

**TPS<sup>®</sup>/MIX**

## GENERAL INFORMATION



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## TPS/MIX™ General Information

### OVERVIEW

TPS®/MIX ( Multi-session Interactive eXecutive ) allows ASCII terminal users to run multiple UNIX® sessions from one terminal. This multi-session capability provides an enormous productivity boost. Users can create new sessions and toggle between multiple sessions without having to exit one application, drill into another application, exit that, and drill back down into the original.

Help desk operators and system administrators will also find TPS®/MIX a powerful tool. The monitor function allows the help desk operator or system administrator to see exactly the image that the user sees. The takeover function allows the person to drive the application. Both helpful if you need to give training, product demonstrations, or “live” error trapping.

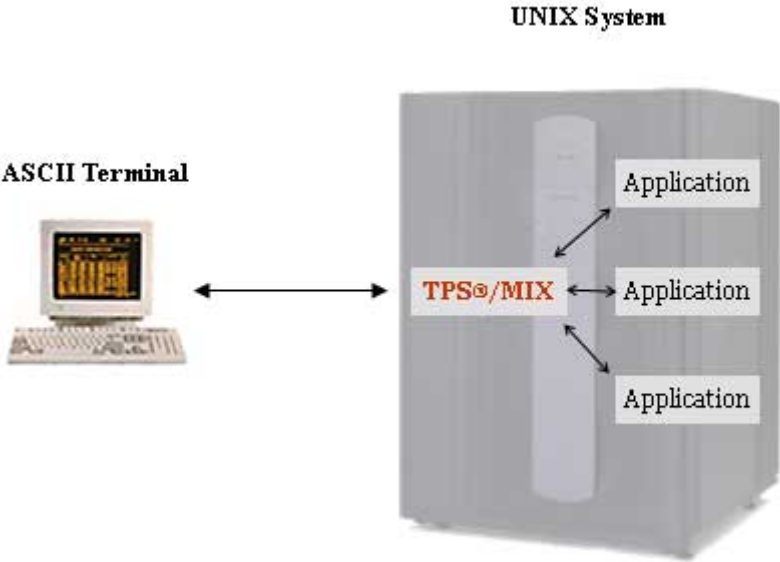
TPS®/MIX also comes with a menu builder application. A great tool for creating menu style screens that can be used by users that do not know UNIX®. With the menu screen, users can select an item on the screen instead of needing to know the appropriate UNIX® command.

### HIGHLIGHTS

- Allows users to run multiple sessions from one terminal
- Help desk or system administrators can take control or monitor of user's sessions
- Dynamic session creation and deletion for users needing multiple sessions to applications
- Menu builder program to allow access to programs when users are not familiar with UNIX®
- Several handy pop-up applications included (such as a calculator, personal phone book, and calendar)
- Major productivity boost for users who need access to multiple applications
- Provides extra security through its password protected screen saver function
- Adds screen print and cut-and-paste to any application
- From [TPS® Systems](#) — with 25+ year tradition of excellence in providing network software and support for large global enterprises

# TPS/MIX™ General Information

## ARCHITECTURE



TPS®/MIX connects a single ASCII terminal (tty device) to multiple pseudo terminals (pty devices). Each pseudo terminal acts like a separate tty connection. Applications read from and write to these pseudo terminals just as they would for actual ttys. This is similar to the way that X-stations access multiple tty applications through multiple copies of X-term or AIX-term.

Each application has full access to the screen. TPS®/MIX does not restrict the application with window borders or decorations. This allows each application retain its original look and feel.

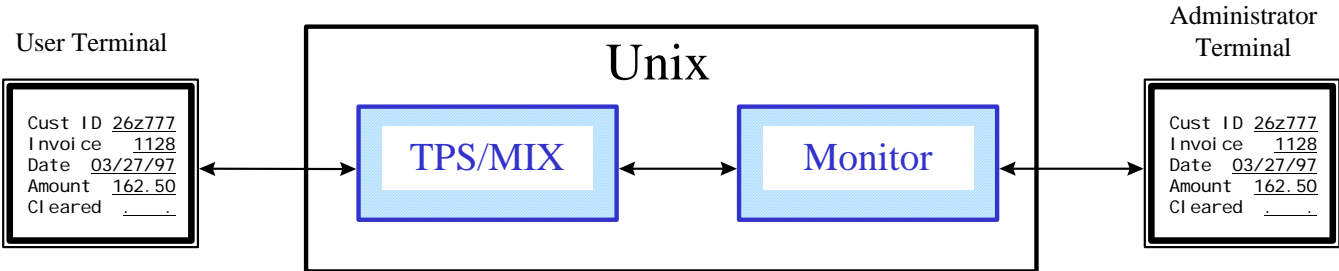
When users switch between applications, TPS®/MIX redraws the screen for the application. In order to re-draw these application screens, TPS®/MIX maintains memory images of these screens. These memory images are an important key to providing some of the advanced features of TPS®/MIX.

TPS®/MIX uses the native pseudo terminal, process management and interposes communications facilities of UNIX®. It does not modify the kernel or add any device drivers. This can be important when obtaining operating system support.

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## BENEFITS

### Monitor



The first questions that most help desk operators have to ask is “What are you doing?” “What screen are you on?” The monitor function allows a help desk operator to instantly see the exact same image that the user sees. Help desk operators can often detect problems simply by looking at this screen. The monitor screen is updated in sync with the user screen. This allows the help desk operator to watch the user work through the problem. The monitor program also allows “takeover”. The takeover function allows the help desk operator to drive the application directly. The user can then simply watch as the help desk operator demonstrates proper operation. In some cases users are “too helpful”, they try to key into the application at the same time as the help desk operator. The monitor program has an optional “exclusive” mode that prevents the user’s keyboard from working while it is in effect.

As with many other features of TPS®/MIX, additional possibilities abound.

In a classroom situation, the instructor can monitor student progress and provide assistance. TPS®/MIX and the monitor program allow multiple “monitors” so several students can monitor the instructor to watch demonstrations. Since terminals can be connected via modem, students and instructors need not be in the same location. The classroom can be “virtual”.

This same strategy can also be effective as a means of product demonstration for sales purposes.

The monitor program can attach to background sessions. When the help desk discovers a bug, maintenance programmers need to know exactly what is happening. A sharp help desk operator could get the user working again by starting another session and cautioning the user to avoid the bug. Then call maintenance and let them attach to the session with the problem that is still running in the background. Suddenly, maintenance programmers are relieved of the daunting task of re-creating the problem. They can see the screen and work with it. The program is still executing and can be attached with the debugger (in another TPS®/MIX session of course). They are also relieved of the excuse that “it doesn’t happen here.”

When the help desk attaches to a user screen with the monitor program, the user sees an indicator in the top right corner of the screen. This can be reassuring to the user since they now know that they are finally getting some help. In some cases, such as internal security auditing, it may be necessary to observe a user’s activity without being detected. For these cases, the monitor program’s indicator can be suppressed.

The monitor capability can also be placed under user control so that the user must specifically allow monitor to attach.

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Some customers have found the monitor capability to be a compelling reason to use TPS®/MIX even though their users only work with a single session.

### ***Productivity***

TPS®/MIX provides a major productivity boost for users who need access to multiple applications or multiple areas within an application.

This occurs frequently. Examples include programmers working with editors, compilers and target applications; and pharmacists working with multiple screens within a pharmacy application.

Importantly, it allows for effortless navigation through applications and an easier means of remembering your location within an application.

In addition, “long” jobs can be run in the background.

### ***Added Functionality***

TPS®/MIX provides added functions for any application. These include screen print and “cut and paste”.

#### **Screen Print**

TPS®/MIX can print the current screen image from any application. Although the initial intent of this facility was only to do screen printing, its flexible design has found other applications. What TPS®/MIX does when the user accesses the screen print function is a two-step process. First, the current screen image is written to a temporary file. Next, a shell script is run against this file. The default shell script prints the screen. The shell script is configurable; any shell script can be run. Some alternative possibilities include saving screens for documentation purposes and running programs that re-format the screen into useful documents or database queries.

#### **Cut and Paste**

TPS®/MIX adds “cut-and-paste” capability to any application. Users simply mark an area of the current screen and “paste” the characters to another screen or a different position on the same screen. TPS®/MIX passes the characters to the application as if they had come directly from the keyboard.

### ***Tpsmenu***

TPS®/MIX includes the “tpsmenu” program. This is a menu-builder program that allows easy integration of multiple applications. It is highly customizable and very useful for eliminating the need for users to “know UNIX”.

“Tpsmenu” allows programs to be run in separate TPS®/MIX sessions or in the current foreground or background.

### *Pop-up applications*

TPS®/MIX provides a set of pop-up applications that run “on top of” the currently executing application. These include a handy calculator, personal phone book, calendar and broadcast messages that do not disturb the application.

### *Security*

TPS®/MIX provides extra security through its password protected screen saver function. When users leave their terminals for breaks they can activate the screen saver immediately or allow it to automatically activate after a configurable time. When they return, they enter the screen saver password and continue working. All sessions remain intact and executing. The important differences between this feature and the screen saver features built into some terminals are that it can be activated immediately and it is password protected.

## CONFIGURATION

### *Keyboard*

A large part of TPS®/MIX configuration is related to the keyboard. For applications running under TPS®/MIX to retain their original look and feel, TPS®/MIX must be “transparent.” That is, the user should not need to know that TPS®/MIX is running. Application users need access to the full keyboard that the application expects, but TPS®/MIX needs some method of access as well.

In some cases, terminals have keys that are “active” (they actually send characters to the host) but are unknown to the host. For example, the IBM 3151 has a key labeled “Jump” which is not defined in “terminfo” but does send an escape sequence. Some customers have found that configuring this key, as the “next session” key is both mnemonic and unobtrusive.

Some terminal keyboards have “dead” keys. For example, some Wyse 60 keyboards have a key labeled “Alt” which does nothing. Applications cannot use this key. TPS®/MIX cannot use this key.

TPS®/MIX uses the concept of a “leadin” key. When the user presses the “leadin” key, TPS®/MIX does not transmit the key to the host. It waits for the next key instead. If the next key is a TPS®/MIX command, TPS®/MIX executes it. If the next key is the “leadin” key, TPS®/MIX sends the key (once only) to the host. This way, TPS®/MIX can be controlled by an infrequently used key (such as F12) with little or no impact on the end user or the application.

Available keystroke commands include:

- Exit - exits TPS®/MIX
- Goto - Changes session via menu
- Leadin - next key is a TPS®/MIX command
- Mark - begin marking (cut and paste)
- Password - change secure screen password
- Print - screen print
- Secure - active secure screen saver
- View - view the cut and paste buffer
- add - add a new session
- backward - switch to the previous session

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- down - active the pulldown menu
- forward - switch to next session
- home - switch to the home session
- insert - paste
- keys - show all defined TPS®/MIX keys
- ok - allow monitor
- popup - execute a popup application

### *Menus*

There are two types of menus associated with TPS®/MIX, “tpsmenu:” and “pulldown” menus.

“Tpsmenu” provides customizable menus for organizing frequent tasks and eliminates the need for end users to know UNIX commands. “Tpsmenu” can be used without TPS®/MIX but with some loss of function.

“Pulldown” menus in TPS®/MIX appear “over” the current application and allow access to most TPS®/MIX functions through a user-friendly menuing system.

### *Other*

In some cases, it may be useful to limit the total number of TPS®/MIX sessions on the system (due to processor, memory or license restrictions) or the number of sessions for a single user. These limits can be configured. As shipped, TPS®/MIX has no limits.

## SYSTEM LOADING

TPS®/MIX emphasizes high end-user productivity at the expense of some system resources. There are some important tradeoffs when using TPS®/MIX.

TPS®/MIX itself does use some memory for screen images and related session information. It also generates an extra process per user, for the keyboard task, and a process per session to allow applications to execute in the background. Disk space is not generally a problem since TPS®/MIX uses less than 2 MB.

TPS® Systems’ heritage of working with very small systems, speed critical device drivers and communications protocols has been carried into TPS®/MIX. Despite the many advanced features, TPS®/MIX is remarkably compact and efficient code.

The effect of running multiple applications or copies of an application for each terminal usually far outweighs the memory and process impact of TPS®/MIX itself.

When two users run the same application, or one user runs two copies of the same application, the code portion is only loaded once. This is a UNIX® feature. Each copy of the application does, however, get a separate copy of the application memory.

When users navigate by switching sessions, no application activity takes place. This can be important when the alternative, navigating through the application, would generate multiple database accesses.

## **OPERATING ENVIRONMENT**

TPS®/MIX currently requires:

### **Operating System:**

- IBM® AIX® for IBM® pSeries (32 or 64-bit)
- Linux® for IBM® pSeries (64-bit), Intel®/AMD® (32-bit), Intel® Itanium (64-bit)
- HP-UX<sup>T</sup> for HP9000 (32-bit)
- Sun Solaris® for Sparc (32-bit)

### **Other Requirements:**

- ASCII terminal or emulator for AT&T 605, 610, 4410, or DEC VT100, VT100C, VT200, or IBM HFT, 3151, 3164, or JYACC JTERM, or Wyse 50, 60, 370

## **PRODUCT POSITIONING**

TPS®/MIX is ideal when:

- Using ASCII terminals
- Users need access to multiple applications or portions of an application
- The monitor function can provide help desk or training support
- Users are not UNIX® gurus

## **CUSTOMER CONSIDERATIONS**

### ***Evaluation Licenses***

Evaluation copies of TPS®/MIX are available for a pre-specified timeframe under the terms and conditions of the single page TPS® Evaluation Agreement.

### ***Return & Refunds***

TPS® Systems guarantees that if a product does not meet your requirements, it may be returned within 60 days for a full refund.

### ***Warranty Period***

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All TPS® software products have a 90-day warranty period. After this period, customers should register for annual maintenance to receive continued technical support and no-charge program updates.

### *Maintenance*

TPS®/MIX post-warranty maintenance is available through the TPS® Annual Maintenance Agreement. Maintenance coverage includes telephone technical support and availability of new versions/releases at no additional charge. Annual maintenance charges are 20 percent of the license fee per system up to a maximum per customer enterprise. Please contact your TPS® Sales Representative for further details.

### *Customer Responsibilities*

Customer responsibilities include:

- Performing site preparation, system planning, and other vendor preparations.
- Performing product installation, setup and configuration.
- Performing routine trouble-shooting procedures before contacting TPS® support.
- Providing diagnostic or trouble-shooting information as directed by TPS® support.

### **PRICING**

For current pricing information, please contact TPS® Systems at (210) 496-1984, or email us at [sales@tps.com](mailto:sales@tps.com).

### **ORDERING INFORMATION**

TPS®/MIX is available under the Agreement for TPS® Licensed Programs. To order TPS®/MIX or for any further information, please contact the TPS® Sales Department at (210) 496-1984 or e-mail [sales@tps.com](mailto:sales@tps.com).