

Technology Audit

Software Infrastructure

Ericom Software

PowerTerm® WebConnect Enterprise v5.5

Written by: Alan Rodger

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Abstract

PowerTerm WebConnect Enterprise, by Ericom, enables users of server-based computing to benefit from delivery of legacy-based, as well as Windows-based, applications within a single desktop interface in which all applications share common behaviour. This is a departure from most competitor solutions: although adoption of server-based computing has grown, organisations have been forced by the failure of most solutions to address their legacy systems requirements to undertake somewhat fragmented delivery of applications to end-users. Ericom's solution to this problem can enhance the user experience, and can potentially enable more efficient working practices. PowerTerm WebConnect Enterprise also enables strong security to be applied to the delivery framework (with additional centralised management features like auditing and controlling access by users), and to applications. A focus on cost saving and reducing the costs of ownership is demonstrable throughout the product's architecture, design, and features, and Ericom positions this approach as finally enabling organisations to consider server-based computing on a strategic scale, rather than solely as a tactical solution.

Butler Group believes this product to be well worth the consideration of any organisation that has adopted, or may adopt, the server-centric computing paradigm.

KEY FINDINGS

Key: ✓ Product Strength ✗ Product Weakness i Point of Information

✓	Unifies delivery of Windows- and legacy-based applications on a single desktop, with management from a single point of control.	✓	Allows all types of application to be deployed to a Linux desktop, protecting existing investments in servers and applications.
✓	"Seamless Windows" delivers intuitive user experience, improves productivity, and can help to reduce ownership costs.	✓	Enables modernisation and standardisation of a legacy system (e.g. use of advanced security).
i	Windows applications have to be platformed on Terminal Server.	✗	Lack of server-farm management tools for Terminal Server environment.

LOOK AHEAD

Ericom plans releases within 2005 and early 2006 that will have improved Web application publishing, integration with X-Windows, remote log-on to PCs or workstations, enhanced portal support, and enhanced single sign-on functionality.

► FUNCTIONALITY

The adoption of Server-based computing by organisations of many sizes, and within many sectors, has steadily increased over recent years. However, one significant problem for organisations considering this approach is the ability of candidate solutions to address their varied IT needs relating to applications on a number of host platforms, and users that connect to corporate networks from remote locations via the Internet, and via disparate client devices.

While Microsoft's Windows Terminal Services has been a popular route to adoption of server-based computing, providing significant capabilities such as systems management and user access control to address enterprise scale and strength needs, it lacks a number of valuable features and is unable to provide access to legacy systems. As a result, organisations that need to provide effective and managed access to both Windows- and non-Windows-based types (a "heterogeneous environment") can suffer from costs relating to solution ownership, management, and training over and above those relating to the Microsoft solution.

Of course, user access to legacy systems is often a different matter from the more standardised and familiar methods in use for Windows-based applications. But as organisations are forced to consider carefully the risks arising from their business systems, the need for adequate security and user access control within legacy applications has to be addressed.

Product Analysis

PowerTerm WebConnect is a solution that can provide concurrent access both to Windows-based systems running under Windows Terminal Server, and non-Windows-based systems on legacy host platforms including IBM Mainframe (zSeries), IBM AS/400 (iSeries), HP OpenVMS, UNIX and more. It is available in versions which offer either, or both, of these capabilities, but which all offer a management framework, advantages such as the option to deploy on Linux, and improved security, that are significant additions to the equivalent capabilities on applications' native platforms. It is also advanced in its field, in its ability to combine delivery of all applications at the presentation layer in a common way, whichever platform they are resident upon – this objective (known as "seamless Windows") is a much sought-after feature in combining delivery to a unified client of disparately based applications, as it avoids management and usability problems for owner organisations.

Core management functionality is provided via a single administration console, which manages the delivery of all enterprise applications. The product allows integration with existing management of an organisation's user population, by leveraging definitions within Lightweight Directory Access Protocol (LDAP), or Microsoft Active Directory (AD) platforms (including those of user groups). The portfolio of applications that the product makes available to the user population is also managed centrally, and these can also be dealt with in logical groupings for ease of administration. Assignment of users' rights to applications is available via the management console.

The product enables end-to-end communications from client to application (whether Windows- or legacy-based) to be encrypted using Secure Sockets Layer (SSL). This is a major additional benefit for legacy applications, which commonly may be unable to benefit natively from any advanced security. Similarly, such applications particularly benefit from the Single Sign-On (SSO) features that PowerTerm WebConnect provides – this provides the flexibility to leverage the solution's secure server component for credential storage, or to pass credentials through to the Terminal Server or host system.

Ericom states that independent testing has established that a single PowerTerm WebConnect Server can support thousands of users, although this would be dependent on the profile of their application usage. PowerTerm WebConnect manages the allocation of connections to applications according to the Terminal Server loading (measured by CPU, memory, and the number of current sessions).

Product Operation

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. In operation, the product is transparent to the user (which is a strength) in that all applications are displayed on a standard Windows desktop, behaving in the same way regardless of which platform they reside on.

Ericom provides a small 1.5 megabyte installation which installs agent software onto the Terminal Servers. This enables access to the enhanced Remote Desktop Protocol (RDP) features such as Seamless Windows, and allows the PowerTerm WebConnect load balancer to communicate with the Terminal Services load balancer. No components have to be installed for accessing legacy-based systems. The clear separation between the WebConnect server and Terminal Servers (farm) is in marked contrast to other access management solutions – by separating the application environment and the presentation layer, Ericom delivers a simplified architecture that reduces the complexity of installation, maintenance, and troubleshooting.

Figure 1 shows the configuration for delivery to the client of legacy- and Windows-based applications from within the enterprise, and Web access beyond the enterprise. OpenSSL is installed as part of the client and encryption under SSL is supported for all traffic between client machines and the PowerTerm WebConnect server, and onwards to host systems. The product can leverage SSL appliances if required. Client devices are able to connect directly to host systems using SSL or Secure Shell (SSH) encryption. However, if this is not a preference, or the particular client device and host system do not both have capabilities that let them share an SSL connection, PowerTerm WebConnect can handle encryption both of the client's connection to the product's server, and of onward connection to the host system. PowerTerm WebConnect adds another layer of security by acting as a gateway to internal systems, negating the need to expose ports 3389 (Terminal Servers), and 23 (Legacy Systems) directly to the Internet.

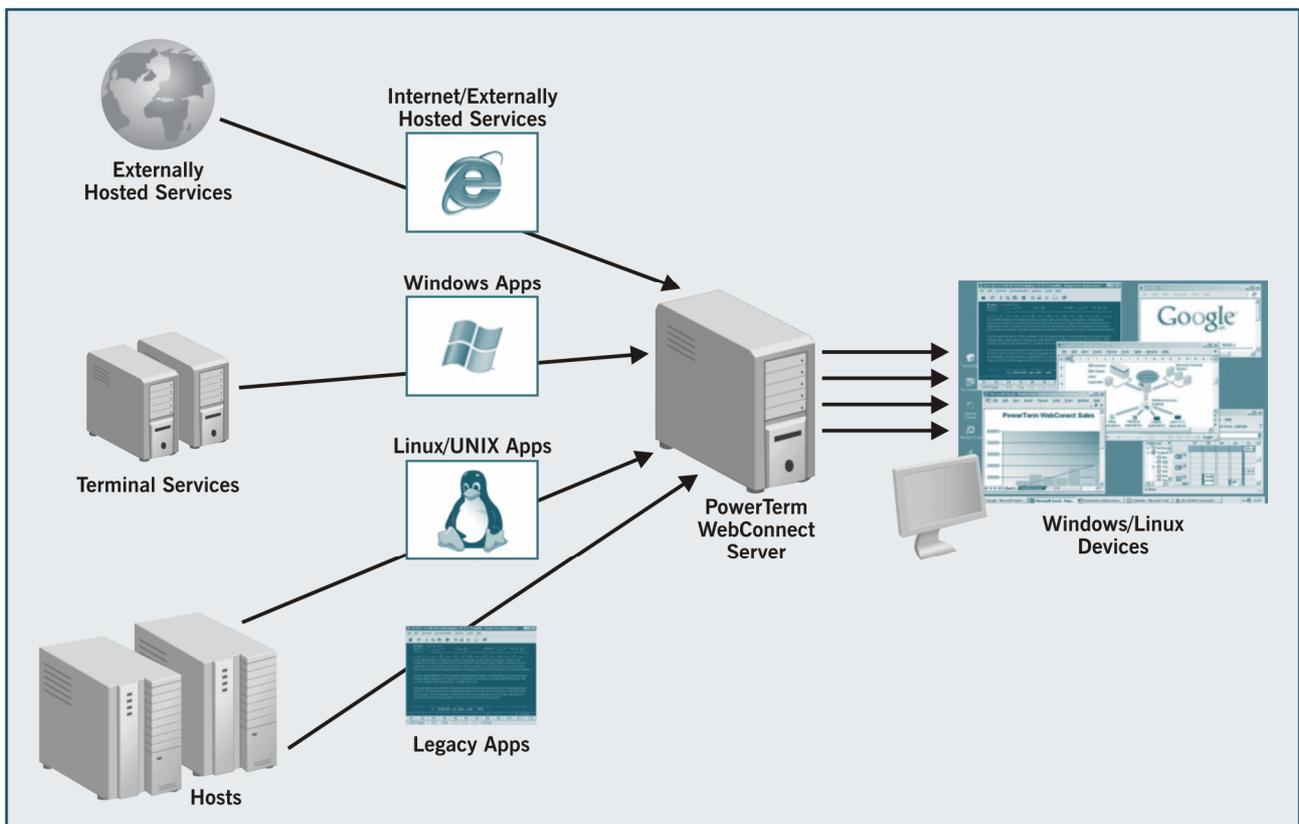


Figure 1: Delivery of Legacy- and Windows-Based Applications, and Web Access

The product allows a choice of access methods to host systems. ‘Gateway’ access is one option, in which the PowerTerm WebConnect server handles all traffic between the client and host systems. Gateway access offers several advantages: it enables the traffic between the client and PowerTerm WebConnect server to utilise the security features (SSL encryption – although Terminal Services does not support SSL); it removes the need for a Terminal Server’s IP address to be visible beyond the firewall; and it enables automatic reconnection of disconnected sessions. ‘Direct’ access to systems is the other option – here the client communicates directly with the legacy host or Terminal Server, reducing load through the PowerTerm WebConnect server, maximising the scalability and speed of the solution, and removing a single point of failure – clients remain connected to the host even if the connection to the PowerTerm WebConnect server is lost. Lacking the option of SSL encryption, direct mode is designed for high performance within the firewall. Both methods enable authentication via SSO, and both maintain an audit log of all access sessions together with a separate log of intruder access and multiple login attempts. Both modes can be supported simultaneously and are selectable per session.

PowerTerm WebConnect's architecture enables communications between client and host device to utilise the host's native protocol. In a heterogeneous environment, under PowerTerm WebConnect, emulation sessions bypass the terminal servers entirely (in contrast to other server-centric access products, which require licence purchase even for non-terminal server access). This capability leads to substantial savings in the number of terminal servers required, the number of software licences, and other associated ownership costs, while still delivering the improved service of managed legacy access.

PowerTerm WebConnect can be configured to provide automatic failover: the additional failover server(s) can remain on standby, and in the event that the PowerTerm WebConnect server becomes unavailable, one of the failover servers will automatically take over the role, avoiding loss of service. Client machines using 'direct' mode connections remain connected during failover.

The product incorporates a SupportView feature, which enables a user's session or entire client desktop to be 'taken over' by support personnel in order to get problem diagnosis or support. No pre-installation is required to use this feature, which can cope with issues like firewall blocking or use of Dynamic Host Configuration Protocol (DHCP). In addition, in the emulation environment the product's PrintView feature supports the LPD/LPR (Line Printer Daemon / Line Printer Remote) protocol for managing remote printing from a host – any printer that is addressable via its IP address can be used for printing.

Product Emphasis

PowerTerm WebConnect addresses the needs of organisations seeking enhanced server-based computing, via Microsoft Windows Terminal Server, with or without managed access to legacy-based systems. This product adds improved efficiency on the user's desktop by implementing common application behaviour, and can reduce costs of ownership relating to multiple back-end systems. Users and their access rights to applications can be managed without duplication of effort, and powerful additional security can be added to many organisations' systems via this product's enablement of end-to-end SSL encryption.

It occupies an interesting position in the server-based computing market, as it adds significant potential value by enabling legacy system access, but does so for a price (and with an overall approach to cost of ownership) that compares favourably to major competitors from a customer viewpoint.

► DEPLOYMENT

The PowerTerm WebConnect server component is available in editions to be run on Microsoft's Windows Server 2000 and 2003 (including the x64 variant), Linux x86, or IBM's Linux on POWER. The product can be installed from CD, or downloaded from Ericom's Web site, and configured via the administration console by a system administrator, normally after a short training session from a PowerTerm WebConnect Certified Engineer. The average time for implementation is less than one week, and can be as little as one day depending on the applications that are to be accommodated, and client configurations. Applications and the user population can be included in an implementation incrementally, allowing a modular implementation. The product's client delivery is via a browser or MSI. Wizards help the administrator publish multiple Terminal Server applications to users, and these icons refresh on the user's desktop instantaneously.

Subsequent maintenance is undertaken by a customer's system administration personnel, with the aid of a point of contact within Ericom's support team (as part of the product's support framework).

Ericom provides a range of training, consultant, and deployment services and caters from the inexperienced user right up to the certified PowerTerm WebConnect engineer. Courses are run either at customer sites or at Ericom's own premises. Ericom's channel partners (with the requisite technical and product certification) also undertake product training. Ericom also uses Webinars, to deliver information for system administrators on product updates.

Deployment of the product can enable business processes to be improved. The presentation of legacy- and Windows-based applications on a single user interface makes it easier for users to use both types of applications simultaneously within business processes. Deployment may also reduce the volume of help-desk calls due to the use of an intuitive interface, and improve user productivity as support personnel resolve users' problems more rapidly via the SupportView component.

The PowerTerm WebConnect product line includes the following four offerings:

- **PowerTerm WebConnect Enterprise**, which provides access to legacy-based, Linux, and Terminal Server-based applications.
- **PowerTerm WebConnect RemoteView**, which provides access to Terminal Server-based applications.
- **PowerTerm WebConnect HostView**, which provides access to non-Windows-based (Linux and legacy host) applications.
- **PowerTerm WebConnect for Workplace** – developed specifically for the new IBM® Workplace™ portal framework, providing access to applications running on Terminal Servers, Linux, and legacy systems.

Pricing incorporates the option to licence concurrent users, or pay per desktop. There are substantial volume-based discounts on list pricing.

▶ PRODUCT STRATEGY

There are several key market opportunities for PowerTerm WebConnect:

- The need for a secure enterprise-wide solution to provide access to corporate IT infrastructures.
- Organisations with branch offices or multiple sites that need access to applications and information held centrally.
- The need to provide mobile or remote work forces with access, or allow flexible working arrangements (e.g. home computer initiatives).
- Organisations seeking to enhance corporate security by centralising IT resources and information, who also move to using a ‘thin client’ infrastructure.
- The need to deliver Windows server-based enterprise applications to end-users, while leveraging the benefit from open source platforms in server and desktop computing environments.
- The need for a financially viable route for enterprise-wide roll-out of Windows server-based applications.

The target market for the product is public and private sector organisations typically in the retail, central and local government, healthcare, finance, manufacturing, and commercial sectors, with over 250 employees (although the product’s pricing structure enables it to position competitively for almost any size of deployment).

PowerTerm WebConnect Enterprise is sold via resellers, Systems Integrators (SIs), Independent Software Vendors (ISVs), and hardware vendors. Key business partnerships with Accenture, EDS, HP, IBM, IGEL, VXL Instruments, and Wyse, and technology partnerships with Acucorp, BEA, Devon IT, FlowFinity, HP, IBM, JBoss, Maxspeed, Mercury, Microsoft, Novell, Novell SuSE, and RSA support the product. Ericom’s key competitors are AttachmateWRQ, Citrix, and Sun Microsystems.

Licence costs are structured on a perpetual basis, and to accommodate concurrent users – this feature can allow organisations significant savings over having to buy licences for users that would not be using the solution during some of their working time. In a typical deployment, licence costs and service costs (including those of professional services, and support) are similar over a five-year period, although in the first year licence costs normally constitute 80% of the price paid. The average project value is in the range UK£25,000 – UK£100,000. Support is available at varying levels and pricing, starting with telephone support and provision of upgrades, rising to 24x7 technical support and an “Annual System Review”. Onsite support is available.

The release strategy for the product comprises a major release of functionality annually, with point releases of smaller enhancements and fixes on an interim basis. Ericom plans releases in 2005 and early 2006 that will incorporate improved Web application publishing, integration with X-Windows, remote access to workplace PCs, portal support, and enhanced SSO functionality.

Previously as a Citrix partner, Ericom was delivering its solution supplying managed connectivity to legacy-based hosts (a gap in Citrix functionality). With the RemoteView component, PowerTerm WebConnect has extended into the solution space occupied by Citrix’s products, positioning as adding the important legacy host connectivity, while delivering the majority of the important access management features that Citrix products incorporate, with a significantly lower cost of ownership. Ericom contends that this combination allows organisations to consider PowerTerm WebConnect as an enabler for strategic adoption of the server-centric computing model.

► COMPANY PROFILE

Ericom was set up in 1993 to provide legacy system access, via core emulation technology that was based on communications expertise gained in robust, military-grade technology. Throughout the 1990s the company grew via B2B sales and major OEM deals with global IT suppliers (Digital, HP, Mercury, and others). It has achieved year-on-year growth (which is exceptional, in the commoditised emulation market), based on robust, reliable solutions. PowerTerm WebConnect HostView was launched in 2000, with the RemoteView component added in 2004.

The company has a history of technology innovation based on its strong Research and Development (R&D) capability, and has established several patents and substantial IP e.g. recent enhancements to RDP technology. Of its 80+ full-time equivalent staff, one third work in R&D, a quarter in sales and marketing, and a quarter in support and professional services. The majority of staff work at the Israeli R&D centre, with offices in the UK and USA. Ericom expects to grow staff numbers substantially in the forthcoming 12-24 months.

Ericom is a publicly listed company; its largest shareholder is the company's Founder and CEO. The company states that it has achieved constant growth over the last three years, and that it expects to attain substantial growth in its current financial year. 45% of its revenues arise from business in the USA, 33% from the UK and Europe generally, and 22% from elsewhere in the world.

In addition to PowerTerm WebConnect, Ericom offers products that deliver application integration, and terminal emulation, and that also extend many of the products' capabilities to non-Windows platforms including UNIX, Linux, Solaris, platforms with embedded capabilities, and mobile and wireless platforms. The total user base of Ericom's entire product range is over five million licences. Almost 300 organisations are users of PowerTerm WebConnect, with each generally owning between 50 and 4,000 user licences – the following is a list of some diverse organisation types that are users of PowerTerm WebConnect, with outline details of their implementations:

- Pennine Acute NHS Trust has a concurrent user license supporting 10,000 users across multiple sites, using Windows-based and legacy clinical applications.
- Ceredigion Council in Wales uses PowerTerm WebConnect Enterprise to provide geographically dispersed workers across the Council with access to 10 Windows-based, and 6 UNIX-based, applications.
- MedStar Health is a US group of 25 integrated healthcare organisations including 7 hospitals, with over 22,000 employees delivering clinical and administrative access to healthcare records via PowerTerm WebConnect.
- B&Q has a central office deployment delivering 27 different applications to 100 staff.
- The Israeli Police force has 3,000 licenses for PowerTerm WebConnect delivering application access across a secure network.
- Gloucestershire Hospitals NHS Trust has over 900 concurrent users of PowerTerm WebConnect across multiple sites and all departments.
- Federal Mogul undertakes a deployment across international offices in France, Spain, Czech Republic, Italy, UK, and South Africa, delivering to over 400 concurrent users' client machines in multiple languages.

► SUMMARY

PowerTerm WebConnect enables organisations that have already been persuaded of the benefits of Windows Terminal Server-based computing to consolidate access to non-Windows applications around their existing framework, thereby enabling users to benefit from a better usability experience, and potentially to improve working practices and increase efficiency. It also enables implementation of an IT management framework around this type of architecture, incorporating security, load balancing, and access control over users and applications. It should attract organisations looking to address the high costs of ownership of server-based computing solutions, as this is a focus throughout – diverse direct examples include the availability of concurrent user licensing, and the support of large numbers of users with limited investment in back-end infrastructure; indirect examples are the separation of the PowerTerm WebConnect server layer from the Terminal Servers, and the fact that it eases adoption problems relating to Linux desktops.

Butler Group believes that this is a well-placed product, by a well-established company that has great experience in its market area – PowerTerm WebConnect could disrupt the balance of power in the server-based computing arena, and Ericom would do well to make this possibility widely known.

Contact Details

Europe

Ericom Software (UK) Ltd.
11a Victoria Square
Droitwich
Worcestershire, WR9 8DE
UK

Tel: +44 1905 777 970
Fax: +44 1905 777 971

E-mail: info@ericom.co.uk

North America

Ericom Software Inc.
231 Herbert Avenue Bldg#4
Closter
New Jersey 07624
USA

Tel: +1 201 767 2210
Toll Free from the USA: 1 888 769 7876
Fax: +1 201 767 2205

E-mail: info@ericom.com

International

Ericom Software Ltd.
8 Hamarpeh Street
Har Hotzvim
Technology Park
Jerusalem 91450
Israel

Tel: +972 2 591 1700
Fax: +972 2 571 4737

www.ericom.com

Butler Group
a **Datamonitor** Company

Headquarters:

Europa House,
184 Ferensway,
Hull, East Yorkshire,
HU1 3UT, UK

Tel: +44 (0)1482 586149
Fax: +44 (0)1482 323577

Australian Sales Office:

Butler Direct Pty Ltd., Level 21,
Tower 2, Darling Park,
201 Sussex Street,
Sydney NSW 2000, Australia

Tel: + 61 (0)2 9955 6249
Fax: + 61 (0)2 9006 1282

End User Sales Office (USA):

Butler Group,
245 Fifth Avenue, 4th Floor,
New York, NY 10016,
USA

Tel: +1 212 652 5302
Fax: +1 212 686 2626

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