

PowerTerm[®] WebConnect

Product Description

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Executive Summary

In recent years, virtualization is becoming a key factor in designing IT architecture that delivers computing resources on-demand to users anytime and anywhere, regardless of the physical and geographical location of the user, application, or the server on which the application runs.

Finding the optimum answer that both meets and matches enterprise business needs and enterprise IT environments, requires careful consideration of the technical and financial implications of available market solutions. Enterprise access solutions should be flexible and comprehensive enough to accommodate dynamic business processes and needs, along with various IT infrastructures. Enterprises best able to respond to the full range of marketplace challenges are most likely to succeed. This is where Ericom® Software PowerTerm® WebConnect comes into play.

Ericom's PowerTerm WebConnect unifies the secure delivery of Windows and/or legacy-based applications on Windows or Linux desktops, with a single point of management. Uniquely bridging the gap between Microsoft RDP and server-based computing, Ericom provides centralized management and security with operational and cost advantages at a significantly lower cost of ownership than those of competing solutions. Moreover, Ericom extends these powerful access management features and benefits of the server-based computing framework to legacy host connectivity.

This paper outlines Ericom's grasp of the challenges enterprises face and the rationale behind Ericom's solution for achieving application access and delivery across enterprise-wide IT infrastructures. Furthermore, it highlights how Ericom's infrastructure software enables enterprises to modernize and standardize their enterprise-wide application access and delivery, and derive value from IT investments, while lowering TCO.

Introduction

Ericom's PowerTerm WebConnect is a server-based solution for real-world IT environments, which enables enterprises to standardize on a single vendor solution—and with a single software product. By deploying PowerTerm WebConnect throughout their enterprise, businesses obtain an application access environment that satisfies normal business needs like security, reliability, usability, performance, supportability, and cost effectiveness while simplifying IT processes.

Why Centrally Managed Enterprise-wide Application Access and Delivery?

There are clear benefits derived by companies empowered with secure, centrally managed remote and local access to mission critical company data and services. Enterprises want to maximize the effectiveness of their enterprise structures and business operations in order to remain productive and successful. Enhancing the flexibility of the working environment enables staff to better perform their jobs, as quickly and efficiently as possible. This requires that enterprises employ whatever means necessary to ensure that mission-critical applications and services are available to users, from anywhere, and on any computing device, whether locally or remotely from the location of the IT resources.

Mobile Work Patterns

Mobile work patterns have changed company landscapes so that at any given point in time, an increasing number of employees are located offsite from the location of their company's IT resources. In order to do their job, staff require 24/7 on demand access to IT resources, which usually are not stored on the end-user's device, but rather, are maintained centrally on servers or hosts. This as well as other factors, makes it all the more challenging for CIOs to consistently deliver secure, high quality IT services.

With effective centralized management capabilities, system administrators can centrally manage thousands of users, their configurations and connections in one location. What's more, the right reporting tool can permit companies to see how many actual licenses they need, when they experience peak usage times, and whether they are over or under-licensed.

High TCO

Competing solutions often compel enterprises to utilize complex application access methods while incurring high third-party licensing costs and costly application conversions. For example, competing host access management solutions may require that enterprises run 100s or 1000s of Microsoft® Windows® Terminal Servers. Also, enterprises often end up suffering high costs and TCO associated with server and server capacity demands, management, and training. Additional costs related to the Internet, outsourced or ASP services, and other external services, though less problematic, still need to be managed.

In contrast with competing solutions, PowerTerm WebConnect's concurrent licensing scheme enables organizations to buy a "pool" of licenses that are shared among many users, meaning organizations never pay for what they don't use. As a single solution, PowerTerm WebConnect lowers the enterprise's TCO and increases the ROI, while addressing overall IT enterprise application access and delivery needs.

Security

Another factor driving demands and operations in the enterprise-wide application access arena is security. Harnessing the power of the Internet has become key to remote office connectivity and application access. However, Internet-related enterprise security breaches and increasingly strict legislation are forcing enterprise network administrators to adopt more active roles in addressing overall business system security, including the inadequate nature of security and user access control.

Ericom's Server-based Computing Solution—PowerTerm WebConnect

Leveraging its core strength in host access and adaptation to Web technologies, Ericom offers a full-featured SBC solution. PowerTerm WebConnect enables corporations to benefit from secure, centrally managed and unified delivery of legacy and Windows-based applications to Windows

and Linux desktops. Moreover, all this happens within a single desktop interface in which all applications share common behavior. Ericom's SBC solution provides key benefits to IT environments comprising Windows Terminal Server, legacy systems, or a blend of both.

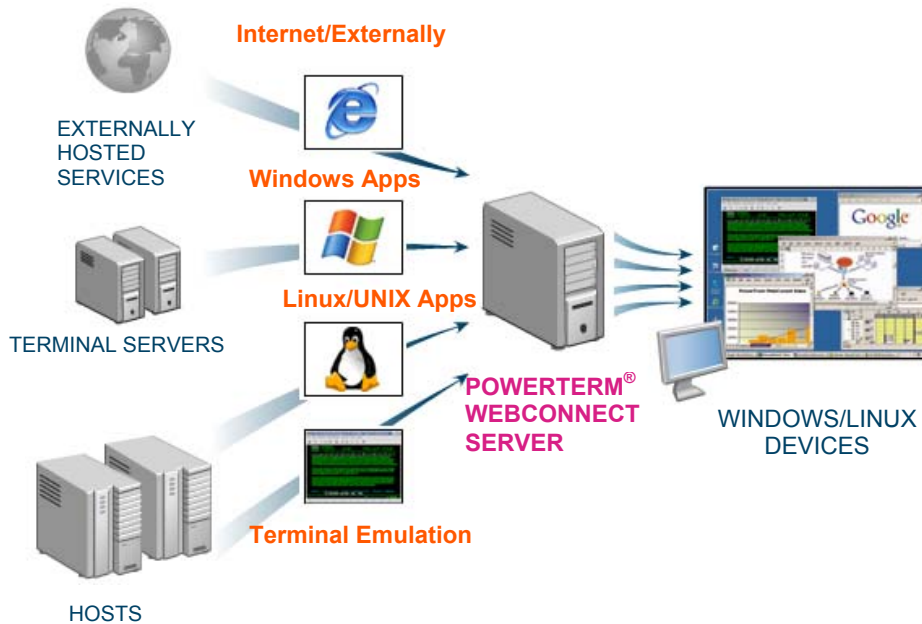


Figure 1. PowerTerm WebConnect

Browser-based Access to Legacy Applications

Robust hosts still remain the backbone of many corporate IT assets—59% of enterprises deploying SBC solutions are running at least a quarter of their critical applications on mainframes, midrange and UNIX servers¹. Ericom sees that one of the best ways to allow enterprises to lead a productive and agile business is by leveraging and extending their existing legacy systems. Beyond providing support for 35+ terminal emulations, PowerTerm WebConnect offers centralized management capabilities, which eliminate the need to manually update PowerTerm WebConnect licenses, as in the case of traditional PC-based host-access licensing. With qualities like

¹ IDC 2003

these, enterprises can save significantly on technical resources. Moreover, Ericom offers a reporting tool that permits companies to see how many actual licenses they need, when they experience peak usage times, and whether they are over or under-licensed.

A further key advantage of Ericom's solution is the direct client-host legacy access, which presents no load on the Windows Terminal Server. By not consuming Windows Terminal Server resources, PowerTerm WebConnect's capabilities optimize IT resource utilization.

Server-based Computing (SBC) Solutions

Server-based computing (SBC) enables Windows applications to be deployed, managed, supported, and executed from a single point on the server, and not on the client. This infrastructure offers multiple benefits, including simplified access to Windows applications, centralized administration, better-managed servers, as well as secure server OSs, making companies less prone to viruses and other security breaches.

PowerTerm WebConnect allows enterprises to simplify and optimize their IT infrastructure, with a collection of capabilities that provide vast improvements over equivalent capabilities on applications' native platforms. For example, PowerTerm WebConnect's powerful applications publishing capabilities enable users to interact with all the windows within a single desktop *regardless whether the windows are local or remote*. With the ability to use all applications in a familiar way, users are able to work more productively and intuitively, reducing user training requirements and support overheads. In addition, enterprises are able to maximize server resource utilization by running several applications over a single RDP connection.

IBM® Workplace™ and Linux

PowerTerm WebConnect, as the only market solution to provide integrated legacy and Windows host access across Microsoft® Windows® Terminal Server and legacy systems, enables enterprises to standardize on a single platform, while realizing the inherent benefits of their IT infrastructure. Ericom's PowerTerm WebConnect provides both Microsoft® Windows® and Linux desktop users with access to applications and documents residing on Windows Terminal Servers and legacy systems, including those from within the IBM® Workplace™ framework. Allowing all types of applications to be deployed to Linux and Windows desktops, PowerTerm Webconnect protects existing investments in servers and applications.

Key Benefits

PowerTerm WebConnect's capabilities enable corporations to simplify and optimize IT infrastructures with:

- Quick and simple deployment of software installations and updates
- Centralized configuration management and flexible operation
- End-user training and support
- Enhanced data and cross-platform security
- Automatic reconnects following failover events
- Enhanced user-experience while satisfying user requirements
- Convenient system access
- Extensive life of corporate IT assets
- Single point of administration
- Substantial savings on licensing costs

What's Unique about PowerTerm WebConnect?

Ericom PowerTerm WebConnect uniquely provides the only solution today that meets the complete range of enterprise local and remote access requirements, from Windows or Linux desktops to enterprise-wide applications running on Windows Terminal Server and legacy systems. Ericom PowerTerm WebConnect's server-based solution for real-world IT environments enables enterprises to standardize on a single vendor solution—and with a single software product. The combination of industry standard terminal emulation with enhanced RDP enables corporations to maximize ROI while satisfying user requirements. Additional advantages provided by Ericom's PowerTerm WebConnect include:

- Lower TCO and Better Server Utilization—Lower bandwidth usage and server overhead dramatically reduces hardware/software costs. Also permits a single license pool for multiple systems/host types, which exemplifies the cost benefits beyond a single Terminal Server supporting thousands of users. This has financial significance, especially during mergers and acquisitions; with companies not having to buy or manage licenses two separate systems.

- Enhancements to Standard RDP —Ericom’s RDP enhancements extend standard RDP capabilities, resulting in significant improvement to the overall experience of both users and system administrators. With Ericom’s application publishing, for example, Ericom’s patent-pending True Seamless Windows™ enables the use of Alt-Tab to switch between windows regardless of their location, To learn more about True Seamless Windows, please refer to the comparison between standard RDP and Ericom’s RDP on page 20.
- Built-in SSL Gateway—Through a single platform-independent ID, users can access the full range of enterprise applications over any connection type. The end-to-end communications from client to application is encrypted using SSL – providing a major additional benefit for legacy applications, which are known not to comply with any advanced native security.
- Enterprise-wide Application Access for IBM Portal Environments—Single-click access to Windows and legacy enterprise-wide applications from within the IBM Workplace framework, on Linux and Windows desktops, enhances the flexibility and functionality of the desktop portal environment.
- Faster Remote Connectivity to Enterprise Applications—PowerTerm WebConnect provides fast remote connectivity to enterprise applications. Since PowerTerm WebConnect directly connects users to the legacy host systems, remote users can quickly access mission critical legacy applications. Moreover, the amount of data exchanged between the remote office and the main office is significantly less than in the case of via competing terminal emulation solutions. Regardless of the user’s physical location, users can quickly access legacy applications with PowerTerm WebConnect.

PowerTerm WebConnect Product Line

The PowerTerm WebConnect product line features the following 4 product offerings with their wide range of powerful, productivity-enhancing tools that extend standard enterprise application access capabilities:

- PowerTerm WebConnect Enterprise – Full-featured SBC solution providing comprehensive and secure, local and remote access to enterprise applications running on Windows Terminal Server and legacy systems.
- PowerTerm WebConnect RemoteView – Enhanced SBC solution providing comprehensive and secure, local and remote access to enterprise applications running on Windows Terminal Server, from Windows/Linux desktops.
- PowerTerm WebConnect HostView – Browser-based host-access to legacy systems, including IBM Mainframe, IBM AS/400, UNIX, OpenVMS, and more.
- PowerTerm WebConnect for Workplace – This special version of PowerTerm WebConnect was developed in cooperation with IBM®, for inclusion in their IBM® Workplace™ framework, providing comprehensive and secure, local and remote access from Windows and Linux desktops to enterprise applications running on Windows Terminal Server and legacy systems.

PowerTerm® WebConnect Enterprise Highlights

Combines the highlights of PowerTerm WebConnect RemoteView and PowerTerm WebConnect HostView.

PowerTerm® WebConnect RemoteView

- Applications Publishing
- True Seamless Windows
- Remote access to desktops and applications
- RDP session and application load balancing
- Failover

- Centralized Administration & Management
- Application publishing
- Enhanced security –SSL, SSH and SFTP
- Supports Windows and Linux desktops
- Single sign on
- Remote desktop support
- Fast session reconnects
- Multiple platform support
- Integration with Active Directory, or any other standard
- LDAP
- Multilingual

PowerTerm® WebConnect HostView

- Browser-based terminal emulation
- Web look-n-feel
- Support for 35+ emulation types
- Scripting language
- Drag-n-drop keyboard mapping
- Power GUI
- PowerPad
- Graphical color selection
- Scalable fonts

PowerTerm® WebConnect for Workplace

One-click access from an icon on the user's desktop portal, to all enterprise-wide applications and services.

PowerTerm® WebConnect Enterprise

PowerTerm WebConnect Enterprise includes the combined capabilities of both PowerTerm RemoteView and PowerTerm HostView. Ericom's unique, full-featured SBC solution provides users of Windows and Linux desktops and devices with comprehensive, local and enhanced remote access to enterprise applications running on Windows Terminal Server, legacy and other systems. What's more, Ericom provides this solution in a single piece of software.

PowerTerm WebConnect Enterprise bundles enhanced security, centralized management tools, remote desktop support, applications publishing, and more, into a single connectivity solution that enables corporations to simplify and optimize their IT infrastructure. Centralized control and management capabilities allow organizations to fulfill end-users on-demand operational needs, simplify deployments and updates, and reduce license costs, while improving the user experience – without complex application location names and visibility of extraneous applications. PowerTerm WebConnect Enterprise also realizes the benefits of organizations' IT by optimizing budget and resources with server consolidation and better server utilization.

PowerTerm® WebConnect RemoteView

PowerTerm WebConnect RemoteView makes it possible to access published Windows applications over RDP. These seamlessly published windows may be activated directly from desktop links or the Start menu, giving local and remote applications the same look and feel. Such capabilities help lower user learning curves typically associated with non-seamless Windows applications, since a familiar web page interface simplifies access to applications. The user logs in and sees the appropriate applications via icons, a dialog box, or a Windows menu. PowerTerm RemoteView also features centralized management, enhanced security features, robust load balancing, remote support capabilities, and more.

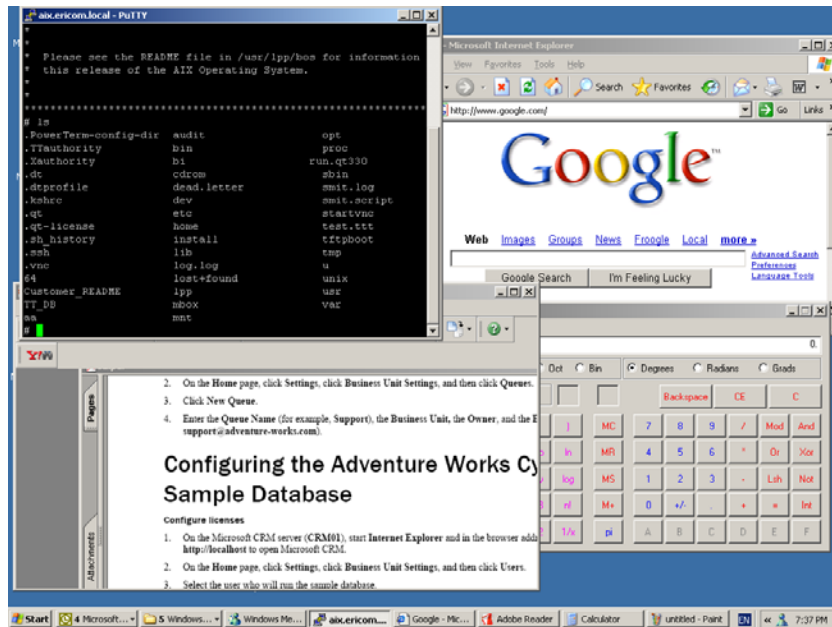


Figure 2. Unified Desktop - Legacy and Windows Applications

PowerTerm® WebConnect HostView

Leveraging the power of the Internet, PowerTerm WebConnect HostView browser-based Web-to-host terminal emulation offers enterprises key benefits in the centralized management of host-access. The solution supports a comprehensive range of emulation types, enabling access to applications running on a variety of character-based host systems. For enhanced usability, the product offers fully functional terminal emulation embedded in a browser with a rejuvenated web look and extended functionality.

With the right access permissions, any browser becomes a secure access point to a wide range of legacy hosts, including IBM Mainframe, IBM AS/400, OpenVMS, UNIX, Linux, Tandem, HP-3000 and more. Features include:

- Support for over 35 emulation types
- Multilingual: English, German, French, Spanish, Hebrew, and others
- Sophisticated keyboard mapping and scripting functionality

- File transfer: Secure FTP, AS/400 DFT, IND\$FILE, Kermit, Zmodem, and others
- Printer sessions, Auto-print, Host Print Transform, and more
- PowerGUI, PowerPad, Function Bar
- Drag'n drop Keyboard Mapping
- Graphical color selection and scalable fonts
- Support for SSH and SSL
- EHLLAPI

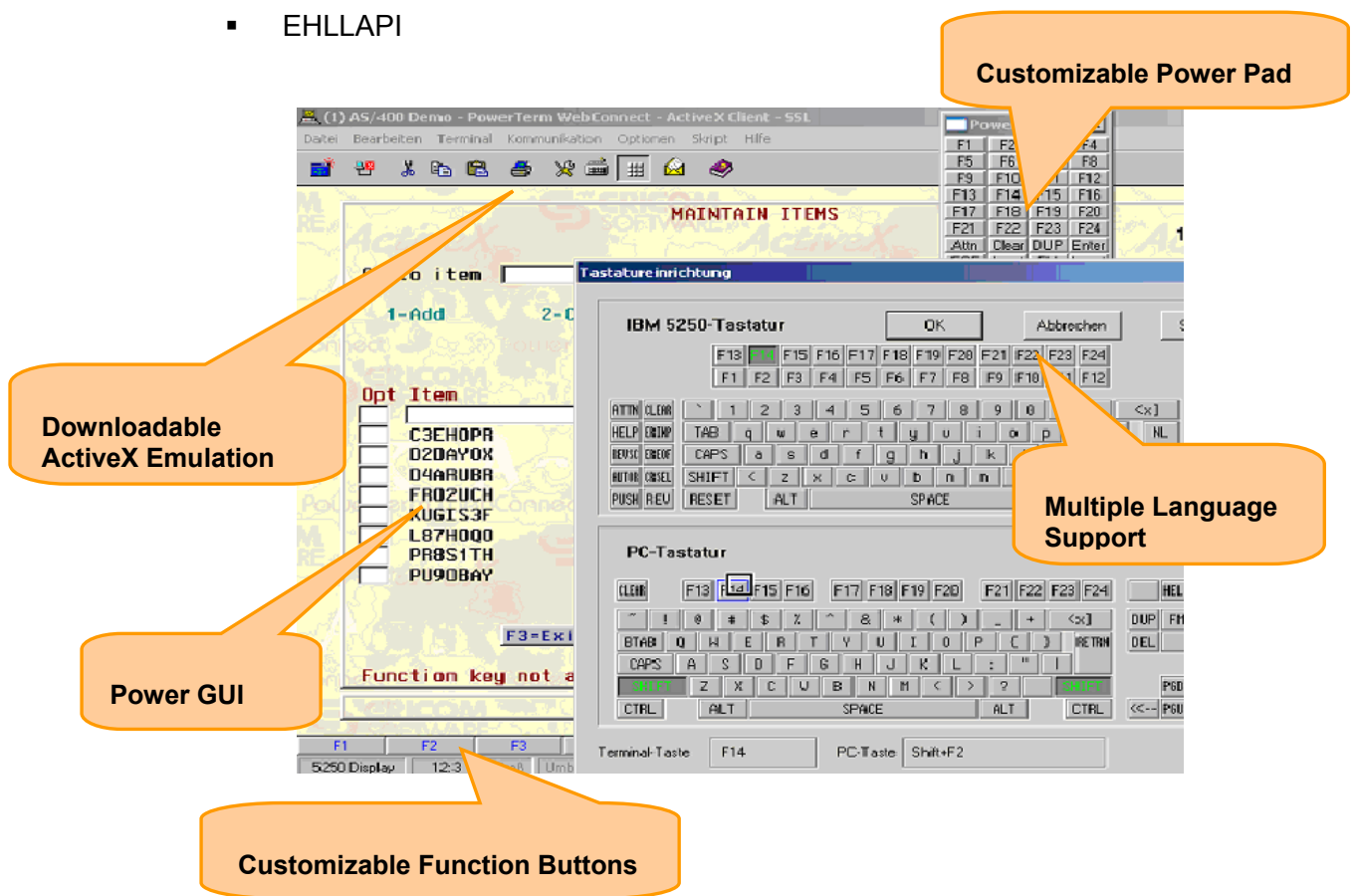


Figure 3. Administration Tool

PowerTerm® WebConnect for Workplace

PowerTerm WebConnect for Workplace is the result of a collaboration between Ericom and IBM, for integration with their new IBM® Workplace™ framework. PowerTerm WebConnect for Workplace leverages Ericom's core strength in host access and has adapted new technologies to enhance the flexibility of the enterprise desktop environment.

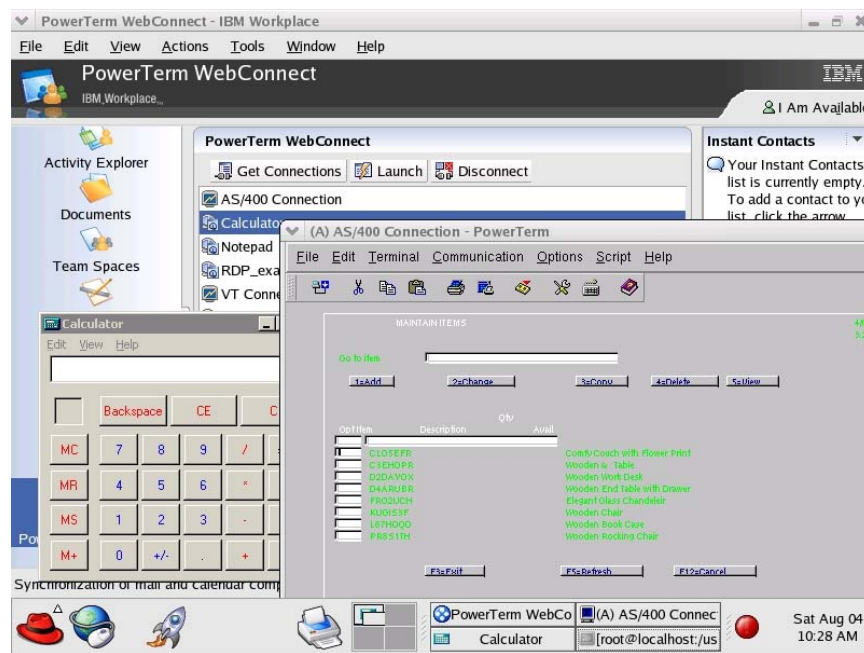


Figure 4. On Demand Access to Enterprise Applications

Ericom's PowerTerm WebConnect for Workplace integrates with IBM Workplace Managed Client (WMC) technology to provide users with single sign-on access to multiple enterprise applications of any file format, from within IBM Workplace on a Linux or Windows desktop-- and delivers them within a single, manageable portal environment. This includes many types of applications that are not available on the Linux platform, such as various Windows applications. On the client-side, PowerTerm WebConnect for Workplace combines application flexibility and portability with server-side control and cost savings traditionally associated with Web-based computing.

How PowerTerm WebConnect Works

Install Once, Centrally Deploy Everywhere

The following scenario illustrates a typical PowerTerm WebConnect installation.

1. The system administrator at the headquarters of a 800-person company, has completed a one-time installation of PowerTerm WebConnect onto a central server (Linux or Windows) and is now ready to assign access rights to a group of 200 users.
2. Conveniently from a single location, the administrator centrally creates users/groups/connections and access rights to the organization's legacy and Windows applications which reside on both legacy and Windows Terminal Servers. A big advantage of central management is faster configuration of users since the product's Administration Tool integrates into the organization's Active Directory, saving even further setup time.
3. The administrator centrally deploys the PowerTerm WebConnect Agent, used as a universal entry point to download PowerTerm WebConnect's various components to the users' desktops. The PowerTerm WebConnect client software and components are downloaded to the client device when it connects, and are installed automatically through a Web browser. They can be activated through the browser or via a desktop link. Updated components can be automatically downloaded whenever a new version is installed on the server. Operating in a way that is transparent to the user, all applications are displayed on a standard Windows or Linux desktop, behaving in the same way regardless of which platform they reside on.
4. From one of the company's branch officers, an accounts manager wants to access remote applications and services (stored on servers back at company headquarters). The accounts manager simply downloads PowerTerm WebConnect via a Web browser (after the first install, via a desktop shortcut), and the PowerTerm WebConnect Application Zone Portal appears. Whenever logging into PowerTerm WebConnect, the accounts manager is presented with a list of shortcuts to the portfolio of published applications he's permitted to access (remember the system administrator centrally configuring this earlier?). For enhanced ease and usability, the legacy applications appear alongside all the Windows and other applications.

- Alternatively, an icon can be placed on the account manager's desktop so that he/she can continue to use PowerTerm WebConnect as any standard Windows application. Since PowerTerm WebConnect incorporates both a Java and ActiveX solution, the accounts manager has complete flexibility as to how the solution is configured – both for internal and external connections, getting the best of both worlds. (Note: very few solutions have both types of connection for complete deployment flexibility).

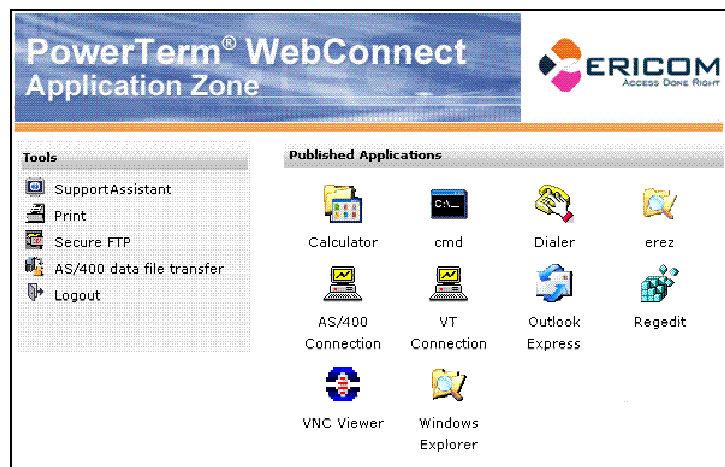


Figure 5. PowerTerm WebConnect Application Zone

- The account manager accesses several applications, presented in True Seamless Windows, which are further discussed in the section titled Application Publishing with True Seamless Windows.

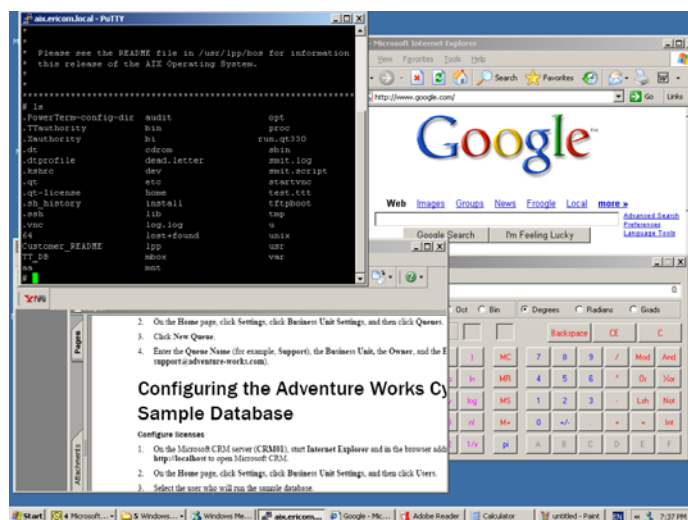


Figure 6. Applications Publishing with True Seamless Windows

PowerTerm WebConnect Key Features

Centralized Administration and Management

PowerTerm WebConnect's core management functionality gives full, centralized control to IT administrators over an organization's applications. PowerTerm WebConnect's Administration Tool enables customization of the user environment as well as the ability to configure and monitor resource access, enabling the system administrator to closely follow users' behavior, easily identify intruders and respond to users in need of assistance. Additionally, PowerTerm WebConnect has an audit option, which allows users to record and store all the connections made in a database for review at a later time. The user's environment can be controlled to the level of screen color, numerous fonts, keyboard mapping or even menu display. All such parameters are controlled via configuration settings accessed through the Administration Tool.

Enhanced Security

PowerTerm WebConnect's comprehensive security features support enterprise-level security measures. Features include built in support for SSL so all connections can be encrypted, with no need to use any third party SSL solution. (Microsoft Terminal Server does not provide an SSL Gateway, and other competing solutions offer a secure gateway server only as a stand-alone only server). Moreover, with Ericom's solution, both the telnet connections to legacy systems and the enhanced RDP connections to Windows Terminal Server are fully encrypted, making them secure across public networks. Moreover, with built in SSL, administrators can permit secure connections to servers that do not support SSL connections. PowerTerm WebConnect supports various industry standard security protocols, such as SSL, SSH, and TLS, as well as SFTP.

Application Publishing with True Seamless Windows

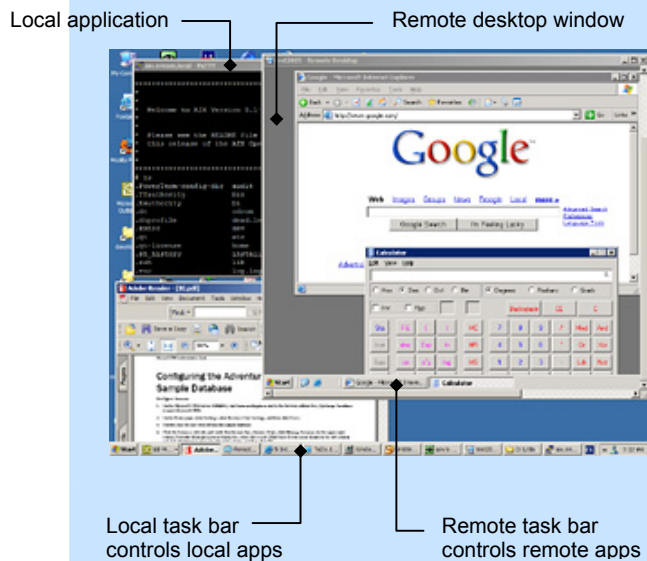
PowerTerm WebConnect's application publishing simplifies remote applications deployment by delivering to the user's local desktop only those applications the user needs. This plus the fact that the applications are delivered in patent-pending True Seamless Windows provides to the user a familiar desktop look and feel, improving the overall user's experience. Moreover, publishing the applications is compatible with existing user access policies, linking application access policies with user accounts, within Active Directory.

True Seamless Windows

With RemoteView, remote applications on the Terminal Server are fully integrated at the desktop level, delivering 'seamless windows'. Seamless server-based applications behave on the local desktop just like local applications. By delivering and integrating the remote application rather than an entire 'virtual' remote desktop, users are able to work more productively and intuitively. No awkward navigation and scrolling techniques, no additional learning curve and none of the frustration inherent in non-seamless Windows applications.

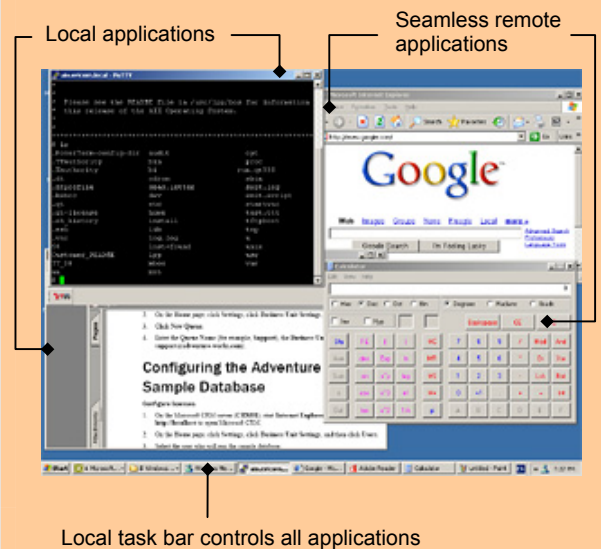
Standard RDP Desktop Mode

- Remote applications can only be arranged within the remote desktop window
- Users need to master awkward navigation and scrolling techniques to operate windows within windows, or constantly flip between desktops
- Two task bars: one for local and one for remote desktop
- Using Alt + Tab to switch between applications only works within a single desktop



PowerTerm® WebConnect RemoteView Seamless Mode

- Local and remote applications look and behave identically
- Windows for local and remote applications can be arranged anywhere on the desktop
- Users can easily switch between local and remote applications using mouse or keyboard (Alt + Tab)
- One task bar controls all applications



Load Balancing

PowerTerm WebConnect boasts highly scalable Terminal Servers and applications load balancing capabilities. In response to user requests for connections to the Windows Terminal Server, PowerTerm WebConnect allocates the best server for the connections. Optimizing server connection sessions, PowerTerm WebConnect's load balancing prevents server overloads and downtime, improving productivity and workflow.

Integration with Active Directory

PowerTerm WebConnect maintains its own database of users and groups, but can integrate with any LDAP-compatible directory server to import user definitions, such as Microsoft Active Directory, Novel Directory Server and iPlanet. Using LDAP, the system administrator can import the existing network configuration rather than having to redo the configuration. Moreover, PowerTerm WebConnect can also identify a user for authentication even if moved between OUs (Organizational Units). Adding another security layer to the system; if the network user is disabled, then the WebConnect server will not allow this user to log in to the system.

Remote Desktop Support

PowerTerm WebConnect's remote Help-desk support provides secure, remote access and control over a user's entire desktop. With the Windows native client, PowerTerm WebConnect's SupportView provides a pcAnywhere®-like capability with several advantages: it requires neither pre-installation on the client, nor user configuration and is both firewall friendly and extremely fast.

Another unique advantage of the solution's remote desktop support functionality is its ability to handle dynamic IP addresses. Even if users are behind firewalls, use DHCP, or connect via one of the Internet service providers (AOL, MSN, Earthlink, etc), they can still use the solution's remote desktop support function. With PowerTerm WebConnect, system administrators can eliminate pcAnywhere® - like applications, associated support costs and the required firewall configuration changes.

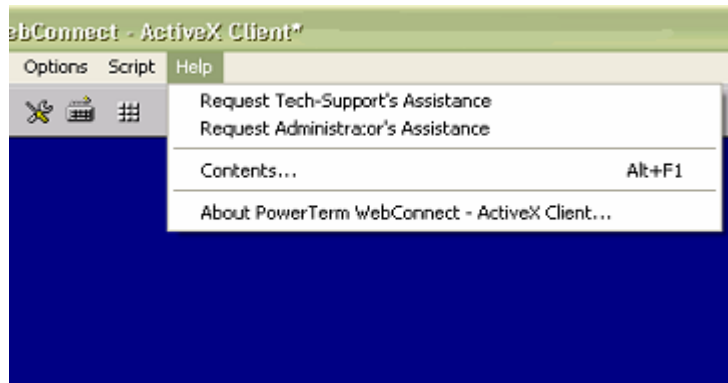


Figure 7. Remote Desktop Support Ease-of Use

Remote desktop support is valuable not only for PowerTerm WebConnect users, but also anyone else on a Windows PC connected to the network. For example, if a user in Tokyo experiences a problem with entering an order, a supervisor in New York can take session control and guide the user on how to correct the problem.

Single Sign-On

The PowerTerm WebConnect Server can authenticate users, transparently based on their domain authentication, and automatically forward these credentials to the Terminal Server, depending on the network security configuration and policy. Using this approach, PowerTerm WebConnect eliminates user frustration commonly associated with repeated log-ins. PowerTerm WebConnect is fully integrated with Microsoft's Active Directory, providing support for single sign-on to Windows Terminal Server applications.

Local & Remote Printing

PowerTerm WebConnect's print capabilities enable users to send printouts from a remote host to local printers. Using the LPD/LPR protocol, any printer that is addressable via its IP address can be used for printing. Remote printing is based on printer configurations and functionality, including Printing to File, PSL and enhanced logins. Features also include SSL-security, firewall-friendly, and Reconnects, wherein print mode automatically resumes after any interruptions.

Keyboard Mapping

One of the more problematic tasks of terminal emulation is setting up the keyboard maps. Many terminal emulations require special keys that are not present on PC keyboards. Keyboard Mapping with PowerTerm WebConnect is easy; it is a matter of dragging a key from an image of the terminal keyboard to the appropriate key on the PC keyboard. Below is the keyboard map pair for mapping a 5250 keyboard. Notice that several of the PC keys have already been mapped to 5250 keys.

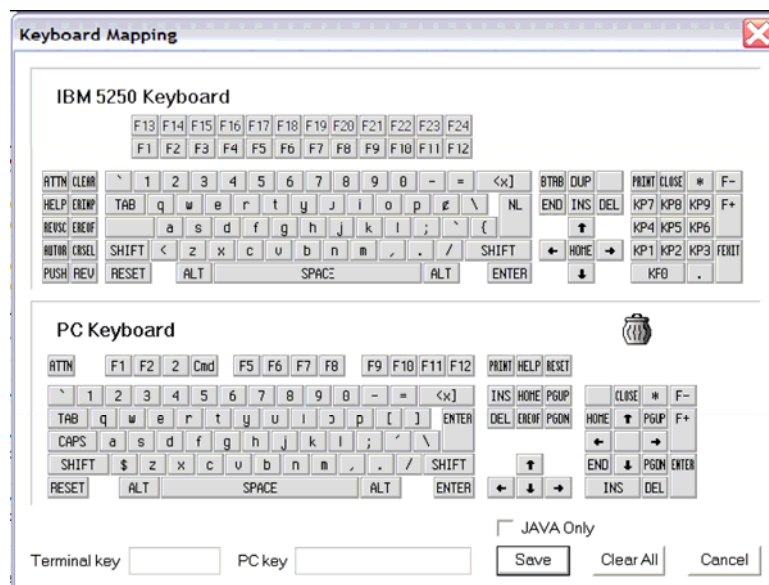


Figure 8. Drag-n-Drop Keyboard Mapping

PowerTerm WebConnect Architecture

By way of an all-in-one server and several client-components, PowerTermWebConnect provides access to various central computational resources. These computational resources work in sync to deliver secure, managed enterprise-wide application access across diverse client devices. PowerTerm WebConnect clients are available for Linux and Windows environments, including other environments with Java support.

PowerTerm WebConnect Server

The PowerTerm WebConnect server runs Windows or Linux as a native application, is highly scalable, tested, and proven to support thousands of concurrent users. The server is configurable in two basic modes: Gateway Mode or Direct Mode. The basic difference between the two modes is how the client communicates with the host after the client has logged on. In Direct Mode, the client communicates directly with the host system, and not through the PowerTerm WebConnect server. However, in Gateway Mode, the communication is via the PowerTerm WebConnect server to the host system.

Access Modes: Gateway & Direct

PowerTerm WebConnect clients maintain a constant connection to the Term WebConnect Server (functioning either as a 'Gateway' or in 'Direct mode') to download configurations and scripts, and to enable real-time administrative control. Moreover, the same PTWC server can run some sessions in Direct Mode and others in Gateway mode. This allows the administrator to achieve optimal performance and scalability while maintaining system security.

Gateway Mode: In Gateway Mode all communication between that client and the host is routed through the PTWC server; therefore, acting as a "go between," it has more work to do. In Gateway Mode, the scalability of the PTWC server becomes partially dependent on the amount of communication traffic between the client and host. Moreover, if the PTWC server is instructed to encrypt all the communication with the client using SSL (Secure Gateway) even more load is placed on it. There are several advantages to Gateway access as a method: it enables the traffic to the host system to take advantage of the security features (message encryption, and user authentication via SSL); it avoids the need for a Terminal Server's IP address to be visible beyond the firewall; an audit log of all access sessions is maintained, and incorporates proactive alerting for intruder access and multiple login attempts; and bandwidth is saved over the alternative method of clients having separate host connections. Session Reconnect, for remote access over "bad" lines and particularly useful for mobile and remote users, enables interrupted sessions to continue from the exact point of interruption.

Direct Mode: 'Direct' access (not through the PowerTerm WebConnect server) to host systems, is the other option. This circumvents many of the highest levels of control over user access sessions, yet the product still manages and logs transactions and messages (including access control). This method can help to avoid a bottleneck between client machines and the PowerTerm WebConnect server.

	Gateway Mode	Direct Mode
Maximum number of sessions that a single PowerTerm WebConnect server can support.	Hundreds/few thousand	Several Thousand
Encryption of information.	Encryption of all information even if the Host doesn't support encryption.	Encryption only if the host supports SSH/SSL
Reconnect –Session preservation during communication interruptions.	Yes – The PowerTerm WebConnect server preserves the session between the PowerTerm WebConnect server and the host, and reestablishes the connection to the client when communication is reestablished.	No – If communication is lost, the session is lost.

Table 1. Gateway Mode vs. Direct Mode

Placing a lower load on the PTWC server, Direct Mode is generally more scalable than Gateway Mode. In Direct Mode the server provides the client with all the connection configuration settings, and the client then connects directly to the target host. Consequently, while a Direct Mode session is active, the load on the PTWC server is very small. In fact, the client can maintain the connection to the host even if it loses the connection to the PTWC server (although it will lose some functionality). The following table outlines additional advantages associated with each mode.

Components

PowerTerm WebConnect includes ten different client types, which provide access to many types of central computational resources. Clients are available for both Linux and Windows and for other environments with Java support. PowerTerm WebConnect clients are downloaded and installed automatically through a Web browser. Once installed, they can be activated through the browser or by using a desktop link. Embedding the clients in the HTML enables seamless integration into corporate portals and, coupled with Directory Services integration, facilitates Single Sign-On. The clients can automatically update themselves whenever a new version is installed on the server — even to locked systems.

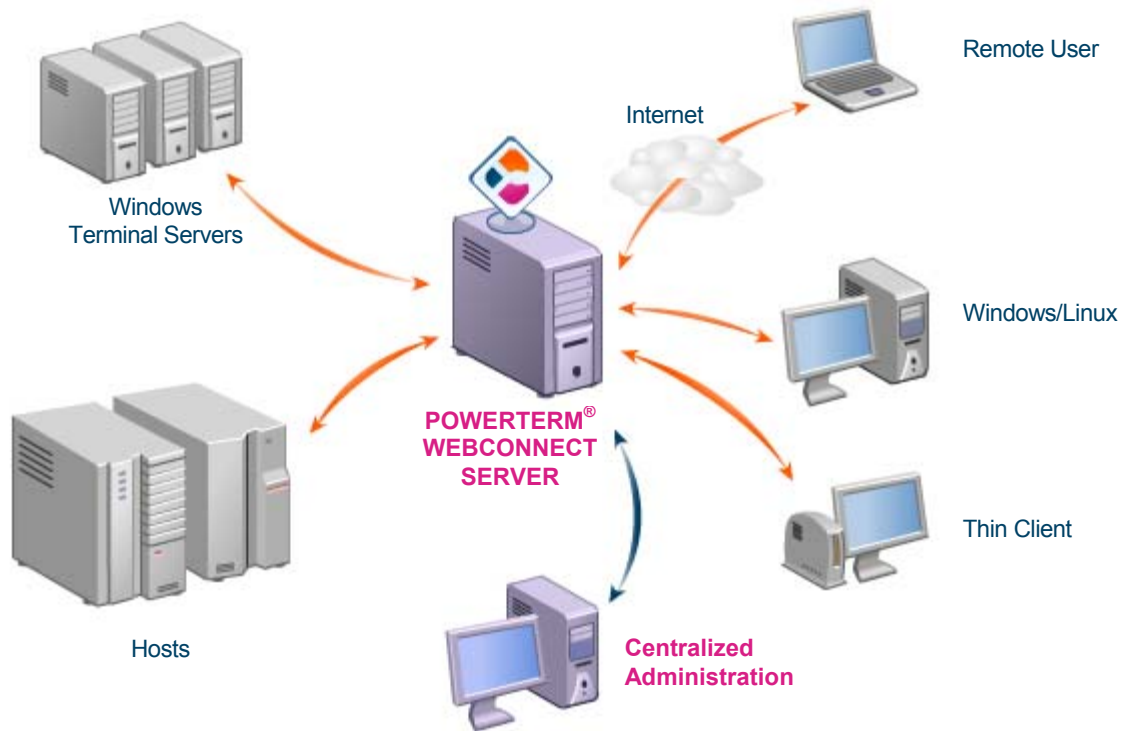


Figure 9. PowerTerm WebConnect Main Components

PowerTerm WebConnect includes a wide variety of powerful, productivity-enhancing tools that go beyond simple application access, including:

RemoteView Client— Provides secure access within a single browser to Windows applications running on a Microsoft Windows Terminal Server (TSE). The RemoteView RDP client displays the Window's screen and all of its application windows. Like other RDP clients, it's built on top of the Microsoft Terminal Server Advanced client (TSAC).

WebConnect Agent— Displays a System Tray icon that provides a universal entry point to all the PowerTerm WebConnect clients, single sign-on, automatic updates of clients, with all these functions easily accessible via a popup-menu.

HostView—Provides Active-X terminal emulation with a classic look, and is launched from a browser.

For Windows—A full-featured terminal emulator provides support for over 35 terminal types including IBM 3270, IBM 5250, VT, HP 3000, Tandem and more.

HostView for Linux—The native client for Linux environments (PowerTerm WebConnect HostView) is packaged in two ways for highest distribution compatibility: cross-browser Java downloader, and an XPI installation available for the increasingly popular Mozilla browser.

WebView Client—The WebView client provides fully functional terminal emulation embedded in a browser with a rejuvenated web look and extended functionality. WebView includes tools for enhancing the emulation page by adding graphics, colors and links to outside applications and functions.

QuickVNC—The QuickVNC Secure Gateway uses VNC protocol to provide remote desktop sharing. QuickVNC enables system administrators and others to access remote Windows and Linux desktops

Administrative Tool— A tool for centralized administration of WebConnect users. The Admin Tool can be used to add and configure users, groups and connections, all from one central location. The tool permits real-time monitoring for session information, including time, location, and duration of sessions and reporting of all connections into the host computer(s). Administrators can also manage sessions and centrally control access permissions. Moreover, the IT department can centrally terminate any session of any user, giving IT complete control over usage, access and configuration.

SupportView — A total remote help-desk solution built into PowerTerm WebConnect provides a secure connection between the client device and administrator for either training or real-time troubleshooting.

PrintView — Enables users to send printouts from a remote host to local printers using the LPD/LPR protocol.

Java Client — The Java client is a full-featured terminal emulator with support for over 35 terminal types for any Java-enabled environment or device. This gives the organization flexibility in choosing from (or migrating to) a variety of desktop and other user devices. As long as the device in question supports Java, it will be able to run the PowerTerm WebConnect's Java Client.

SFTP Client — The SFTP Client securely transfers files using SFTP between PowerTerm WebConnect's SSH Client and Unix, Linux, or OpenVMS systems, ensuring file transfer security - within the organization, and across the Internet.

Technical Highlights

Enterprise-Class Scalability

The PowerTerm WebConnect server was designed for extreme high-scalability and throughput. A single PowerTerm WebConnect server can support thousands of concurrent user sessions (actual number of sessions may vary based on server and network hardware and configuration).

Load test results have proven PowerTerm WebConnect server's ability to handle more than 3,000 thousand concurrent user sessions on a Windows 2000 Server with dual 2.4Ghz Pentium 4 CPUs and 2GB RAM.

Failover (Fault Tolerance)

PowerTerm WebConnect supports multiple backup servers. In the event that a primary WebConnect server is shut down, or fails, any number of backup servers will take over in its place. Designed to avoid loss of services, this feature ensures that users will have robust uptime to maintain user productivity. A failover server license is required to use the failover mechanism, but there is no need for more client licenses since all the servers participating in the system utilize the same client license pool.

Session Reconnect

Particularly useful for mobile and remote users, in Gateway Mode only, Session Reconnect automatically resumes interrupted user-sessions. Session Reconnect enables interrupted sessions to continue from the exact point of interruption, so there is no loss of work or data, and saving the user from repeating the laborious process of logging in and data reentry.

Thin Clients

Thin Client manufacturers want to enhance the overall functionality and performance of their products, at reduced costs. PowerTerm WebConnect lets manufacturers offer their customers world-class thin client functionality with the flexibility to access and centrally manage remote applications, hosted on enterprise-wide servers and platforms.

Ericom's PowerTerm WebConnect products for thin clients deliver:

- Remote access to applications hosted on Windows Terminal Servers; emulation performance with a fast screen refresh rate.
- Task automation enabled by Ericom's comprehensive scripting language, which eliminates repeated work.

- Easy and fast adaptation and migration from terminal legacy environments to thin clients through Ericom's drag & drop graphical keyboard mapping functionality.
- Smooth migration from terminal legacy environments to thin clients, through the use of a full range of terminal fonts especially designed for this purpose.

PowerTerm WebConnect for Thin Clients features low cost, small footprint, support for Windows XPe, WindowsCE, and Linux-based Thin Clients, and support for Windows 2000/2003/2003 x64 Terminal Servers.

Platform Support

PowerTerm WebConnect supports the following platforms and servers:

Client Platforms	<ul style="list-style-type: none"> ▪ Windows® 95 ▪ Windows 98 ▪ Windows ME 	<ul style="list-style-type: none"> ▪ Windows NT ▪ Windows 2000 ▪ Windows XP 	<ul style="list-style-type: none"> ▪ Windows 2003 ▪ Windows CE ▪ Linux
Server Platforms	<ul style="list-style-type: none"> ▪ Windows 2000/2003/2003 x64 	<ul style="list-style-type: none"> ▪ Linux for x86 	<ul style="list-style-type: none"> ▪ Linux for POWER
Microsoft® Windows Terminal Server	<ul style="list-style-type: none"> ▪ 2000 	<ul style="list-style-type: none"> ▪ 2003 	<ul style="list-style-type: none"> ▪ 2003 x64
Hosts	<ul style="list-style-type: none"> ▪ IBM Mainframe ▪ IBM AS/400 ▪ Unix 	<ul style="list-style-type: none"> ▪ Linux ▪ OpenVMS ▪ Data General 	<ul style="list-style-type: none"> ▪ Tandem ▪ HP 3000 ▪ SCO
Emulations	<ul style="list-style-type: none"> ▪ IBM 3270 ▪ IBM 5250 ▪ IBM 3151 ▪ VT 52–525 ▪ BBS-ANSI ▪ SCO-ANSI ▪ AT386 	<ul style="list-style-type: none"> ▪ Linux ▪ AIX Term ▪ Wyse 50/50+/60/370 ▪ Televideo TVI 910+/920/925/950/955 ▪ Data General 	<ul style="list-style-type: none"> ▪ ADDS VP A2 ▪ HZ 1500 ▪ Siemens ▪ HP 700/96 ▪ HP 700/92 ▪ Tandem 6530 ▪ XTERM
Security	<ul style="list-style-type: none"> ▪ SSL 	<ul style="list-style-type: none"> ▪ SSH 	<ul style="list-style-type: none"> ▪ SFTP

Figure 10. Platforms Supported

Appendix— PowerTerm WebConnect Features

Please refer to the following table to review a summary of PowerTerm WebConnect's key features according to its four product offerings:

	PowerTerm® WebConnect Enterprise	PowerTerm® WebConnect RemoteView	PowerTerm® WebConnect HostView	PowerTerm® WebConnect For Workplace
Centralized, Remote Provisioning and Administration				
Centralized Administration – Integrated Administration Tool for performing quick & easy management of servers, published applications, users, groups and active sessions.	√	√	√	√
Remote Administration – Administration application downloads and installs through the web browser, securely administrating the server from anywhere, anytime.	√	√	√	√
Real-Time View And Control – Interactive administration tool provides up-to-date view of the server state, which updates automatically in real-time.	√	√	√	√
Directory Services Integration (LDAP and ActiveDirectory) – Leverages the central user repository for automating the process of defining users/groups. Integrates with Microsoft ActiveDirectory and compliant LDAP servers for user import and authentication.	√	√	√	√
Access Control – Allows system administrators to limit access to particular components and published applications by IP ranges.	√	√	√	√

	PowerTerm® WebConnect Enterprise	PowerTerm® WebConnect RemoteView	PowerTerm® WebConnect HostView	PowerTerm® WebConnect For Workplace
Publish Application Wizard – enables administrator to easily publish remote applications. In addition, administrator can publish multiple applications simultaneously for a superior user experience. Published applications will appear in the Application Zone and in the Web Interface, and can be accessible via icons on the Desktop or in the Start menu.	√	√		√
Automatic Client Download – Clients are downloaded and installed automatically via the browser. ActiveX, Java and XPI download mechanism provide maximal cross-platform support. Supports side-by-side installation of multiple client versions as well as installation even for restricted users.	√	√	√	√
Automatic Client Updates – Client components are automatically updated when a new version is placed on the server, without requiring any user intervention. Client updates are performed even for restricted users.	√	√	√	√
Componentized Clients – downloads only the components required to activate the specified application. Additional components downloaded on demand.	√	√	√	√
Cross-Platform Server – Install server on Windows or Linux (x86 and POWER)	√	√	√	√
Cross-Platform Clients – Clients for Windows (95+), Linux and LTC.	√	√	√	√

	PowerTerm® WebConnect Enterprise	PowerTerm® WebConnect RemoteView	PowerTerm® WebConnect HostView	PowerTerm® WebConnect For Workplace
Supports Windows Terminal Server 2003 64bit	√	√		√
Remote Desktop Protocol (RDP) Enhancements				
Applications, Content and URL Publishing – Instantly publishes remote or local applications, documents and URLs for access by any user or group and providing users with easy access to their applications.	√	√	√	√
Server Load Balancing - Allocates the best server for connection to applications, enabling optimal resource utilization and preventing server overloads and downtime. Load balancing function easily customized using a visual interface. Load balancer automatically protects against “black hole” effect and server overloading.	√	√		√
Application Load Balancing – Specify servers per application. Automatically detects which servers applications are installed on.	√	√		√

	PowerTerm® WebConnect Enterprise	PowerTerm® WebConnect RemoteView	PowerTerm® WebConnect HostView	PowerTerm® WebConnect For Workplace
<p>True Seamless Windows – Remote applications are fully integrated into the local desktop, so local and remote apps look and behave identically. Users can easily switch between local and remote applications using mouse or keyboard (Alt + Tab), and one taskbar controls all applications. Reduces user training requirements and support overheads, in addition to enabling the operation of a mixed thin-client and PC network. In addition, running several applications over a single RDP connection optimizes server resource utilization</p>	√	√		√
<p>Support Topmost Windows and Notifications – Topmost windows and notifications are properly handled, thus preventing missed appointments and unnoticed emails.</p>	√	√		√
<p>Content Redirection – Redirect content access from server to client, or from client to server. Set redirection for application, user or group. Specify redirection by protocol and exclude content from redirection by host address.</p>	√	√		√
Security Features				
<p>Built-in SSL Gateway – The ability to tunnel host traffic of Windows and legacy applications through secure transport (SSL), in gateway mode. Enterprises can secure access of network and remote applications to only authenticated users. Moreover, provides another layer of security against DOS and brute-force attacks.</p>	√	√	√	√

	PowerTerm® WebConnect Enterprise	PowerTerm® WebConnect RemoteView	PowerTerm® WebConnect HostView	PowerTerm® WebConnect For Workplace
<p>Single Sign-on and Authentication Single sign-on access to Windows Terminal Server applications. Authenticates users transparently based on their domain authentication, eliminating user frustration associated with repeated log-ins.</p>	√	√	√ (using login scripts)	√
<p>SFTP for Secure File Transfer – Enables SSH secured file transfer using the FTP protocol.</p>	√		√	√
<p>Central Configuration and Lockdown of Client Features – Administrator can configure all the connection properties, thus ensuring properly secured access to business-confidential resources. Administrator also has complete control over the client interface, with the ability to lockdown any feature.</p>	√	√	√	√
<p>Server-stored Scripts and Configurations–Provides a central and secure point of management. In addition, the client user interface can be disabled during script playback, allowing the use of login scripts for automating user logins without the risk of exposing passwords.</p>	√		√	√
<p>Real-time Intruder Monitoring– Administrator can view all active connections in real time, and selectively terminate connections. PowerTerm WebConnect is also equipped with an intruder-monitoring feature, which provides real-time alerts to hacking attempts.</p>	√	√	√	√

	PowerTerm® WebConnect Enterprise	PowerTerm® WebConnect RemoteView	PowerTerm® WebConnect HostView	PowerTerm® WebConnect For Workplace
Logging, Event Recording And Audit Trails —Extensive logging, event recording, and detailed, customizable audit trails enable system security administrators to easily investigate any security issues.	√	√	√	√
SSH/SSL Security – For secure terminal emulation sessions.	√		√	√
Logs & Reports Generation				
Customized Reports – Details user operations in Excel CSV format, enabling the monitoring and auditing of user operations over any period of time.	√	√	√	√
Comprehensive Logging – Logging all server operations simplifies server maintenance and support, and enables monitoring and verifying server behavior.	√	√	√	√
Remote Support				
Remote Desktop Support – Allows administrator to remotely view and control the entire user’s desktop. This capability significantly simplifies the administrator’s ability to resolve helpdesk, support, and training issues.	√	√	√	√

	PowerTerm® WebConnect Enterprise	PowerTerm® WebConnect RemoteView	PowerTerm® WebConnect HostView	PowerTerm® WebConnect For Workplace
Built-in Instant Messaging – Users and support staff can communicate using built-in Instant Messaging, with the ability to send screen shots, providing easy assistance in response to user requests.	√	√	√	√
Server Features				
High Scalability – Highly scalable server supports thousands of concurrent sessions, reducing TCO and simplifying administration.	√	√	√	√
Failover – After defining primary and backup servers, Failover feature guarantees constant system availability and high reliability.	√	√	√	√
Gateway Mode – Allows easy firewall traversal and secure access to terminal servers and hosts. Optionally routes all traffic through a single configurable port. Valid for desktop remote windows and seamless Windows application modes.	√	√	√	√
Direct Mode – Provides direct access to terminal servers and host systems, and not through the PowerTerm WebConnect server, thus improving system performance and scalability.	√	√	√	√

	PowerTerm® WebConnect Enterprise	PowerTerm® WebConnect RemoteView	PowerTerm® WebConnect HostView	PowerTerm® WebConnect For Workplace
Client Features				
Application Zone – Provides the user with easy access to all the applications and content to which he or she has access, either remote or local. Application Zone can be configured to be always on top of other windows, and can be made partially transparent.	√	√	√	√
Web Interface – Access and activate applications from the Web browser. Compatible with ASP, ASP.NET and JSP.	√	√	√	√
Portal Integration – Integrates with IBM Workplace Portal and WebSphere portal. Also provides a plugin for IBM Workplace Managed Client.				√
Automatic Publishing – Icons to published applications on the Desktop and Start menu are updated automatically when published, without requiring a manual refresh by the user.	√	√	√	√
System Tray Icon (WebConnect Agent) – User can access PowerTerm WebConnect services at any time using an icon in the System Tray. Opens the session list of applications as well as Instant Messaging and Support Assistance.	√	√	√	√

	PowerTerm® WebConnect Enterprise	PowerTerm® WebConnect RemoteView	PowerTerm® WebConnect HostView	PowerTerm® WebConnect For Workplace
Session Reconnect – Automatically enables interrupted sessions to resume from the exact point of in interruption, so there is no loss of work or data, and saving the user from repeating the laborious process of logging in and data reentry. Reconnect to sessions using seamless windows.	√	√	√	√
Customizable splash screens and background images – Simply place image files on the server. Specify different images per user groups.	√	√		√
Emulation Features				
Emulation Embedded in the Browser – Emulation embedded in the browser window for turnkey rejuvenation. Activate scripts using HTML links and buttons.	√		√	√
Java Client – Terminal emulation in Java for maximal cross-platform support.	√		√	√

	PowerTerm® WebConnect Enterprise	PowerTerm® WebConnect RemoteView	PowerTerm® WebConnect HostView	PowerTerm® WebConnect For Workplace
Multilingual, drag-and-drop keyboard mapping and scripting functionality	√		√	√
Printer sessions: auto-print, Host Print Transform, LPD and more	√		√	√
PowerGUI – Allows legacy screens to take on a modern browser appearance.	√		√	√
EHELLAPI for process automation.	√		√	√

Table 2. PowerTerm® WebConnect Product Features Comparison

About Ericom

Ericom® Software is a leading provider of Enterprise-Wide Application Access and Delivery Solutions. Since 1993, Ericom has been helping users access enterprise mission-critical applications. More than a decade later, Ericom continues to focus on its core business, while enabling access to applications running on a broad range of Microsoft® Windows® terminal servers, legacy hosts and other systems, and providing concrete business value by helping organizations realize the benefits of their IT investments. Ericom's expanding customer base spans 45 countries, is 30 thousand strong and with over 5 million installations. Ericom has a global presence in the United States and EMEA, and an extensive network of distributors, strategic partners and OEM partners, throughout North America, Europe, Asia and the Far East.

For more information on our products and services, contact us at the location nearest to you. And visit our web site: <http://www.ericom.com>

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