Because your system should be stable by choice, not by chance.

TPNS–Teleprocessing Network Simulator

Highlights

Conducts reliable stress, performance, regression, function, and capacity planning tests

Simulates different terminals, terminal features, and terminal operator actions

Provides SNA, CPI-C, and enhanced TCP/IP support

Ensures that Year 2000 code corrections uphold business applications

In business today, change is the only constant. No where is this more true than in networking; terminal and application offerings evolve and transaction volumes vary daily, and changes can affect customers and users. Well-planned and well-tested networks are a business necessity. IBM Teleprocessing Network Simulator (TPNS) is a comprehensive, flexible, and time-proven solution for network testing. TPNS is insurance that your networks will work.

A comprehensive test tool

With over 20 years of proven reliability, TPNS is a powerful, architecturally sound test tool, providing controlled and repeatable function, regression, performance, and stress testing. TPNS runs completely independent of the system under test, driving the entire system, including host processors, controllers, and networking lines.

Designed to be a telecommunication testing package, TPNS enables a user to test and evaluate application programs, communication access methods, and communication control programs without the use of actual terminals. TPNS provides controlled generation of message traffic into a telecommunication subsystem or application through the use of programming, rather than using large amounts of terminal hardware and terminal operator time. TPNS provides the ability to simulate a specified network of terminals and the associated messages, allowing the user to alter network conditions and message loads during a run. It can be used to stress test telecommunication application programs with a large volume of messages to evaluate the reliability and approximate performance characteristics under expected operating conditions. Simply stated, anything a real user can do at a terminal, TPNS can do faster, more reliably, and typically for less cost.

e-business

It's not just about technology. It's about business.

An improved solution
Long recognized as the premier SNA test tool, TPNS has leveraged its strong test heritage into a dynamic Web world. Its expanded capabilities now include simulation of TCP/IP resources, plus the addition of CPI-C transaction programs to the SNA portfolio.

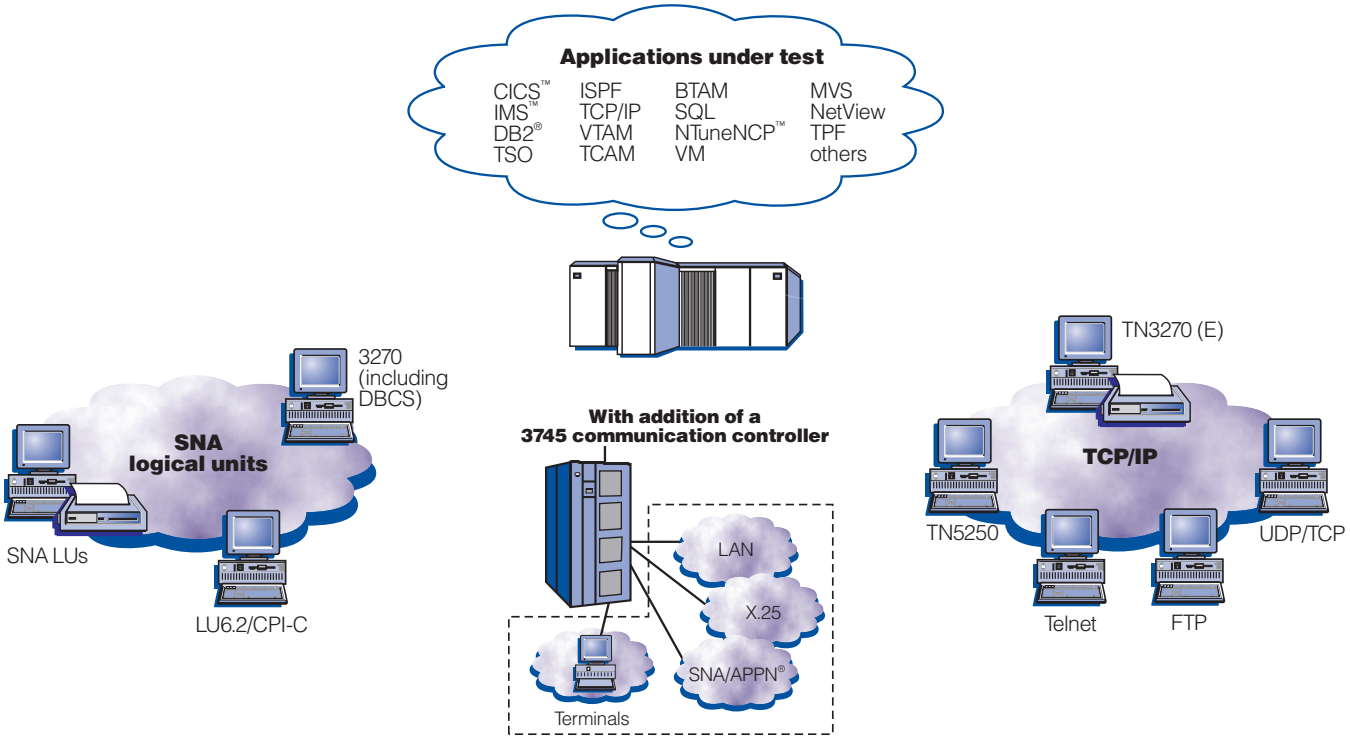
Transmission Control Protocol/ Internet Protocol (TCP/IP)
TPNS provides native support of multiple client applications that run "on top" of TCP/IP; that is, TCP/IP handles all routing and delivery between the TPNS host and the system under test. TPNS implements its TPNS connection to TCP/IP on the local host through either the inter-user communication vehicle (IUCV) interface or the high-performance native sockets interface (HPNS), depending upon the level of the local TCP/IP you are running through. Both IUCV and HPNS are software interfaces; TPNS does not directly drive any hardware. TPNS does not require a communication controller or attached NCP to simulate devices. The addition of TCP/IP client simulation for application program and network resource testing gives TPNS even greater flexibility within your environment.

Telnet 3270, 3270E, and 5250 clients
TPNS simulates Telnet 3270 and 3270E clients connecting to a Telnet 3270 server or 3270E server to enable simulation of Telnet 3270E terminals; additionally it simulates Telnet 5250 clients connecting to a Telnet 5250 server

Telnet Line Mode Network Virtual Terminal clients
TPNS simulates Telnet Line Mode Network Virtual Terminal clients connecting to a Telnet server

Simple TCP and UDP clients
TPNS offers simple TCP and UDP client simulation; it provides a means of transferring data to and from simulated clients through TCP/IP connections

File Transfer Protocol clients
TPNS simulates multiple users transferring files of varying sizes and characteristics to test applications and networks to understand how File Transfer Protocol (FTP) sessions affect the system; it simulates FTP clients simultaneously with other types of TCP/IP clients



Test your application programs or networks by simulating the environment with TPNS.

System Network Architecture (SNA)

SNA logical units can be simulated by TPNS while executing as a VTAM® application program. This mode of execution eliminates the need for a communication controller in some testing environments. General support is provided for LU types 0 to 7, with special support for the LU2, LU3, LU6.2, and LU7 data streams. This function can be used to test user-written applications or host system software, or it can be used with other VTAM facilities, such as cross-domain or cross-network communication or channel-to-channel communication to test resources throughout a network.

Common Programming Interface Communications (CPI-C)
The expanded SNA portfolio provides CPI-C transaction program simulations to test existing applications, execute stress or performance testing, and test applications still under development; it offers new support that simplifies the writing of LU6.2 scripts using the CPI-C application program interface (API)

Note: Any existing applications that are part of a CPI-C transaction program simulation must be APPC applications (that is, they must use LU6.2 communication protocols).

The power to customize

Through all phases of the test cycle, from script generation to test execution to post-test analysis, TPNS allows users to customize stress, performance, and regression tests to their network environment with a comprehensive set of options and utilities.

Flexible script generating utilities

Structured Translator Language
High-level REXX-like scripting language allows users to define the information TPNS should send, what it will receive, and what actions it should take

Interactive Data Capture (IDC) Utility
Provides a quick and simple method for capturing session traffic to and from a live 3270 session; can be converted to a TPNS script for replay or used as a basis for larger, more complex simulations

NPM/LU2 Reformatter Utility
Converts 3270 session data from a buffer trace or an NPM VTAM log into a format readable by the TPNS utilities, including the IDC Script Generator

Script Generator Utility
Generates VTAM buffer traces or TPNS scripts from NPM VTAM log data sets; also generates TPNS CPI-C STL programs from OS/2® Communications Manager and Communications Server traces

TPNS/Application Test Processor
Processes MFS screen image definitions to create TPNS scripts for 3270 applications

Batch Terminal Simulator Conversion Utility
Converts Batch Terminal Simulator (BTS) files into TPNS scripts

Extensive run-time utilities

TPNS/ISPF Interface
Supplies an Interactive System Productivity Facility (ISPF) panel interface compliant with SAA®/CUA guidelines that helps both new and experienced TPNS users set up and start TPNS and its utilities

Display Monitor Utility
Displays simulated 3270 screen images during a simulation run and the data stream sent and received by simulated devices

TPNS Interface to the NetView Operator
Controls one or more copies of TPNS from NetView® operator console, with lists of TPNS simulated resources and online help; NetView CLISTs can automate TPNS operation

Run-Time Reports
Displays information during and at the end of a simulation run about data sent and received, message rates, terminal status, and inactive terminals

ITPECHO
A VTAM application that echoes received data; can be used as a target application either on the same host with TPNS or a different host for network testing; also an excellent aid for learning TPNS

Powerful post-test analysis utilities

Loglist Utility
Formats the simulation run log in a selective, time-linear fashion for post-run analysis and debugging

Log Compare Utility
Compares 3270 display records from two simulation runs and lists the first difference for each record; selectively ignores and compares screen areas, and provides for resynchronization of new and missing screens

Response Time Utility
Analyzes the TPNS log data set records created by TPNS during the simulation run and prints reports listing the response times of the system under test

TPNS: an insurance policy

For two decades, TPNS has been enhanced continuously by a product support team dedicated to building the most flexible product possible. Talking directly to customers about their needs has produced 70 percent of TPNS product updates. This attention to changing network and customer demands makes TPNS comprehensive, robust, and the best insurance possible that your networks and applications will work when and how they are supposed to.

IBM TPNS at a glance

Software requirements

- OS/390™ (5645-001)
- MVS/ESA™ (MVS/SP™ Version 5; 5655-068 for JES2 or 5655-069 for JES3)
- MVS/ESA (MVS/SP Version 4; 5695-047 for JES2 or 5695-048 for JES3)
- MVS/ESA (MVS/SP Version 3; 5685-001 for JES2 or 5685-002 for JES3)
- MVS/XA™ (MVS/SP Version 2; 5740-XC6 for JES2 or 5565-291 for JES3)
- MVS/370 (MVS/SP Version, 1; 5752 Version, 2
- VM/ESA® (5684-112; Release 1)
- VM/ESA (5654-030; Version 2)
- TCP/IP client simulation requires the IBM TCP/IP product inter-user communication vehicle (ICUV) socket application programming interface (API) or high-performance native sockets (HPNS) API

Hardware requirements

TPNS can run in any hardware environment which supports the software listed above.

Benefits

- Runs independent of the system under test
- Requires no changes to the system under test
- Demands no maintenance charges
- Provides a direct support line to development
- Uses standard IBM interfaces
- Offers a total test solution, from function to stress
- Requires no dedicated hardware for application testing
- Simulates a wide variety of network resources and users

Enhancements for Version 3 Release 5 Service Level 9711

Simulation	• Telnet 3270E client (TCP/IP) support added • Telnet 5250 client (TCP/IP) support added • Telnet Line Mode Network Virtual Terminal client (TCP/IP) support added UDP client (TCP/IP) support added
Scripting	• ITPSGEN utility enhanced to generate CPI-C (LU6.2) scripts • Named queue support added • Overlay function added • Upper limits for switches, index counters, IFs, and save areas (TPNS scripting language) expanded to 4095 • Upper limits for integers, bits, strings, ONINs/ONOUTS (Structured Translator Language) expanded to 4095 • Delay cancellation function added
Other	• TPNS operator command interface expanded to provide for altering of TCP/IP resource port numbers • Support added for using high-performance native sockets (HPNS) interface to TCP/IP when it is available

Enhancements for Version 3 Release 5

Simulation	• CPI-C Transaction Program (LU6.2) support added • FTP Client (TCP/IP) support added • TCP Client (TCP/IP) support added • Type 2.1 end node support enhanced for REGISTER=NO specification • CCITT formats added for LMI frames
Scripting	• Date function enhanced for broader specification • Translate function added • ITPSGEN utility now able to handle block sizes up to 32760 bytes • ITPSGEN utility now able to generate initial delays for purposes of initial synchronization
Other	• Support added for echoing TPNS commands to MVS™ log • Support for reports for Year 2000 and beyond • Console ID support added

Year 2000 Compliant

TPNS is capable of producing reports that accurately reflect years following 1999 and is Year 2000 compliant.

ISO9001 Certified

For more information

If you would like more information about TPNS, visit us on the Internet at:

www.software.ibm.com/enetwork/tpns/

e-mail: tpns@vnet.ibm.com

Hotline: 1 800 835 8767

60-day trial period—no charge:
1 800 IBM CALL

IBM Corporation
Research Triangle Park, NC
USA

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