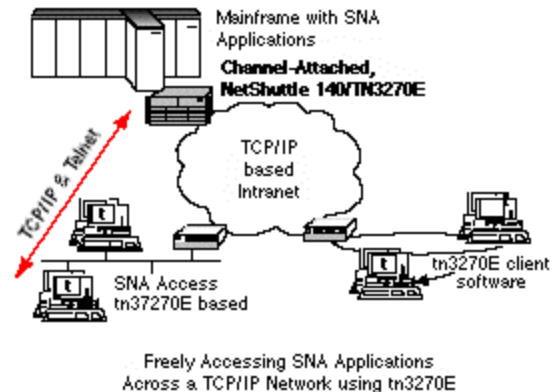


## TN3270E Servers

Telnet 3270 Extended (TN3270E) enables TCP/IP clients [e.g. PCs] to readily access SNA mission-critical applications running on IBM [or compatible] mainframes through a 3270 terminal emulation scheme. It is a total solution for SNA application interaction, across TCP/IP, in that it also supports 3270 based printing. TN3270E, thus, makes SNA applications intranet, as well as Internet, compatible. It is a strategic, widely implemented, and increasingly popular protocol conversion standard for TCP/IP-to-SNA interworking. With TN3270E, one can reach SNA applications over any TCP/IP network without the need for SNA traffic encapsulation [i.e. 'tunneling'] within TCP/IP packets.



With TN3270E, one does not need any SNA or 3270-emulation software on the client machine, whether it be a PC, an Apple Macintosh, UNIX workstation, a Network Computer (NC) or a Network PC. Instead, TN3270E provides SNA/3270 access by performing two separate protocol conversions. It converts TCP/IP transport protocol to SNA, and the TCP/IP Telnet terminal access protocol to 3270 data stream. This dual protocol conversion is performed by a TN3270E server [e.g. a Bus-Tech NetShuttle]. TN3270E, thus, obviates the need for SNA-LAN gateways [e.g. 3174s]. INSTEAD, PC and workstation users realize SNA access using highly efficient Telnet based TN3270E client software. Proven and robust TN3270E client software is widely available either from TN3270E server vendors, from gateway software vendors, or as down-loadable 'freeware' from Microsoft etc. TN3270E is, thus, an extremely inexpensive solution for SNA/APPN access.

The industry standard for TN3270 was established in the late 1980s. The first TN3270 Servers were implemented on mainframes. Mainframe resident TN3270E Servers are no longer deemed optimal or strategic given that they use expensive mainframe cycles and resources for performing relatively straightforward protocol conversions. Instead, the trend is toward highly cost-effective, channel-attached, "off-load" TN3270E Servers -- such as the NetShuttle. With channel-attached, "off-load" TN3270E Servers the mainframe can continue to remain 'SNA' oriented and use the latest SNA software such as 'High Performance Routing' to facilitate high-availability, fault-tolerant Parallel Sysplex operation.

## Advantages of using TN3270E

- Low-cost, reliable and highly proven access to mission-critical SNA applications across TCP/IP networks without the overhead of SNA encapsulation, or the cost of SNA/3270 emulation software.
- Strategic means for seamlessly integrating SNA applications into intranets and extranets.
- Comprehensive support for 3270 printing and file transfer.
- Channel-attached, "off-load" TN3270E Servers, such as the NetShuttle, obviate mainframe cycles and resources having to be used for protocol conversion.
- Cost compelling, channel-attached, and high-performance, "off-load" TN3270E Servers can act as the main network-to-mainframe connection thus eliminating the need for expensive 3745/3746 class FEPs.
- Industry strength TN3270E client software readily available as "Freeware" or at a very low cost.

## TN3270E Solutions From Bus-Tech

Bus-Tech through its highly acclaimed NetShuttle channel-attached 'Intranet-to-Mainframe' controllers provide a comprehensive range of proven, feature-rich, scalable and low-cost TN3270E solutions. The NetShuttle provides "off-load" TN3270E functionality, replete with comprehensive printer services, both

for SNA/APPN/HPR based mainframes, as well as mainframes running TCP/IP software. Thus, the NetShuttle is a universal, channel-attached, "off-load" solution that is independent of the mainframe networking software.

The NetShuttle runs fully featured, plug-and-play, TN3270E Server software that is licensed from IBM. The NetShuttle can cost-effectively support up to 4,000 concurrent, high-performance 'SNA' sessions. The NetShuttle is widely accepted as the optimum, lowest cost solution for integrating intranets with mainframes. In addition, the NetShuttle also includes IBM's "Host-on-Demand", Java Applet based TN3270 application. With the "Host-on-Demand" solution, the IBM supplied, and dynamically downloaded Java Applet serves as the TN3270E client software that runs on PCs and workstations, alongside a Web Browser, to enable SNA application access.

### **Frequently Asked Questions about TN3270E**

#### **Q: Can I use TN3270E to access SNA/APPN applications running on an AS/400?**

A: Yes. Most AS/400 applications can natively support 3270 based access given that AS/400s have supported the direct attachment of 3174 [or compatible] 3270 control units since the late 1980s. TN3270E support, as provided by Bus-Tech, can thus be freely used to interact with such AS/400 applications.

#### **Q: How efficient is TN3270E compared to native SNA/APPN based access?**

A: TN3270E is a very efficient and optimized protocol. Unlike some other Telnet based access schemes it is not based on individual characters being sent across the network to a server -- and in some cases then having to be echoed back to actually be displayed on the PC. Instead, TN3270 like SNA/3270 is a block [or record] based protocol, which moreover like native 3270s only transmits display fields that have been modified by the user rather than the entire screen. Using TN3270E, as opposed to a full SNA/3270 emulation on the client, also precludes the SNA traffic, replete with all of the SNA headers having to be continually encapsulated with TCP/IP frames [e.g. Data Link Switching (DLSw)].

#### **Q: Why should I convert my existing SNA/3270 based access [e.g. using 'full-stack' SNA on a PC or a SNA-LAN Gateway] scheme to TN3270E?**

A: TN3270E, in essence, addresses the burgeoning trend towards TCP/IP based backbones [i.e. intranets], and PCs running TCP/IP networking software among other things for Internet access and possibly even LAN server access. TN3270E permits Network Administrators to pursue a concerted strategy to standardize all of their desktops to be primarily TCP/IP -- even if some or all of them require access to SNA applications. TN3270E also obviates the need for expensive SNA/3270 emulation software, SNA-LAN gateways and the related maintenance and software upgrade costs.

#### **Q: Why should I use a channel-attached TN3270E Server [e.g. NetShuttle], as opposed to using a mainframe based tn3270 solution?**

A: Channel-attached, "off-load" TN3270E Servers, such as the NetShuttle, are extremely cost-effective, reliable and scalable. A channel-attached TN3270E server obviates the need for TCP/IP software on the mainframe, as well as costly mainframe cycles and resources being continually used for relatively straightforward protocol conversion operations. Using a channel-attached, "off-load" TN3270E Server, moreover, ensures that the mainframes can profitably use the latest SNA protocols [e.g. High Performance Routing (HPR)], Parallel Sysplex features [eg. Persistent MultiNode Sessions], the optimum channel protocols [e.g. IBM's MultiPath Channel Plus (MPC+)].

#### **Q: Can I use TN3270E to access SNA applications that use LU 6.2 [i.e. APPC] or 'LU 0'?**

A: No. The TN3270E standard is explicitly targeted toward 3270 data stream based application access and print services. Thus TN3270E based SNA access is meant for applications that use SNA LU Types 1, 2 and 3. Such transaction processing applications represent over 90% of the SNA application base.