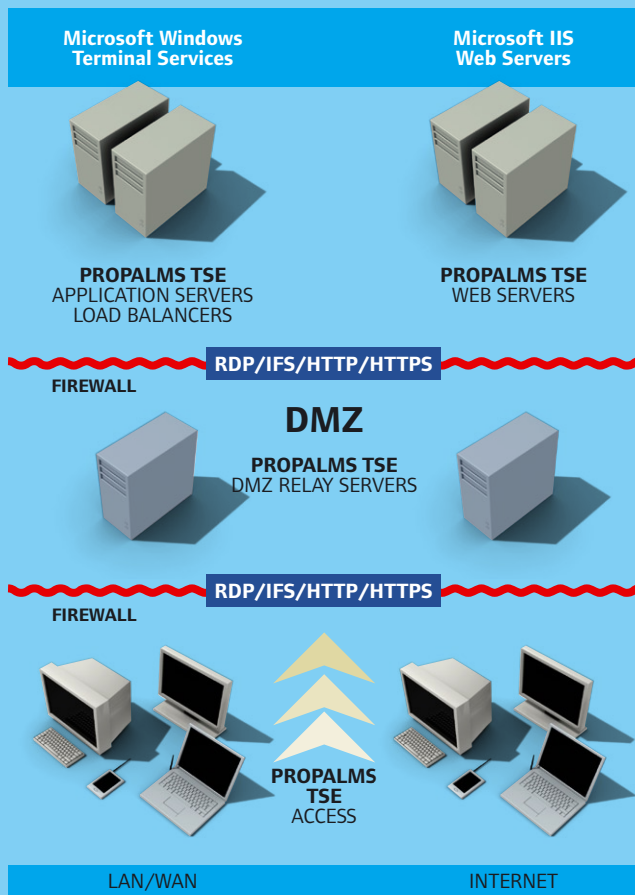


PROPALMS TSE SPECIFICATION GUIDE

How It Works:

Propalms TSE is a complete management solution for the server-based computing environment. Extending the base technologies of Microsoft Windows, Propalms TSE provides a deployment, management, performance and security infrastructure, allowing on-demand access to applications at anytime from anywhere.

Propalms TSE Architecture:



The Propalms TSE Server Team:

A Propalms TSE server team is a combination of all the servers that have Propalms TSE software installed:

- One or more TSE Application Servers installed on Windows Terminal Servers
- One or more TSE Web Servers installed on Microsoft IIS web servers
- One or more TSE Load Balancers installed on Windows
- One or more TSE Relay Servers

Application Publishing:

Administrators publish Windows applications to make them available to a user, Group or OU. Propalms TSE maintains a list of these applications allowing dynamic application delivery based on a user's membership.

Application Launch Pad:

The application launch pad is the web portal where applications are launched and from where the Propalms TSE client is distributed. Propalms TSE can also be configured to create application shortcuts on the Windows start-menu or desktop to provide an alternate way to launch applications.

Client Components:

The Propalms TSE Connection Manager is a small footprint client which enhances the user's terminal services experience with features such as application publishing, seamless windows, TSE client policy engine, local printing and local client drive support. Connections to TSE server are also possible from certain native RDP and non-Windows clients such as Mac and Linux operating systems.

Load Balancing:

When an application is launched, the Propalms TSE client contacts the Propalms TSE load balancer, which identifies the best application server for this request — the load balancer can identify the best server (or if a server has failed) because it continuously rates application server load metrics.

Application Hosting:

Propalms TSE then launches the application host on the application server instead of launching the application directly — this lies behind many of the special enhancements to the RDP connection that Propalms TSE brings.

Session Management:

Once the users are connected to a server, Propalms TSE will track, and an administrator may monitor, the active sessions using the application host. Administrators can perform session management functions like resetting a session or shadowing a session from a central console.

Reporting:

Throughout all processes Propalms TSE collects data and composes reports. It creates reports that administrators can view to evaluate application and system usage. Administrators can also download this information to create their own reports.

SSL Gateway:

The Propalms TSE DMZ relay server allows secure access to all applications from the Internet allowing easy firewall traversal via a single port.

PROPALMS TSE BENEFITS

Completing the Terminal Services Experience:

Propalms TSE is designed to make the most of your Windows® Terminal Services deployment by leveraging the most recent enhancements to the Microsoft® Remote Desktop Protocol (RDP). Propalms TSE adds indispensable management capabilities even to small-to-medium business deployments and scales to accommodate growing numbers of users, applications and servers, securely, reliably, and cost-effectively.

Return on Investment:

From IT staff to each end user, Propalms TSE helps your business save time, money and resources.

IT Managers:

Propalms TSE allows IT Managers to do more with what they have. With intelligent reporting, they finally have the data to lower software license costs, helping to manage tight budgets and spend more on strategic projects. Employees are often scattered geographically. Propalms TSE speeds the deployment of applications everywhere to better support local and remote offices.

System Administrators:

Propalms TSE makes it easy to manage applications centrally. It is simple to install and implement and, because it is web-based, the complete system can be managed from anywhere. As organizations grow, Propalms TSE scales to support hundreds or thousands of users.

End Users:

End users want to run their applications wherever and whenever they need to. If a PC is down they still need to access applications from a central server. With Propalms TSE software, the IT department can be even more responsive. Users can not even tell that the applications are not running on their PC and there is no time wasted with viruses or updating software.

SECURE DATA ACCESS

Controlled Access:

Propalms TSE ties in with existing domain structures (NT4 domain, Active Directory) and provides granular control over which users, groups of users or organizational units (OUs) have access to a defined set of server-based applications. Only users and groups authenticated by their domain credentials and provisioned through Propalms TSE's full-featured systems management console will be able to access certain applications and data.

Privacy Through Encryption:

All sensitive information is encrypted from the login request right through to the delivery of an application and data:

- Users accessing the Propalms TSE system from outside their company's firewall will be routed via a single, configurable port to Propalms TSE's Relay Server component which makes the firewall traversal much easier
- The Relay Server will expose a single IP address to the client representing the entirety of the application server team, which makes Terminal Server access much more secure
- Individual IP addresses of the Terminal Servers will be hidden behind the firewall
- Terminal Servers can also be locked down to prevent RDP sessions not originating from the Propalms TSE system

Managed Privileges:

At the time an application, or a range of applications, is published to an individual user or the member of a group, Propalms TSE will create user-specific shortcuts on that user's desktop or application portal, the Application Launch Pad, so that:

- A user does not have access to applications when they are no longer a member of the domain or have access privileges removed
- Shortcuts are removed when the user next logs in to the system
- All application usage is monitored, metered and reported in the Management Console for quality of service and audit purposes

Policy Enforcement:

Propalms TSE's Client Policy Engine™ allows system administrators to:

- Define groups of client devices identified by their IP address, NetBIOS name, operating system or organizational unit (OU)
- Assign certain application access policies to client groups to reflect types of connection settings according to available bandwidth, printer mappings or security settings related to saving files and passwords locally
- Set and enforce security policies based not only on who the user is, but also whether the access device is a trusted or non-trusted device based on its physical location

HIGH APPLICATION AVAILABILITY

Towards Zero Downtime:

No matter what the configuration or the workload, the Propalms TSE helps to ensure zero downtime for your critical applications by constantly monitoring the health of all servers and reporting on the level of the server/application usage in the system.

Responsive Load Balancing:

Propalms TSE manages and simplifies the complex relationships between server-based applications, users and application servers in expanding Windows® Terminal Services deployments.

In order to assure high application availability for environments involving as many as hundreds of servers and thousands of users, Propalms TSE load-balances applications across Terminal Servers based on the actual resource utilization of each server in the team.

Resource parameters are taken into account in real time by Propalms TSE's load-balancing component when determining the most available application server in the team at any point in time, including CPU, memory, free page tables, page swaps and others.

Flexible Configuration:

Load-balancing can be configured in Propalms TSE to operate either at the connection level where several applications launched by the same user will be load-balanced as one session, or at the application level where each application launch is individually sent to the least busy server in the team to balance the workload equally across all application servers.



PROPALMS TSE INFORMATION

Security:

- Encryption of all sensitive information
- Easy firewall traversal via a single, configurable port
- Server lock-down to prevent uncontrolled sessions
- Location-based security policies (e.g. shortcuts)

System Administration:

- Web-based Management Console to centrally manage servers, applications and users
- Delegated administration
- High-fidelity UniDriver to eliminate printer driver conflict
- Self diagnostics of system functionality and user errors
- Application usage metering and license management from published desktop
- Comprehensive audit trails and logs

Application Server Management:

- Resource-based application/server level load balancing (Does not require dedicated servers)
- One-click scalability™ of Propalms TSE components to any server “on the fly”
- Built-in redundancy of Propalms TSE components for multiple servers
- Real-time monitoring and management of server health from the console

Application Management:

- One-click application publishing to users, groups, organizational units (OUs)
- Application Grouping allows administrators to group applications into folders
- Support for multiple applications per RDP connection
- Intelligent file association
- Location-based application launch settings (e.g. printer mapping)

User Management:

- Central user authentication and access
- Propalms TSE Client Policy Engine™
- Dynamic, user-specific application shortcuts
- MSI-based seamless client deployment

End-User Experience:

- Seamless windows (applications presented without Terminal Server frame)
- Application access via desktop shortcuts, Windows Start menu or browser-based via Application Launch Pad
- Automatic log-on and pass through authentication
- Application Dis-connect and Re-connect through Launchpad
- Local and network file saving
- Local, server and network printing with client default printer support

Monitoring, Reporting and Logs:

- Metering and reporting of application usage by users, client machines, servers
- Peak concurrent usage by system and applications

PRODUCT COMPARISON MATRIX

Propalms Terminal Services Edition version 5, Windows 2003 Terminal Services & Citrix Presentation Server 4 feature comparison.

General Features	Propalms TSE 5.0	Windows 2003 Terminal Services	Citrix Presentation Server 4
Min. Terminal Server version required	2000	n/a	2000
Protocol	RDP	RDP	ICA
License Type	Concurrent	Device/User	Concurrent
General Features	Propalms	Windows 2003	Citrix
Application Publishing	●		●
Seamless Windows	●		●
Load Balancing	●		Advanced Edition
Web-Based Application Access	●		●
Content Publishing	●		●
File Association based application launch	●		●
Print driver mapping	●	●	●
Full Universal Printing solution for all client types ¹	●		●
Session Shadowing	●	●	●
Client Features	Propalms	Windows 2003	Citrix
Web-based client install	●	●	●
Auto client update	●		●
Client Drive Mapping	●	●	●
Client Printer Access	●	●	●
Local / Remote Clipboard Mapping	●	●	●
Client COM/LPT Port Access	●	●	●
Audio Redirection	●	●	●
Dynamic Shortcut creation	●		●
Application Favourites	●		
Disconnected session view	●		
24-bit colour	●	●	●
Client Platforms	Propalms	Windows 2003	Citrix
32-bit Windows	●	●	●
16-bit Windows		●	●
DOS			●
Macintosh	●	●	●
Linux/Unix	●		●
Java	● ²		●
Windows CE / PocketPC	●	●	●
Security Features	Propalms	Windows 2003	Citrix
SSL Encryption	●	●	●
Proxy Support	●	●	●
SSL Gateway	●		●
Pass-through authentication	●		●
Management Features	Propalms	Windows 2003	Citrix
Delegated administration	●	●	●
Single Click Server install	●		
Client policies	●	●	●
Fully functional Web Management Console	●		
Clone Server	●		
System Monitoring	●	●	Enterprise Edition
Detailed Usage Reporting	●		Enterprise Edition
Publish to Organisational Unit	●		
View Published apps via OU / Group or User	●		

¹ UniPrint technology provides support for Linux, UNIX and Macintosh as well as Windows clients

² Currently in development