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Remote Access to UNIX Network with PPP

by Tom Simerson

Many customers have asked about using Facet*Win* to access their office systems from their home or other remote locations. The benefits are great when, from a remote PC, you can:

- Run your UNIX applications.
- Access your office files on UNIX and/or the Windows PC.
- Spool you UNIX printouts to the remote PC printer.

Courtesy of Tom Simerson, here is a step-by-step guide to setting up a completely Facet*Win*-enabled direct-dial connection to your UNIX network.

Remote Access Options

Accessing your office network from your home or a remote location can be done through one of two methods. One method would be to use the Internet itself as your remote access. This method requires your UNIX network to be connected to the Internet, which is a rather extensive subject not covered in this article.

The other method is to directly dial the UNIX system and use the Point-to-Point Protocol (PPP). PPP is a subset of the overall TCP/IP networking protocol specifically designed to supply a TCP/IP network link over a pair of connected modems.

FacetCorp Products are Year 2000 Compliant

Y2K()

All versions of Facet**Term** and Facet**Win** have been tested and are Year 2000 compatible when the underlying operating system is Year 2000 compatible. For more information on Y2K compliance of your UNIX operating system, please contact your computer manufacturer or your operating system supplier.

For a copy of Facet**Corp's** official Y2K Statement, please visit www.facetcorp.com.

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The PPP protocol is an enhancement of an older protocol called SLIP (Serial Line IP Protocol) that was originally devel-

oped for creating TCP/IP connections over dedicated serial lines.

By configuring and using PPP, Facet*Win* will behave virtually the same from a remote location as it would from a local area network (LAN) connection. There are a few known limitations that we have seen in the past, but most of these do not affect the basic functionality of Facet*Win* itself. These limitations will be discussed later in this article in the 'Common Issues' section.

Configuring PPP on a UNIX System

Most UNIX operating systems provide PPP support as part of the TCP/IP package or operating system component. We have (on our web site) technical application notes that give basic instructions on how to configure PPP drivers on the following operating systems:

> SCO UNIX 3.2v4.2 SCO UNIX OpenServer 5 SCO UnixWare 2.1.2 IBM AIX 4.1.4

These notes are provided to help with basic setup and configuration of the PPP drivers. If you have more advanced questions or if your UNIX operating system is not listed above, you should contact your UNIX operating system vendor for their instructions for PPP setup.

Common Uses of FacetWin Over Remote Access

Some of the primary uses of Facet*Win* from remote locations are the terminal emulator and the remote printing services. The terminal emulator works the same no matter the location of the PC (remotely or locally). Because of the slower link over the modem, you may want to bring the installation CD-ROM to install the termi-

nal emulator. The emulator installation file, setup.exe, is about 2.2 MB in size. Over a 28 Kbps link, this could take an hour or so to download.

The remote printing from UNIX to a PC Printer is pretty much the same as remote printing from the LAN. One key issue is to make sure that the TCP/IP properties for the Dial-up Adapter in the Network properties is bound correctly to the file and printer sharing for Microsoft Networks component.

There is an automatic mechanism in Windows that will prompt you to disable this feature because it will make the PC accessible from across the dial-up connection. In the case of a closed network (dialing into your private LAN), this is an unnecessary security issue. In the case of dialing out to the Internet, you would normally want to disable this. Make sure that you answer "No" to any prompts that ask you for this information.

Common Issues Related to Remote Access

There are several known problems that can occur when configuring remote PCs. Below are the issues and what troubleshooting mechanisms you can use to resolve these problems.

I can't see the UNIX host in Network Neighborhood

One problem is not being able to see the UNIX host in the Network Neighborhood. Due to the way Microsoft browsing was designed, the UNIX may not ever show up in the Network Neighborhood. There are a couple of parameters you can modify that may make this Microsoft feature work correctly.

On the remote PC, turn off the master browsing function. To do this, go into the Network properties and then go into the properties for the file and printer sharing for Microsoft Networks component. The first property listed is called "Browse Master." The default value is "Automatic." Change this to be "Disabled."

On the UNIX system, you will need to activate the following entries in the main Facet*Win* configuration file, facetwin.cfg. This file is located in the /usr/facetwin directory (or in the directory where you installed Facet*Win*). datagram_forwarding=YES other_ppp_activity=YES

Be sure to stop and restart the Facet *Win* server processes. To do this, run the fct_adm command and select menu options #4 and #3 to stop and start the servers.

2 I can't ping or access the other PCs on the LAN

This is due to a routing issue. There are a couple of properties that can be adjusted to get this working correctly. On all PCs you wish to provide access to, you will need to setup the UNIX host as a gateway. Go into the Network properties and then into the TCP/IP properties for the Dial-up Adapter. This will bring up another property sheet. On this property sheet, go to the Gateway tab and add the IP address of the UNIX host as a gateway.

If you are running on a SCO UNIX system (any version), use the Ethernet card IP address, of the UNIX system.

If you are running a SCO UNIX OpenServer 5 system, there is a configuration command that needs to be run to tell the SCO TCP/IP layer to act as a router between the different interfaces that are configured (both real and PPP).

The commands are as follows: inconfig ipforwarding 1 inconfig ipsendredirects 1

The inconfig command will do two things: set the configuration file (/etc/default/inet) that stores these settings correctly and update the currently running kernel with the changes.

While you may run into a couple of these technical issues, the benefits of having a simple dial-up networking icon on your desktop to gain complete remote access to your UNIX system(s) make it well worth the trouble. Of course, if you run into any other issues along the way, don't hesitate to check out our website, or contact Facet*Corp* technical support directly (see p. 4 for contact information).

Tom Simerson is a member of the Facet**Corp** Technical Support staff and can be reached by email at tom@facetcorp.com

Challenge

Systems Design is a software developer and technical services provider specializing in the wholesale distribution industry. At Systems Design's headquarters in South Holland, Illinois, the MIS department needed a way to access the UNIX file and print services from Windows. Moreover, they needed a good VT220 terminal emulation solution.

Systems Design first looked at some NFS-based solutions and the conclusion was that NFS was too difficult to manage. Next, Systems Design evaluated the freeware solution Samba. It was decided that Samba was not an enterprise solution and that their company could not rely on non-commercial software with virtually no technical support. Furthermore, both of these potential solutions would require end user training which would be costly and inefficient. "We chose FacetWin instead of Samba because we couldn't afford the risk of running our business on freeware."

> Marc Kruer Executive Vice President Systems Design, Inc.

Success Story: Systems Design Inc.

Solution

Systems Design implemented a 100-user license of Facet*Win*. When asked why Facet*Win* was chosen, Executive Vice President with Systems Design Marc Kruer replied, "We selected Facet*Win* for three reasons, 1) The VT 220 terminal emulation was excellent, 2) there was no user training required, and, 3) the Facet*Win* administration was simple because it takes place on the UNIX server."

"Everyone in the company uses it — Facet*Win* simplifies the use of UNIX and it is basically invisible. Facet*Win* provides seamless access to the UNIX box which has basically turned into a Microsoft NT server," continued Kruer.

When asked about the return on investment of Facet*Win* Kruer explained, "Facet*Win* enables us to accomplish tasks in a shorter amount of time, so the benefits of Facet*Win* have already far exceeded the cost of the software, and we have recurrent savings because of it!"

Prism

Corporate Profile

Systems Design is a leading provider of software and technical services for the wholesale distribution industry. Since 1976, Systems Design, Inc. has designed, installed, and supported information management systems for distributors throughout the country.

Dilemma

Systems Design needed a commercial SMB-based product to give them access to UNIX file and print resources. Systems Design also needed a good terminal emulation solution in order to run their UNIX applications on Windows.

Resolution

Systems Design implemented Facet*Win* company-wide and now enjoys the benefits of seamless integration of Windows and UNIX.

System Snapshot

UNIX Server: Windows Clients: FacetWin User Count: Unisys Windows 95/98 100 and growing!





720 is a remarkable number. It can be divided, without remainder, by lots of other numbers — 1, 2, 3, 4, 5, 6, 8, 9, 10, 12, 15, 16, 18, 20, 24, 30, 36, 40, 45, 48, 60, 72, 80, 90, 120, 144, 180, 240, 360, and 720. That's 30 different numbers in all.

Can you find an even more remarkable number, **less than 1000**, one that can be divided by 32 different numbers which leave no remainders?

For the answer to this brainteaser, please refer to our website: <u>www.facetcorp.com</u>. You may also send an email to <u>marketing@facetcorp.com</u> or send a fax to Facet*Corp* Marketing 972/612-2035.

*Taken from: Ben Hamilton, Brainteasers and Mindbenders, New York, New York: Simon & Schuster, 1992







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Sequent Selects FacetCorp for Supplier Excellence Award

acet*Corp* has been selected to receive Sequent Computer Systems, Inc.'s 1998 Supplier Excellence Award. Sequent's executive management team officially recognized Facet*Corp* as a top supplier and partner for their remarkable service, outstanding technical support, "best-of-breed" software solution, and overall corporate commitment to customer satisfaction. Facet*Corp* is also the first software firm selected by Sequent to receive this important award.

In late 1997, Sequent began using Facet*Win* for their in-house NT/UNIX integration needs. In 1998 Sequent fully deployed Facet*Win* at their Beaverton, Oregon headquarters; and, they selected Facet*Win* to supply to their customers as their key NT/UNIX software integration technology. Facet*Win* is now part of every Sequent NUMACenter system, as well as being available for NUMA-Q 2000, NUMA-Q 1000, and Symmetry servers.

"Literally everyone at our company is involved with this relationship," said Jim Bryant, Facet*Corp*'s President, "and, it is very nice to see them recognized for the outstanding work they do everyday. Of course, it takes two to make a partnership and Sequent has consistently been an outstanding partner for us." "Facet*Corp* has been a pleasure to work with and has been willing to go the extra mile from the beginning of our partnership," said Jeff Pancottine, vice



president of global marketing of Sequent. "We want to work with companies that know how to operate as a team, and are committed to helping the customer with solving their business challenges."

Reseller Corner

Double Rewards

The promotion will allow all Authorized Facet*Win* Resellers to earn two Facet*Win* seats for every Facet*Win* seat sold during Q3 1999. We will automatically generate your statement which will be sent to you for you to check for accuracy. *Remember: Rewards expire the quarter after the quarter in which they were earned, and your account reverts to zero.*

Free Mailer Offer

As an added benefit to our Authorized Facet*Win* Resellers, Facet*Corp* offers to send our standard mailer to your customers and prospect list. We will cover the cost of the printing, mail house charges and postage — all you need to do is send your mailing list to our mailhouse (some restrictions apply). For more details contact Kyle Hudnell (Reseller Manager) email: kyle@facetcorp.com or phone: 972/985-9901.

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