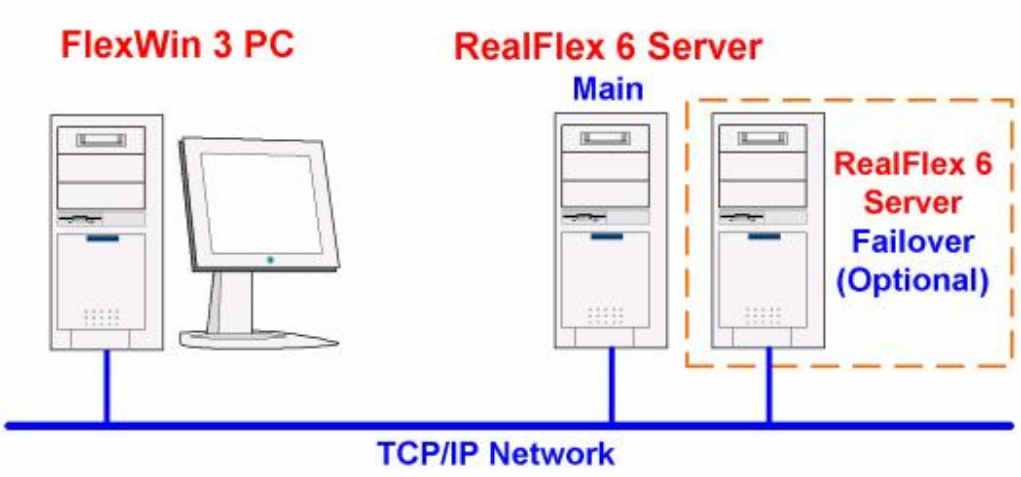
# 1. Getting Started

# 2. Connectivity Map

**MS Windows PC** **QNX 6 / RealFlex 6**




**Connect Hardware Key marked W to the printer or USB port on the back of the MS Windows PC**

**Connect Hardware Key marked R to the serial port on the back of the QNX 6 PC**

**Software**
- **Flex.View on CD**

**Software**
- **QNX 6 Neutrino**
- **RealFlex 6 Server**

# 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 Flex.View 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]*

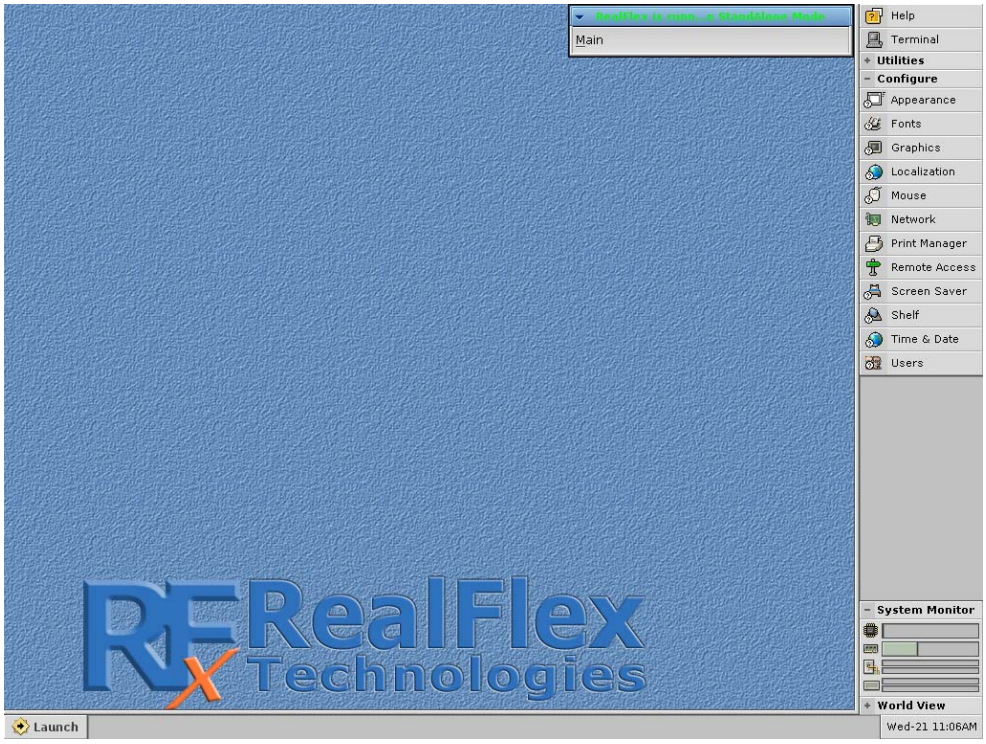
Only use this option if your database is small and you have not backed up the Historical data as it may require a large number of floppy disks.
If you do not backup to floppy disks, and you are going to use the same hardisk for RealFlex 6 or you are you are using a new PC for RealFlex 6, then you will 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

- 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

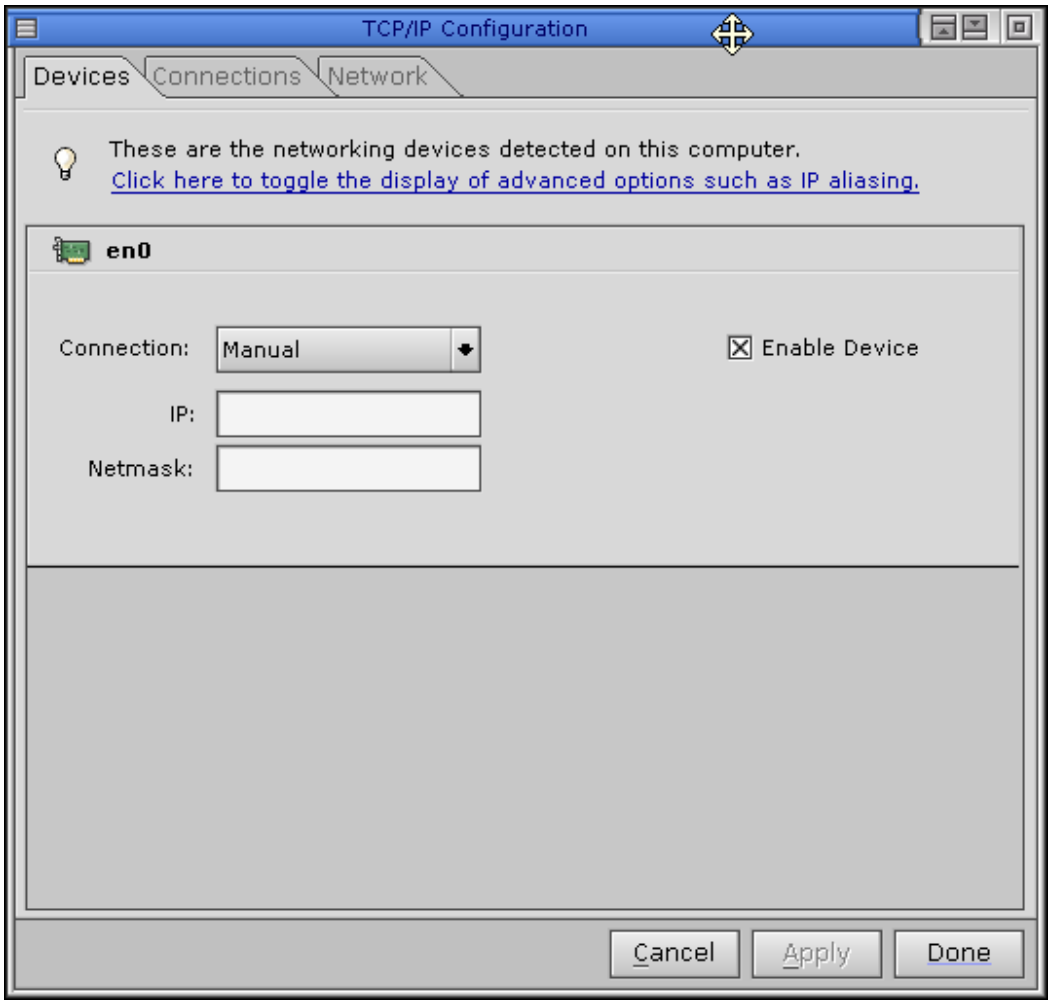


## 3.1.7. Configure RealFlex 6 Network

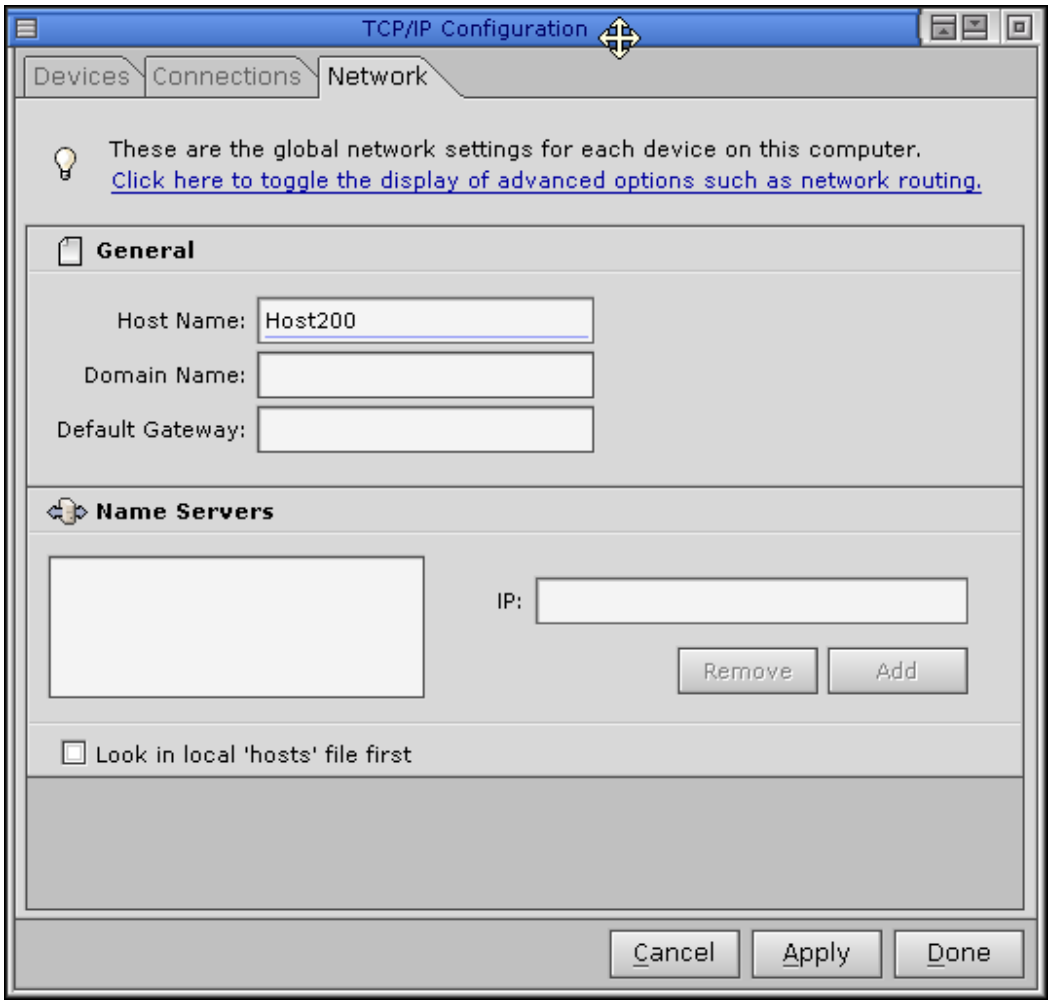
### 3.1.7.1. Network Configuration

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.

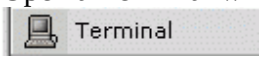


## 3.1.8. Configure Dual Boot PC

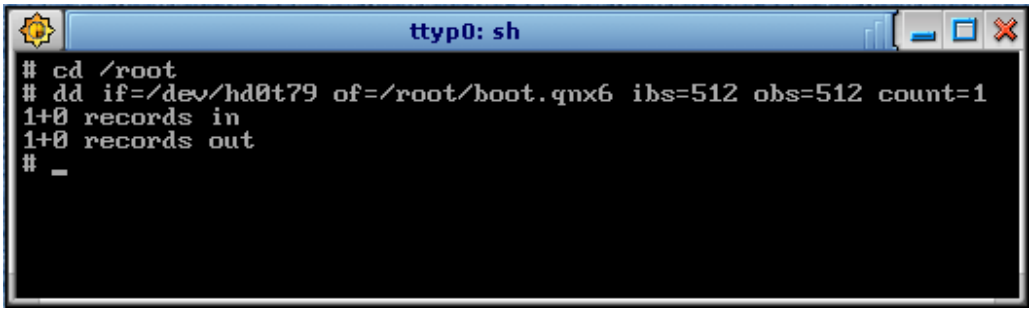
If your hardidsk has a Microsoft Windows partition and also a QNX 6 partition, during the install process you selected to make QNX 6 the active boot partition. Now the system always boots into QNX 6.

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

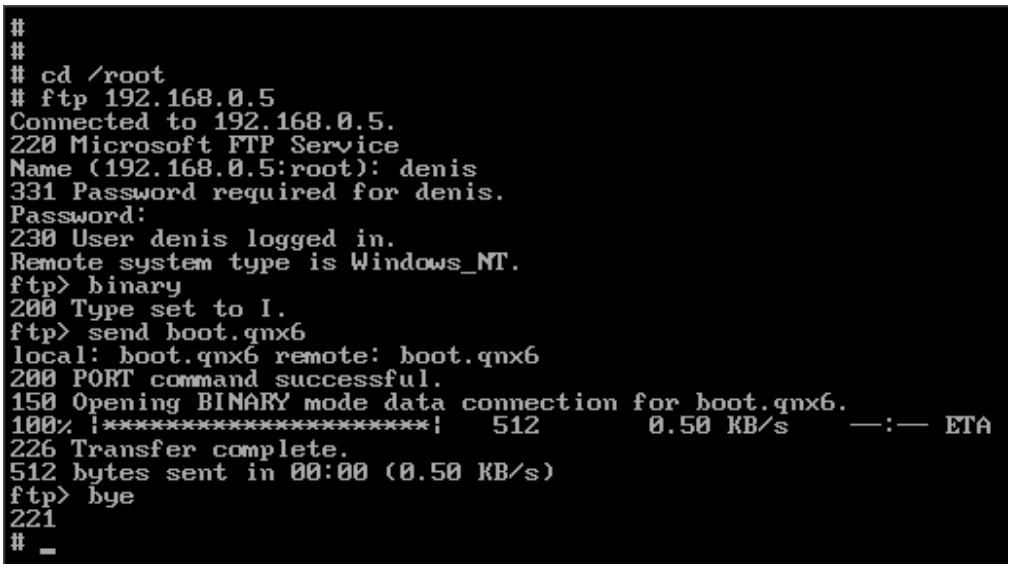
Open a Terminal window by clicking on Terminal on the Toolbar




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

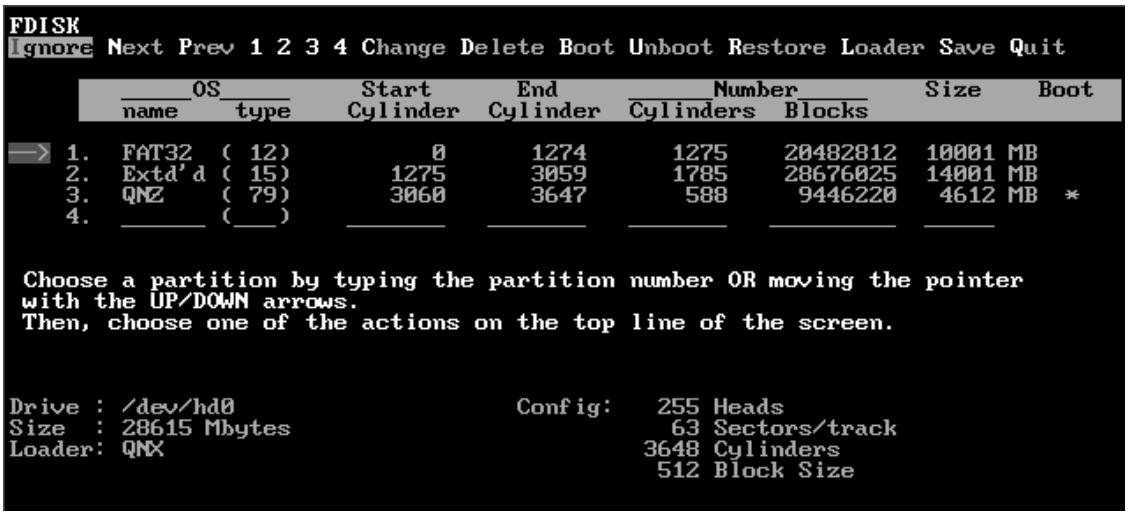



It is necessary to transfer this boot.qnx6 file across to the Microsoft Windows partition.
One way is to transfer file from QNX to another PC on the network using ftp

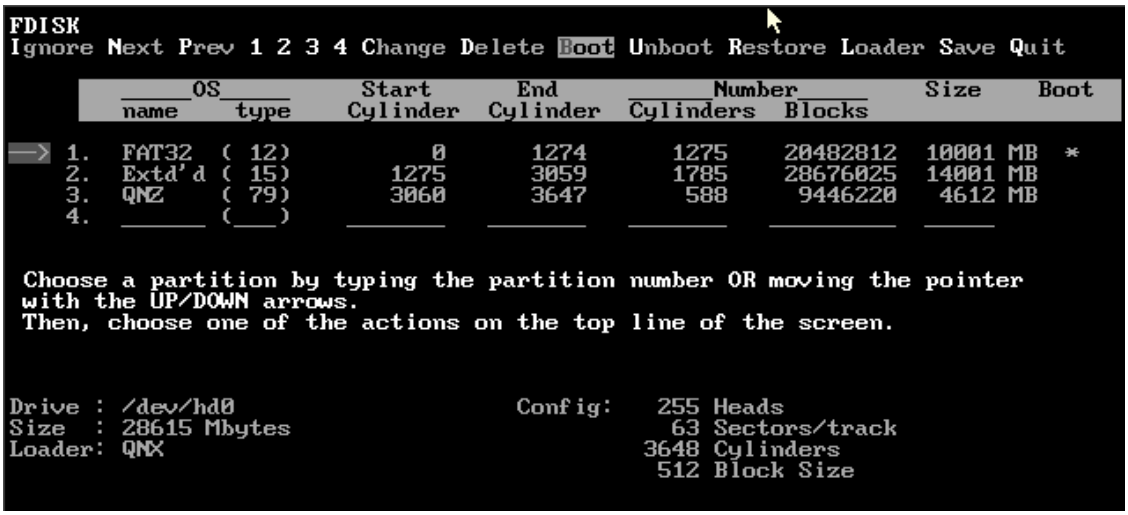


Use fdisk to set Microsoft Windows as the active partition

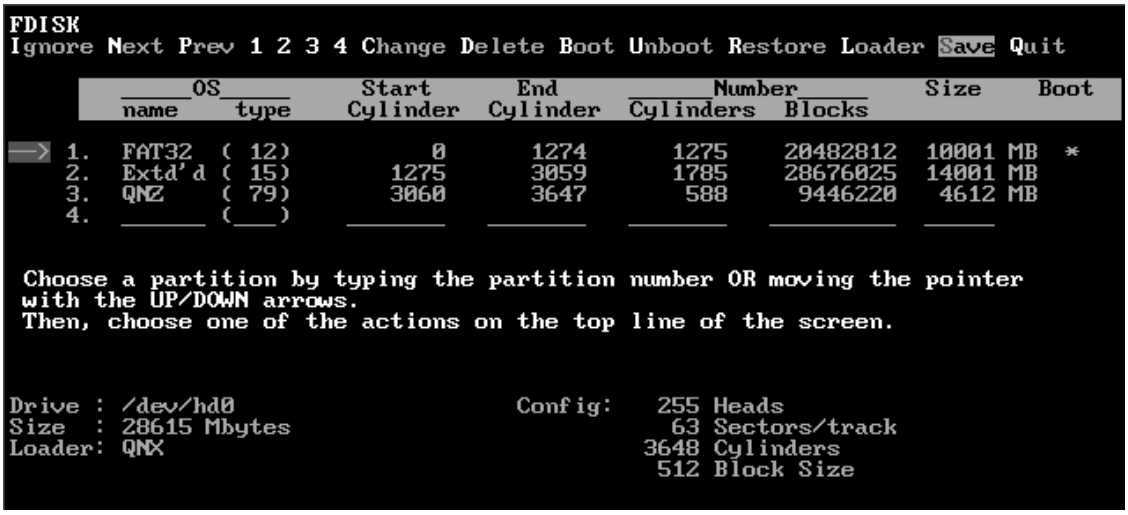

Select the Microsoft Windows partition




Press B for BOOT



Press S to SAVE




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

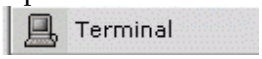
## 3.1.9. Restoring a RealFlex 4 Database

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.

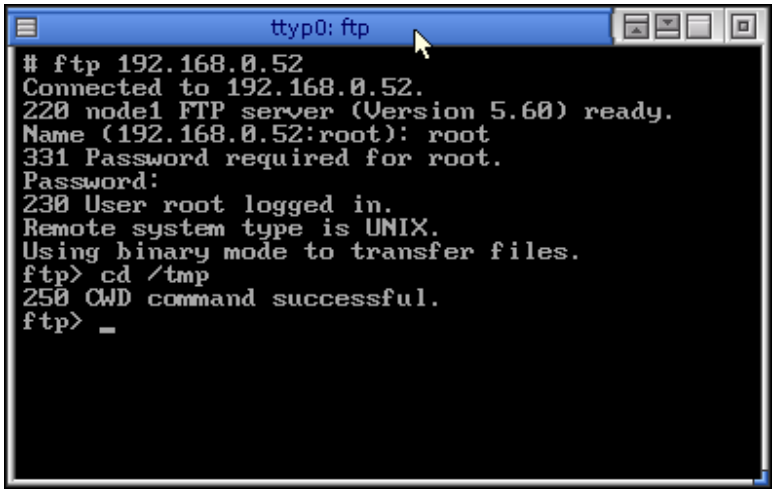
Example: If you have both RealFlex 4 and RealFlex 6 PC on the same network, you can use ftp to transfer the backup file to the QNX 6 PC

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 : xxxxxxx

Where xxxxxxx is the password for the root user

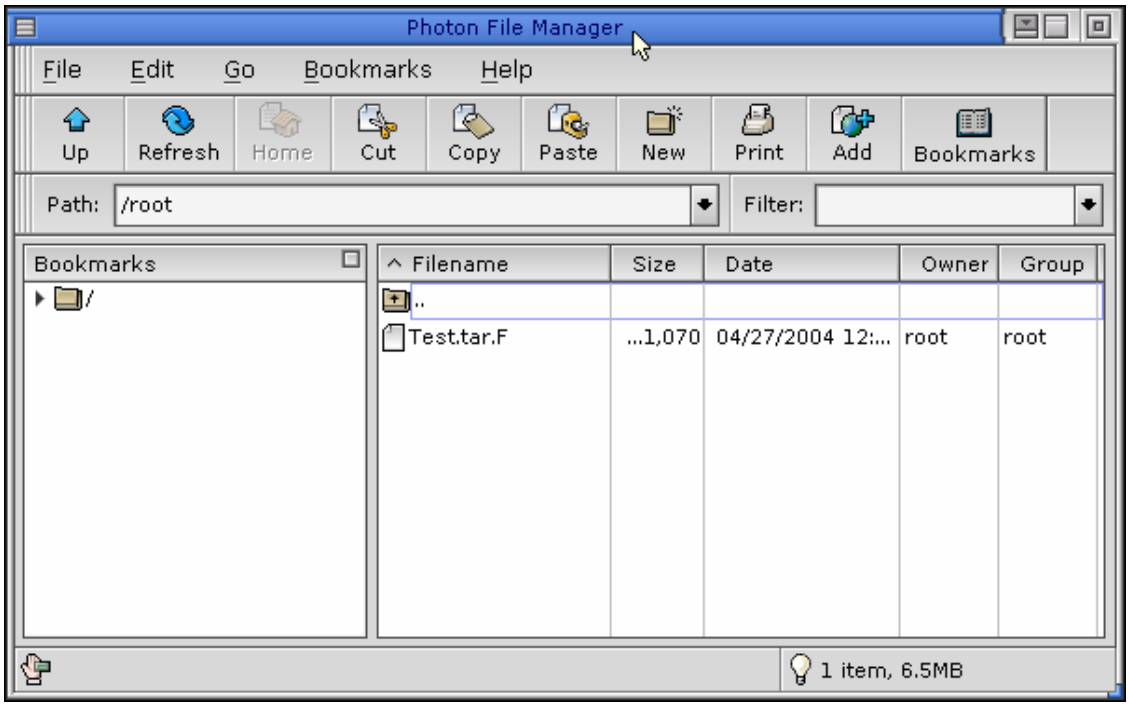



ftp> cd /tmp
CWD command successful.
ftp> get ***DatabaseName***.tar.F

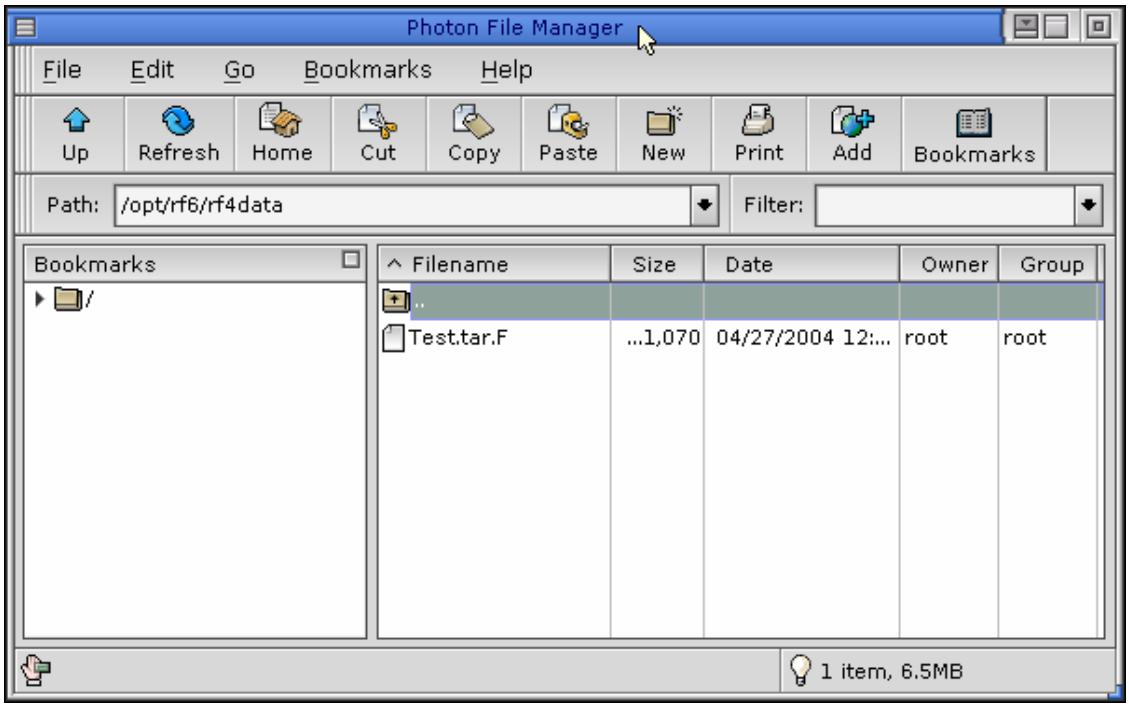
It should transfer the backup file to your QNX 6 PC
ftp> bye

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

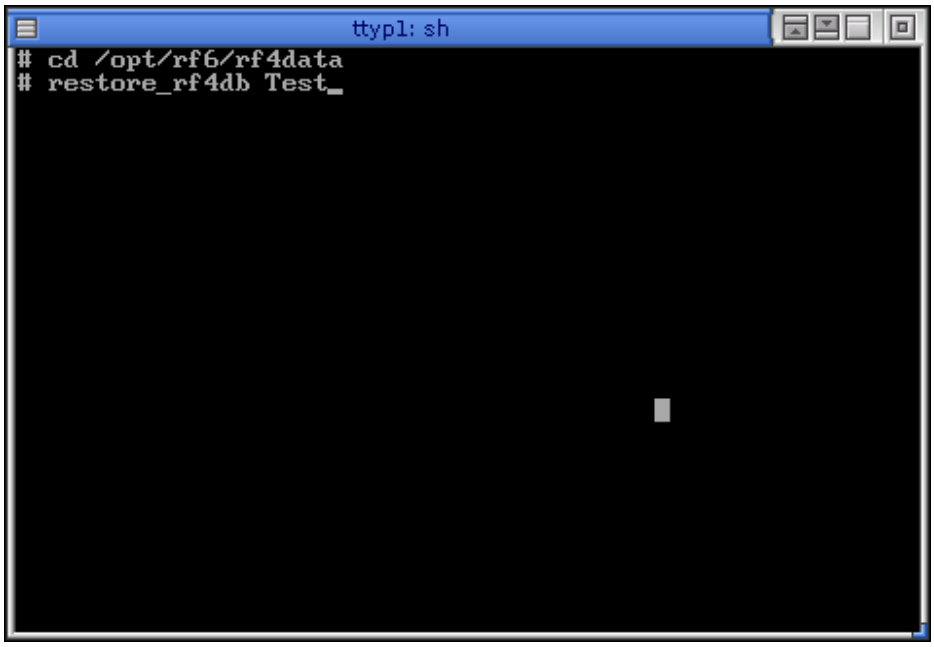

Select the ***DatabaseName***.tar.F file



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 an RealFlex 6 Database

Open a Terminal window by clicking on Terminal on the Toolbar

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

# **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

## 3.1.12. Testing HMI

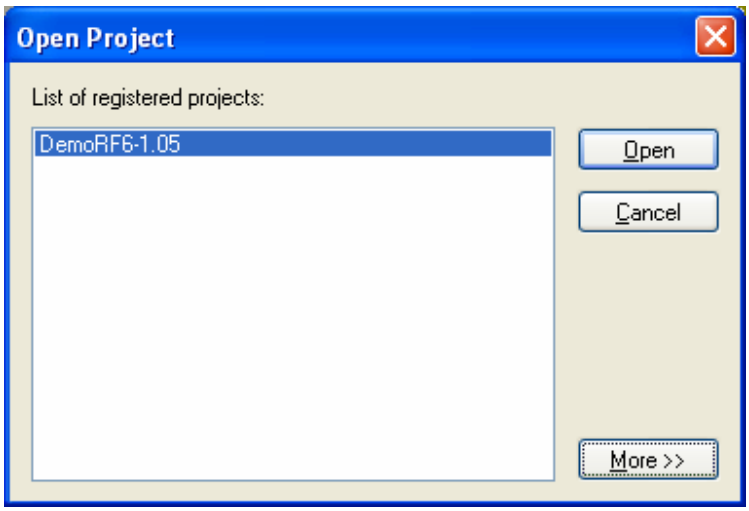
The following is a set of instructions to open the DemoRF6-1.05 project in your Flex.View environment on the Microsoft Windows PC.

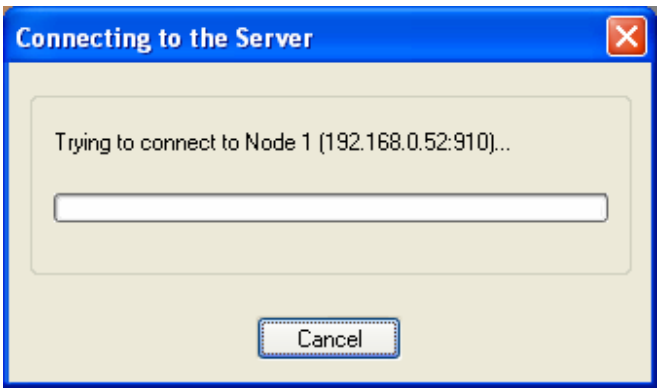

Start Flex.View by clicking on the Flex.View icon on the desktop

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

**Select CONFIGURATION – Open Project**

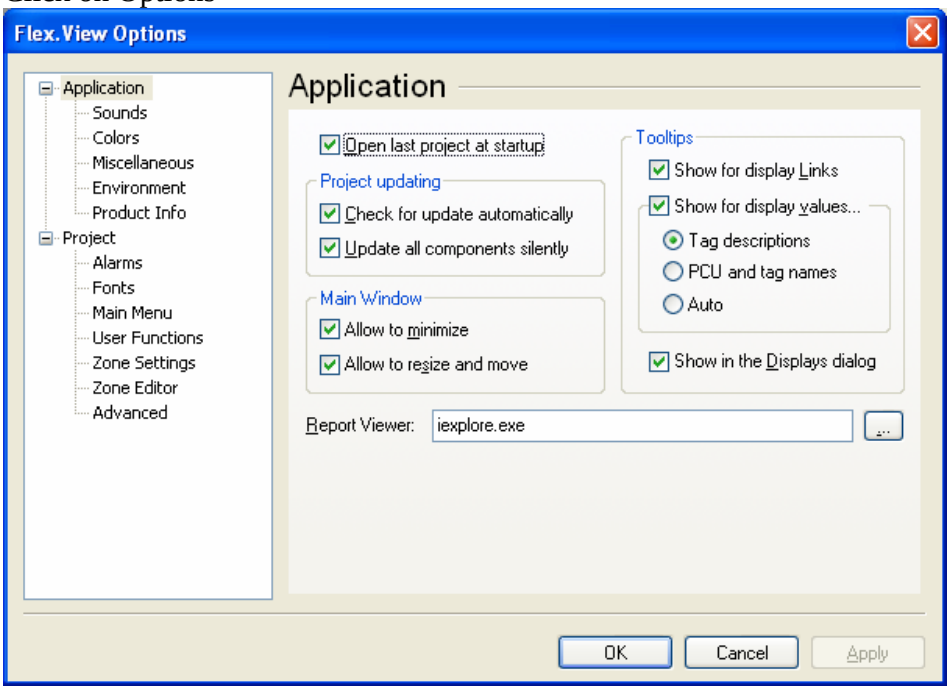
Select Project "DemoRF6-1.05" and Click on Open button to connect to the QNX/Realflex PC.



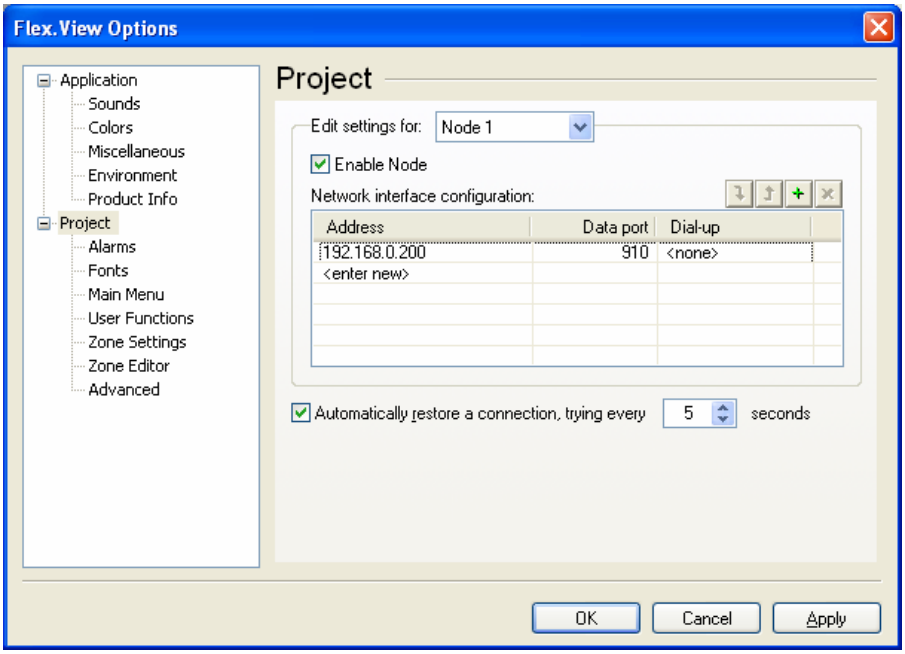




Click on Cancel in order to configure the correct IP address for the QNX 6 /RealFlex 6 PC
Click on Configurations on the Menu

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

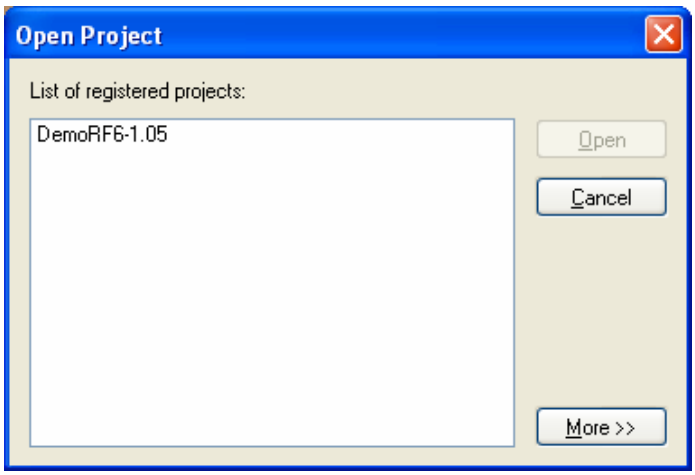
Click on Connect to the Server

FlexView HMI now connects to the RealFlex 6 SCADA Server

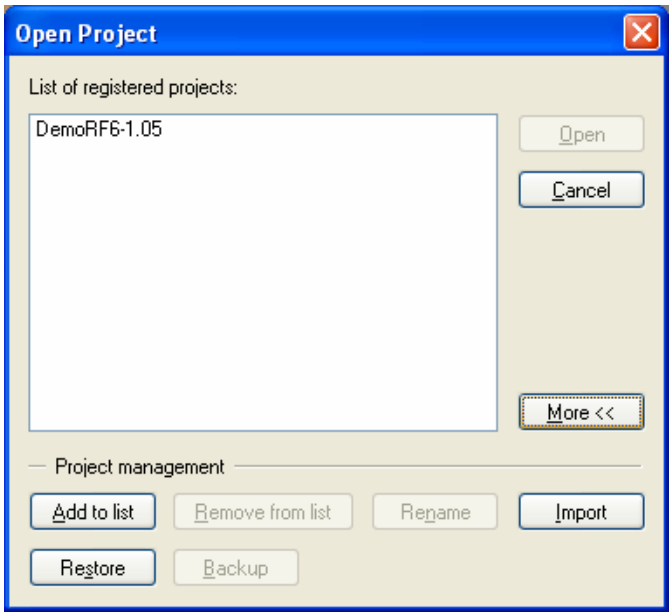
## 3.1.13. Importing a Project from RealFlex 6 Server PC

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

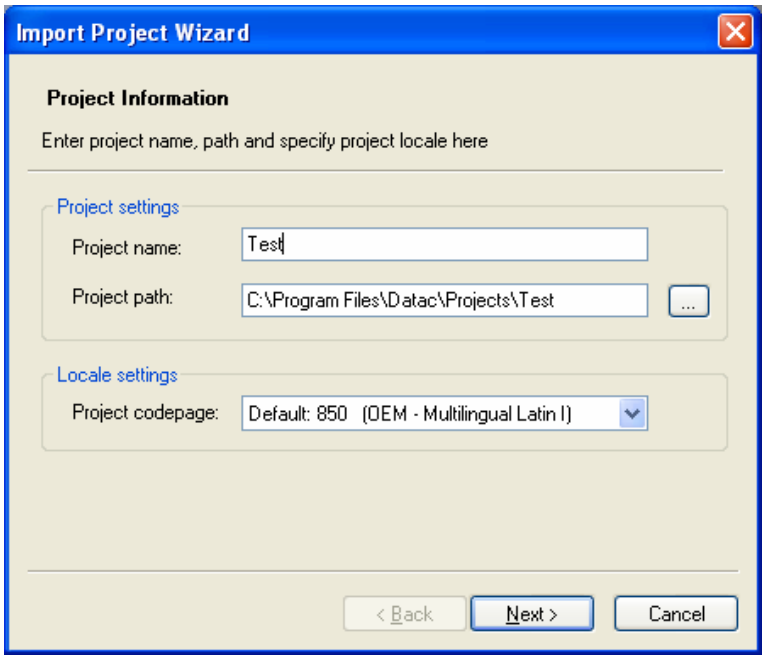



Click on the More button

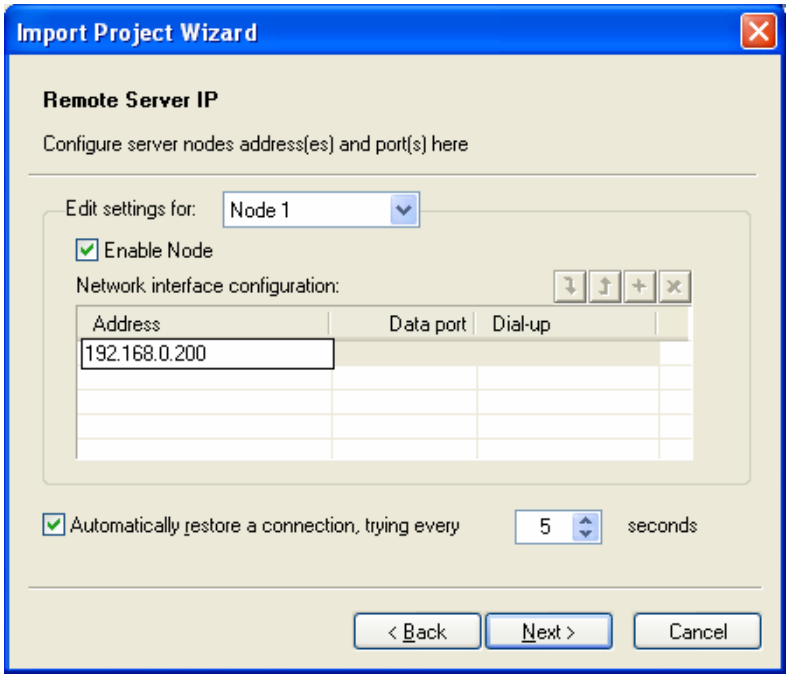



Click on Import button

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

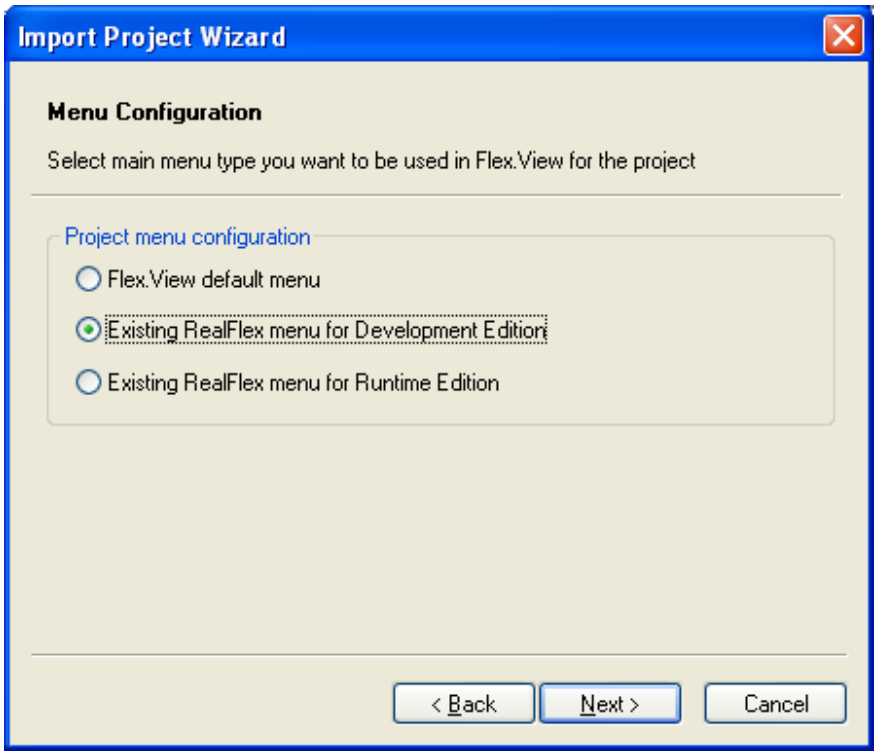



Enter a Project Name and it should create a Project path with the same name. Click on Next button

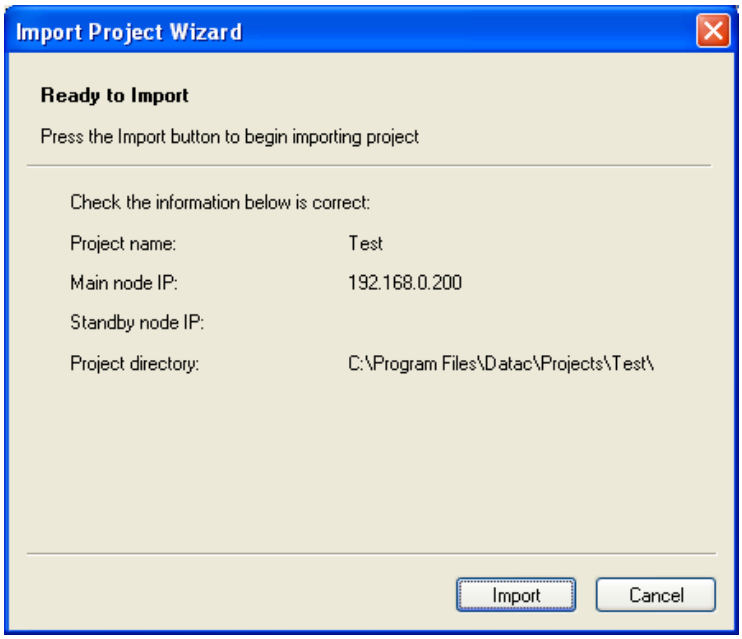



Enter the IP address of the Prime node RealFlex 6 Server PC

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



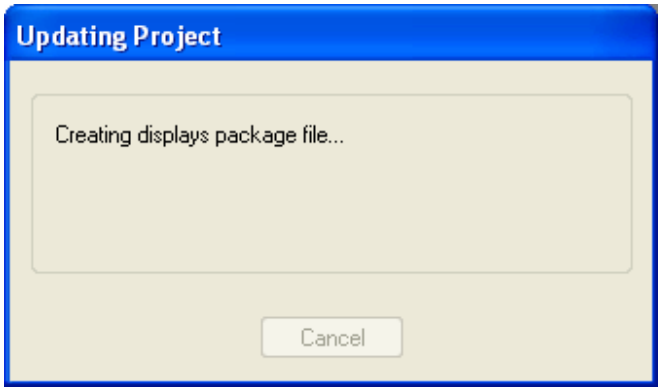

Click on Next




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.

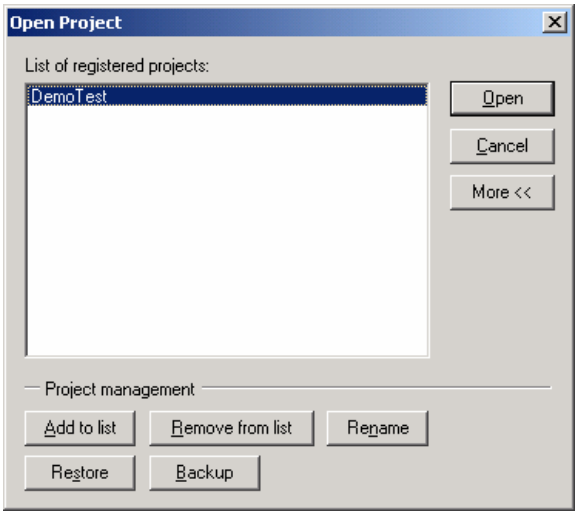
Wait until the process is complete as it may take some time on a large project



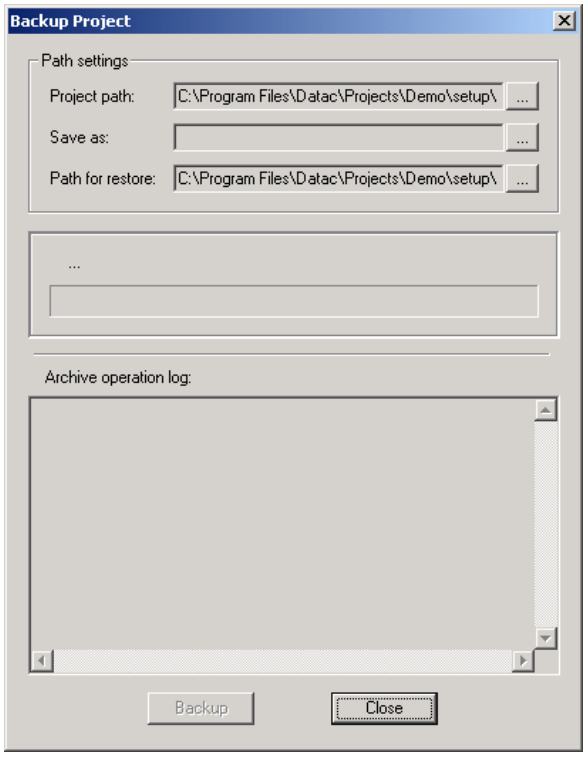

When completed it will automatically connect FlexView HMI to the RealFlex 6 SCADA Server.

## 3.1.14. Making a backup of project files

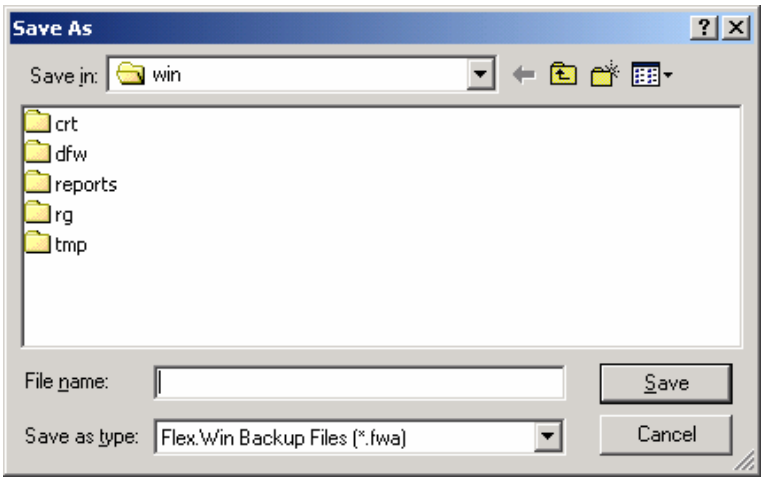
1. Open Flex.View – Configuration - Open Project window.



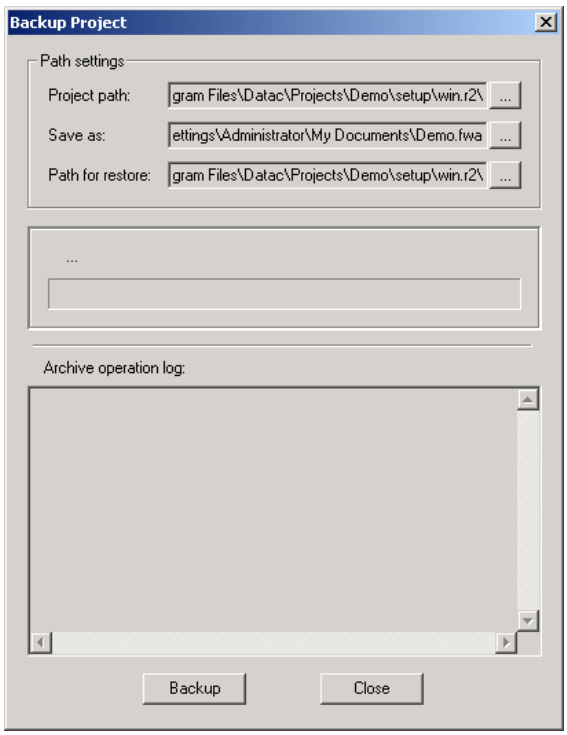

1. From the list of projects, click on and highlight the project to be backed up.
2. Click on the Backup button. the "Backup Project" window will appear:



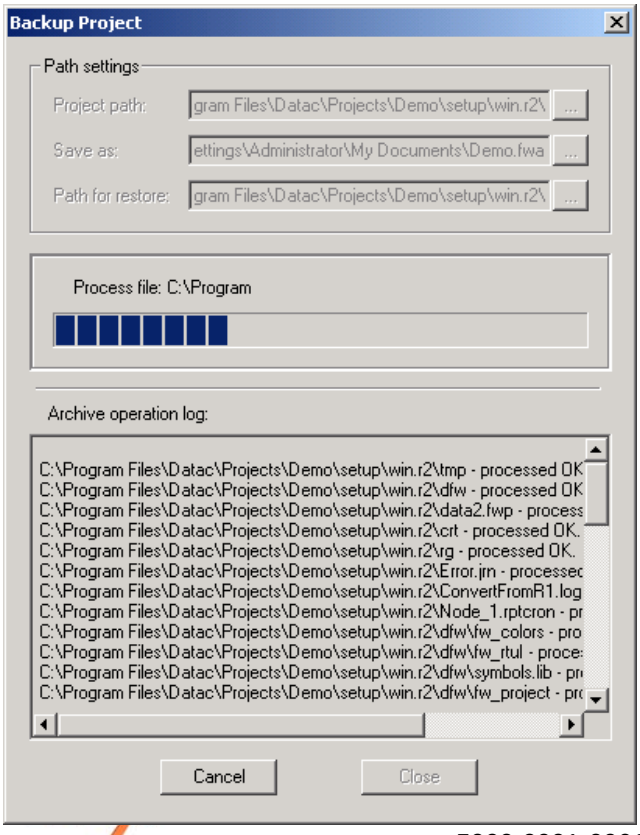
3. In the "Project path:" field, the path of the project will have already been entered.
4. In the "Save as:" field, click on the button on the right of this field. The "Save As" dialog box will appear.



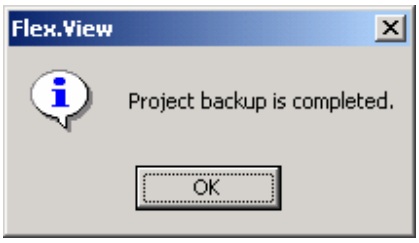

5. Indicate the location and the name of the file to be saved, the file name can differ from the original name, then click on the Save button.
   You will be returned to the "Backup Project" window where the path and file name will now be entered in the "Save as:" field.




6. Click on the Backup button.



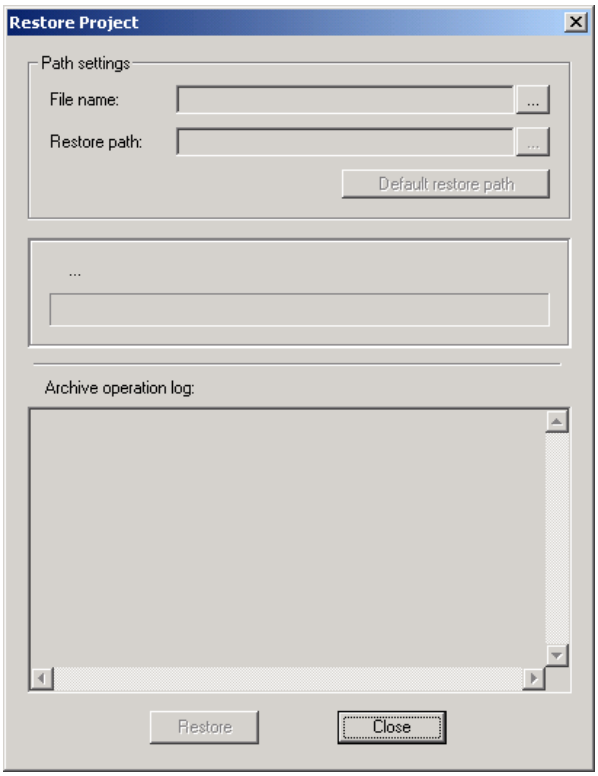
5. When the backup is finished the following window appears.



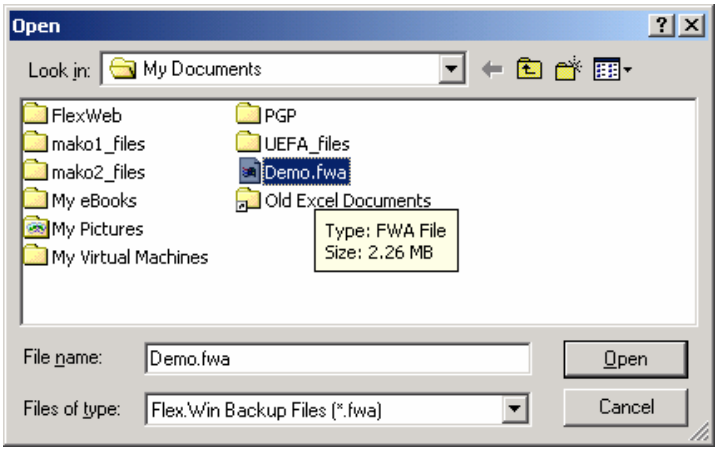

Click on “OK”. Then “close” the “Backup project window”.

### 3.1.14.1. 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:

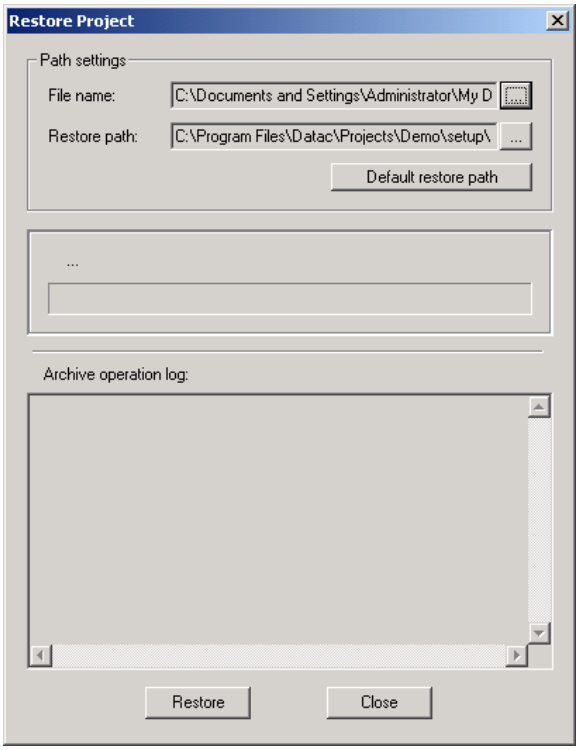



3. In the "File name:" field, click on the button on the right of this field. The "Open" dialog box will appear.



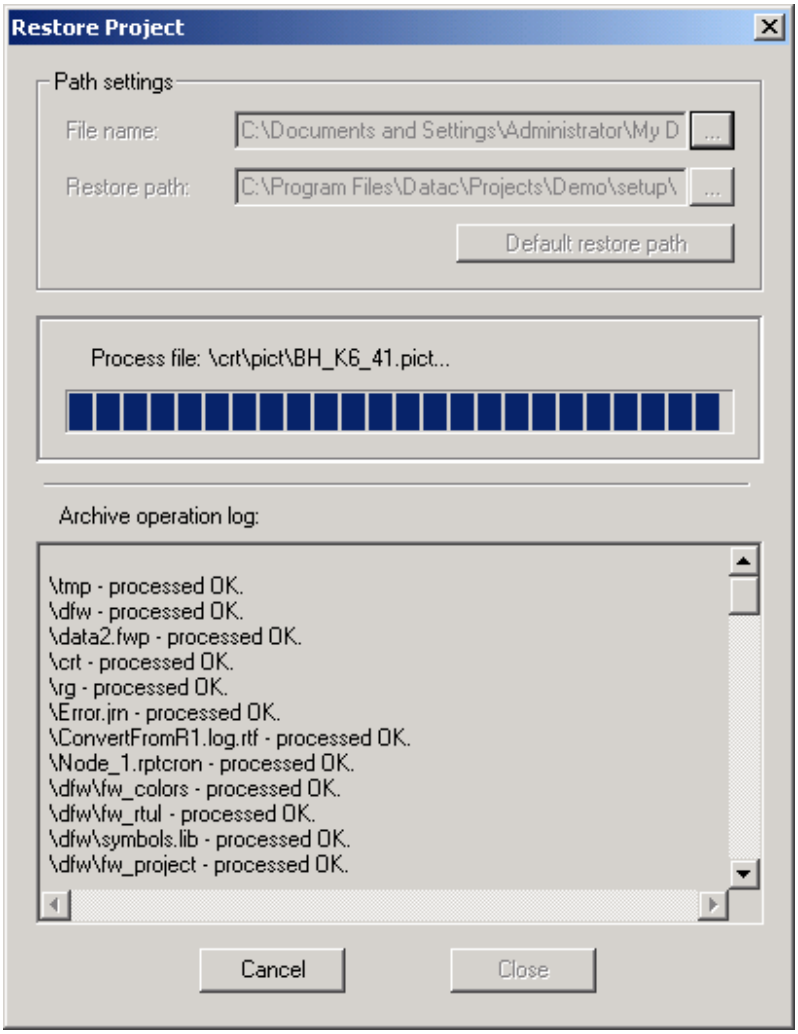

4. Locate the file to be restored, then click on the Open button.

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

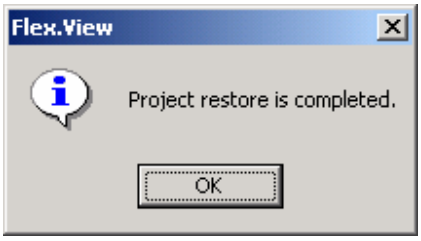


5. In the "Restore path:" field, the destination path for the restored file, based on where it was when it was backed up, will have been automatically entered.

7. Click on the Restore button.




When the project has been restored the following window appears.




Click on “OK”. Now you will able to open your restored project form this machine.

## 3.1.15. Configuring a Failover System

#### 3.1.15.1. 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

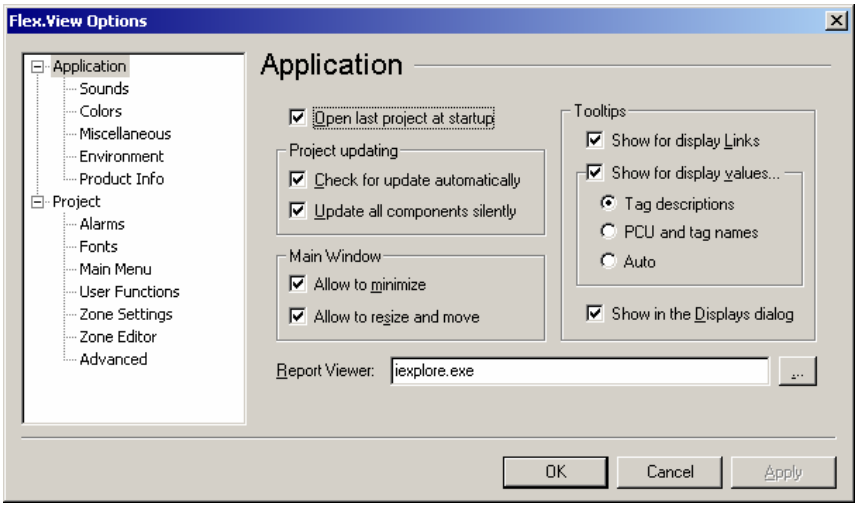
Click on File
Select Save
Click on File
Select Exit

Repeat this process on the Secondary PC

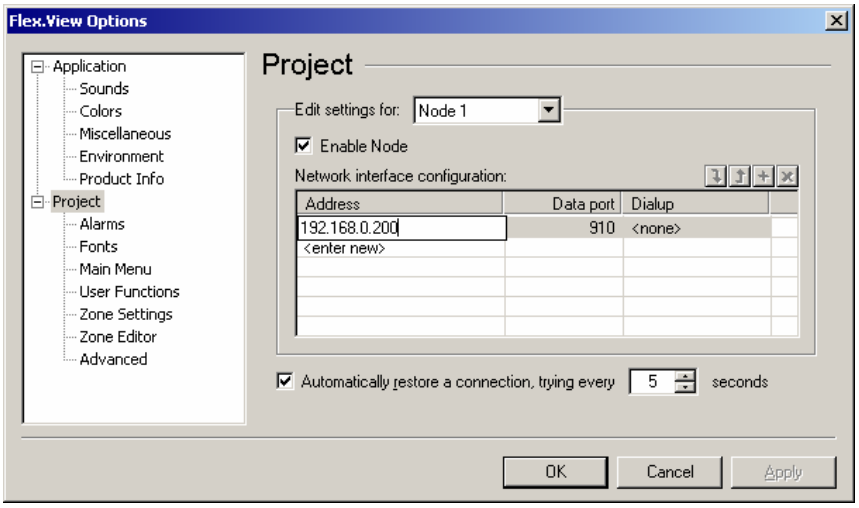
### 3.1.15.2. FlexView Failover Configuration

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.

## 3.1.16. Configuring RealFlex 6

#### 3.1.16.1. 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.

#### 3.1.16.2. 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
```

```
[ALARMS]
# size of active alarms database
ALARM_SIZE=1024

#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

[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

#ENDOFDAY is the time of day when the current days history file is moved to
the daily/monthy 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
[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 uncoment following section
# and set Primary and Secondary hosts names
#[FAILOVER]
#PRIMARY=host01
#SECONDARY=host02

# 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
```

#### 3.1.16.3. 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.

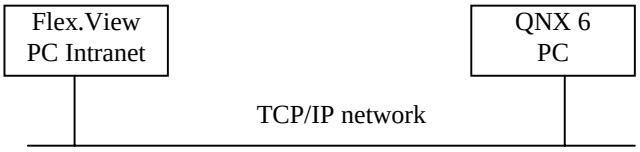



Fig. 1. Permanent connection over network

## 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.

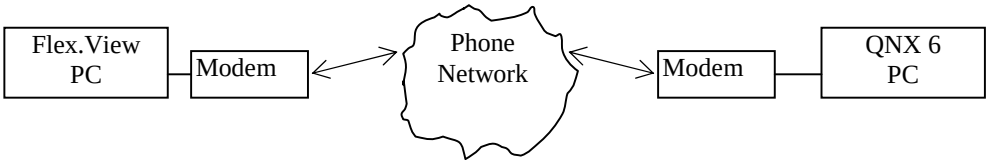



Fig. 2. Dial-up connection to a single RealFlex PC

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:

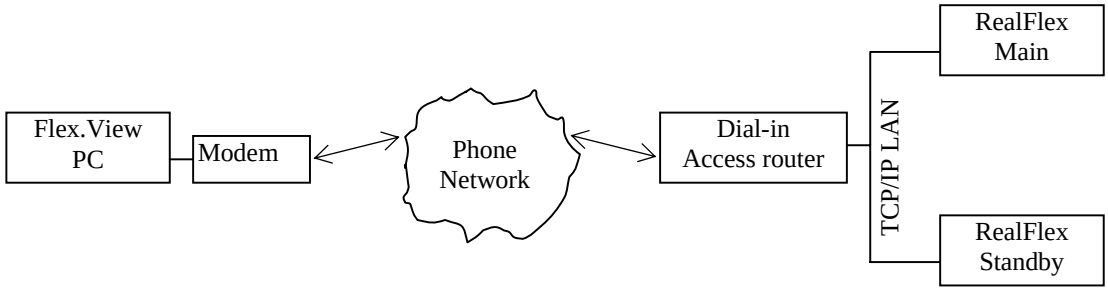



Fig. 3. Dial-up connection using access router

## 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.Basic troubleshooting.

### 5.0.1. 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.

## 5.0.2. 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.

### 5.0.2.1. 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 <>)
#
```

```
# 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 <>)
#

### 5.0.2.2. 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***

### 5.0.2.3. 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***

### 5.0.2.4. 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
  2850868  13   0  00000006  anaproc
  2850869  13   0  00000006  statproc
  2850870  13   0  00000006  meterproc
#
```

### 5.0.2.5. Display the RealFlex state on the current PC

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

### 5.0.2.6. 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***
#

# 6. Registration of Hardware Keys

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


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.

# 7. 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

### 7.0.1.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.

## 7.0.2. 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.

## 7.0.3. 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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