Installing Kermit and/or FTP support for a DXI Admin Computer

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1. General comments:

This document describes how to set up a DXI System Administration and Control (SAC) computer to allow Kermit and/or FTP to be used to transfer files to/from the SAC computer to a second PC computer that uses a Window based operating system. This document only describes how to set up the connection via Ethernet TCP/IP.

All user-entered data will be indicated in bold type. All typing is case sensitive. Comments are in body text. The symbol “↲” means that the user should hit the ‘enter’ key on the keyboard.

Everything between the `ROOT`: and the `/>` is the current path and can be ignored.

2. SAC Set-up

The first step is to go to the SAC and login to the system menu. Type “**s**” on the main menu, then the password, followed by the ‘Enter’ key. The default password is “**dxi**”. The SAC will display the following on a black screen:

```
Type ‘exit’ to return to SAC menus.
ROOT: />
```

You can determine the node number by typing and seeing what is returned on the second line under ‘Node’. The following shows the command to type and the first word of each line that should be displayed.

```
ROOT: /> sin info↲
Node     etc.
X     etc.

Heapp     etc.
0     etc.

Boot from etc.
```

Type the following (replace the `X` with the current SAC's QNX node number).

```
ROOT: /> vedit /etc/config/sysinit.X↵
```

This will cause the DXI to start vedit (a full screen editor) on the sysinit file (The file will not be empty!). The sixth line will have a set of Dev commands. The user should ensure that there is a `Dev.pty` command after the `Dev.par` command. If this is not present, the user will have to add it and save the sysinit file. If this is present, then the user can exit without saving this file. Type **`Alt-F`** and **`X`** to exit (answer yes to save the file, no to prevent saving it).

```
Dev.par &
Dev.pty &

Mqueue &
etc.
```

Next type the following:

```
ROOT: \> vedit /etc/netstart↵
```

The last line of this file should look like the following. If it does not, then the user will have to change it to match. This starts the internet daemon which allows FTP and Kermit to run.

```
      #Note:  to act as a TCP/IP server, uncomment the next line
      inetd
```

To be able to login to the SAC from FTP, the user will have to initialize a login user with a password. This is to ensure that FTP can download to this. Type the following to make a login id for FTP.

```
ROOT: /> passwd dxi↵
User id # (XXX) 101↵
Group id # (XXX) 0↵
Real name () ↵
Home directory (/home/dxi) ↵
Login shell (/bin/sh) ↵
New password:dxi↵
Retype new password:dxi↵
```

Note that that User, Group, etc, will not be prompted for if this user already exists. These will be skipped and the "New password" and "Retype new password" will be the only prompts.

In order to use Kermit to transfer files, there must be ckermit, cksend and ckget files in the /usr/local/bin directory. In older systems, these may not have been installed on the SAC computer during set-up. To check if these were installed type the following:

```
ROOT: />ls /usr/local/bin/ckermit ↵
```

If the response indicates that there is no such file, then the user must install these files. If they exist, the next step(s) can be skipped. These three files can be obtained by calling Harding Instruments Co. Ltd. The files will be e-mailed to the user. The files can be copied to a DOS floppy and taken to the SAC. Then type the following:

```
ROOT: />cd /usr/local/bin ↵
ROOT: /usr/local/bin>cp /dos/a/ckermit . ↵
ROOT: /usr/local/bin>cp /dos/a/cksend . ↵
ROOT: /usr/local/bin>cp /dos/a/ckget . ↵
ROOT: /usr/local/bin>chown root:root ckermit cksend ckget ↵
ROOT: /usr/local/bin>chmod 755 ckermit ↵
ROOT: /usr/local/bin>chmod 644 cksend ckget ↵
ROOT: /usr/local/bin>exit↵
```

If you are not certain what the SAC's Ethernet address is, you can do the following to determine it. The node number of the SAC should be substituted for `X` in `dxiX`.

```
ROOT: /usr/local/bin>cd / ↵
ROOT: />grep dxiX /etc/hosts ↵
192.168.0.1 dxiX
ROOT: />
```

This will display a line that has `dxiX` on it and its Ethernet address.

The SAC Set-up is complete. Type **`reboot`**↵ to reset the computer for these changes to take effect.

3. Kermit Set-up

Install Kermit 95 2.0[1] or higher onto your host computer (i.e., not on the SAC computer). This will create the Kermit-95 dialer that can be used to connect to the SAC. Go to the Connections menu and Add a new connection. This brings up a screen that allows the user to enter a name and host IP address for this computer. The "Name and Description" can be whatever the user finds convenient. The "Hostname or IP Address" should be set to the SAC's Ethernet address and the "Exit on disconnect" should be checked off. All other fields should be defaults.

Next edit the connection (select the connection just made by highlighting it and go the Connection->Edit Menu). The following will have to be changed on the submenus of this connection. These are the only settings that need to be checked; all other settings do not apply.

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[1] Do not install the secure version of Kermit, just the regular version. The secure version will not work with QNX.

Terminal Settings…

```
Terminal Type = QNX
Character size = 8 bits
Local echo = blank
Auto wrap = checked
APC enabled = blank
Auto-download = checked
Screen Width = 80
Screen Height = 25
Screen Cursor full
Character set cp437
```

File Transfer Settings…

```
Protocol = Kermit
Performance = Cautious
Default Transfer mode = binary
File character-set = cp437
Transfer character-set = transparent
Transmit literal file names = checked
Use / include pathnames = blank
Keep incompletely received files = checked
Negotiate Streaming Transfer Mode = blank
Negotiate Clear-Channel Transfer Mode = checked
```

GUI Settings…

```
Face name = Courier New
Font Size = 10
```

4. FTP Client Set-up

The Windows computer must have a FTP client program on it. It will be logging into the SAC computer's FTP server. The choice of which client to use is up to the user as most Windows computers come with an existing FTP client.

5. File Transfer

Now the SAC computer is set up to accept both Kermit and FTP. The user should log in as "**dxi**" (with a password of "**dxi**" from either Kermit or the FTP client.

If you are running Kermit, you can send a file to the SAC (from your Windows machine) by typing:

```
ROOT: /home/dxi> cksend filename↵
```

To send a file from the SAC to your Windows machine type:

```
ROOT: /home/dxi> ckget filename↵
```

Transferring files from FTP can be done by dragging and dropping the files on the FTP client (depends upon the FTP client the user has selected). Note that any files that are transferred may have their names and permissions changed (names are likely to go to lower case and permissions are likely to be lost). The user should restore these using the **`chown`** and **`chmod`** QNX commands.