T27 and UTS eXpress Enterprise

Installation and Deployment Guide

For Version 5.x

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Introduction

The T27 eXpress Enterprise and UTS eXpress Enterprise terminal emulation products have many features in common. This document will simply refer to Enterprise when discussing common features.

Enterprise is a consolidation of previous products from KMSYS Worldwide, Inc. It functionally replaces the previous T27/UTS eXpress Plus, T27/UTS eXpress Net and T27/UTS eXpress Pro products. The consolidation of the products allows a site to mix and match in order to realize the best deployment option or options. The consolidated product also introduces a single license model. The site may use the number licensed copies in any combination of deployments. Please note that the license count is unique between T27 and UTS.

Deployment Overview

The single installation package allows for a desktop install of the emulation client and an optional SDK. It also provides for the installation of a web deployment site utilizing a non-ActiveX/plug-in distribution through the Application Deployment System from KMSYS Worldwide, Inc. The installation package includes a copy of Application Deployment System licensed to distribute all deployable products from KMSYS Worldwide, Inc.

Pre-Deployment Environment Check

Windows Server Environment

Skip to section Windows Client Environment if you are not doing a web-based deployment.

The server system should be fully patched and hardened according to Microsoft's best practices and your organization's guidelines. If the system is to be a member of a domain, it should be joined to the domain. The following is a minimum configuration:

- Fully patched supported operating system (see Table 1 on page 6)
- Domain membership if desired
- A network connection
- IIS (see Table 1 on Page 6) - Note specific configuration for IIS 7.0
- 2 GB of free disk space above what is required to run the rest of the system
- .Net Framework 2.0 SP1 or higher

IIS Environment

The configuration server can be hosted IIS 6.0 or IIS 7.0 as supplied by the hosting server operating system (see Table 1 on page 6). Note specific configuration for IIS 7.0.

Windows Client Environment

This configuration is applicable for all parts and deployment methods.

The client systems should be fully patched. The supported client systems are Windows XP SP3 32-bit, Vista – all versions and Windows 7 – all versions:

- Fully patched Windows client system
- IE 6.0 SP1 as a minimum
- .NET Framework 2.0 or higher

Deploying with SSL Encrypted Sessions

Overview

The current version of ClearPath MCP supports T27 emulation connections as Telnet over SSL. ClearPath OS2200 release 11.3 or higher supports UTS emulation connections as TP0 over SSL. Enterprise fully supports these direct to host SSL connections. It also supports SSL connections to Host Gateway Server from KMSYS Worldwide, Inc. acting as a secure gateway to a ClearPath system with or wirhout SSL capability.

Certificate Requirements

SSL provides for system authentication or data encryption. As implemented by the MCP/OS2200 systems and Enterprise, it provides host authentication and data encryption. Currently, Enterprise does not implement mutual authentication. The host authentication portion of the protocol requires the host present a trusted certificate to the client system. To be trusted by Enterprise, the certificate must:

1. Be issued by a certificate authority that is trusted by the client system.
2. Be valid for the current date and time.
3. Have a matching principal name.

Certificates issued by a commercial certificate service, such as VeriSign or Thawte, are acceptable. Certificates issued by Microsoft Certificate Services will be trusted by all client systems within the Microsoft domain.

While the administration and maintenance of "Self-Signed Certificates" may prove to be difficult, they can be useful in a limited test deployment. "Self-Signed Certificates" may be acquired from utilities in the OpenSSL SDK, the Microsoft Windows SDK or SAIL. Any "Self-Signed Certificate" must be imported into the Trusted Root Certification Authorities on the client system before the client will trust it. Any .pem file that contains a "Self-Signed Certificate" may be renamed as a .cer file for import on a Windows client system. If a certificate with its associated private key is required for importing into a Windows Server, the certificate and private key .pem files may be converted to a single .pfx file by using the "OpenSSL pkcs12 – export …" utility from the OpenSSL SDK.

Please see the appropriate ClearPath OS2200 or MCP manual for instructions on configuring SSL connections and installing the certificate on the respective mainframe.

Desktop Deployment

To install only the eXpress Enterprise Desktop application, choose the "Typical" option during the installation dialog. Additional components may be installed by

selecting the "Custom" option during the initial install or "Modify" on subsequent installs.

Please use the "Remove" option prior to installing newer versions of eXpress Enterprise received from KMSYS Worldwide. No settings configured in previous versions will be lost.

Other components useful on the desktop are:

- eXpress Enterprise SDK - a mainframe communications component for sites needing the ability to produce customized Windows applications using Visual Studio, Visual Basic, Delphi, etc.
- eXpress Enterprise Administration - the program used to configure users of eXpress Enterprise when web deployment is desirable.

Desktop Deployment is not a required part of Web Deployment; however, the individual responsible for evaluating, administering and configuring eXpress Enterprise on the web may find it convenient to install the desktop and the administration programs, locally.

Web Deployment

Your web server should have CGI and ASP features already installed on it before installing.   If they are not, you can add these from your control panel's "Programs and Features" section, then selecting to "Turn Windows Features On or Off" and navigating to the "Internet Information Services" section.

Note: The deployment site can be SSL protected.

Installing Software

Select install features using the "Custom" option:

- eXpress Enterprise Administration (using the default directory is recommended).
- eXpress Enterprise Web User (using the default directory is recommended).
- Application Deployment (browse and create web server directory, typically "c:\inetpub\wwwroot\AppDep\").

Follow the rest of the prompts in the installation to complete.

Note: You will see two other install features that are **NOT** required for web deployment. They are eXpress Enterprise Desktop and eXpress Enterprise SDK.

Please use the "Remove" option prior to installing newer versions of eXpress Enterprise received from KMSYS Worldwide. No settings configured in previous versions will be lost.

Configure IIS

Open Internet Information Services (IIS) Manager on the server and create a new virtual directory:

- Open IIS and browse to the default web site root directory.
- Right-click on "Default Web Site" and select "New" | "Virtual Directory" ("Add Virtual Directory" in IIS 7).
- Type a name for the Alias when prompted and call it "XYZeXpressNet", where "XYZ" is either "T27" or "UTS", as appropriate.

- Browse to the path of the installed eXpress Enterprise Web User, which by default is "C:\Program Files\KMSYS Worldwide\XYZ eXpress Enterprise\5.0".

For users of IIS, Version 6:

- Browse to the new Virtual Directory called "XYZeXpressNet", then right-click on the subfolder called "CGIEXE".   Select "Properties", then chose permissions for this subfolder of "Scripts and Executables".
- Next, navigate to the "Web Server Extensions". Add a new web server extension.   You should give it a name, such as "eXpress Enterprise" for easy recognition. Then, select the file called "XYZWebCfgCGI.exe" within the CGIEXE folder at the same default directory listed previously ("C:\Program Files\KMSYS Worldwide\XYZ eXpress Enterprise\5.0\CGIEXE").   You might have to change the file extension from DLL to EXE for the file to show.
- Also, be sure to mark the file as "Allowed", before continuing.
- In the same Web Server Extension area, it is a good time to confirm that Active Server Pages are allowed, or to give them allowed permissions now.

For users of IIS, Version 7:

- Browse to the new Virtual Directory called "XYZeXpressNet", then right-click on the subfolder called "CGIEXE".   Select "Convert to Application" and take the default options. In other words, click OK.
- Click on the folder called "CGIEXE" that you just converted to an application and double click the "Handler Mappings" feature on the right. Select the "CGI-exe" from the list and click "Edit Feature Permissions" on the right. Be sure to mark it for "Execute".   Do the same for "ASAPI-dll" if it is not already set.
- Select the root of your web server in the tree structure on the left. It is the server name at the very top of the tree. Double click the "ISAPI and CGI Restrictions" feature on the right.   Add a new extention by clicking the "Add..." button on the far right. Browse to the physical "CGIEXE" directory ("C:\Program Files\KMSYS Worldwide\XYZ eXpress Enterprise\5.0\CGIEXE"). Change the file extension at the bottom of that dialog from "dll" to "exe" and select the file "XYZWebCfgCGI.exe". Click Open   Give it a description like "eXpressNet" and be sure to mark it as "Allow extension path to execute".

Edit the Web Parameters

Open Windows Explorer and browse to the path of the web user files (as used in the other steps), which by default is "C:\Program Files\KMSYS Worldwide\XYZ eXpress Enterprise\5.0\".

Using Notepad or other text editor, open the "Parameters.htm" file. Modify the name/value pairs as necessary (see Table 2 on Page 8). Minimally, change the URL before first run, as Enterprise needs a valid server name or the IP address of the web server you are using.

Configure Users, Connections and Other Settings

At this point, you should configure your Users by running the eXpress Administration program located in your Start Menu. Reference the online help of the administration program for assistance.

Once configuration is complete, you should copy the "working" directory configuration into your "production" directory so that your web server can retrieve it.

By default, all of the files and subfolders should be copied from the working directory:

- On Windows Server 2003: "C:\Documents and Settings\All Users\Documents\ XYZ eXpress Enterprise Administrator 5.0_CONFIGURATION"
- On Windows Server 2008: "C:\Users\Public\Public Documents\XYZ eXpress Enterprise Administrator 5.0_CONFIGURATION"

To the production directory:

- On Windows Server 2003: "C:\Documents and Settings\All Users\Application Data\KMSYS Worldwide\XYZ eXpress Enterprise Administration 5.0\ConfigDir"
- On Windows Server 2008: "C:\ProgramData\KMSYS Worldwide\XYZ eXpress Enterprise Administration 5.0\ConfigDir"

To launch and run, the user should navigate their browser to the web server and "launch.asp" provided in the "AppDep" directory. By design, this file launches ALL KMSYS Worldwide products accessible from the Web. To specify just your installation, navigate to the following:

http://<YourServer>/AppDep/launch.asp?XYZeXpressNet

Modify "launch.asp" as needed for your site; however, there are certain elements that must remain intact. For more information on modifications to this launch page, see the "Overview and Configuration of the Application Launch Page" in the "Application Deployment System Installation and Deployment Guide".

Appendix 1 – Supported Servers for Web Deployment

Operating System Level	IIS Level	Supported Editions
Windows Server 2003 – x86 (32 bit) editions – RTM or higher	6	Standard
		Enterprise
		Data Center
		Small Business Server Standard or Premium
Windows Server 2003 R2 – x86 (32 bit) editions – RTM or higher	6	Standard
		Enterprise
		Data Center
		Small Business Server Standard or Premium
Windows Server 2008* – x86 (32 bit) and x64 (64 bit) editions – RTM or higher	7	Standard
		Enterprise
		Data Center
		Web
		Essential Business Server Standard or Premium
		Small Business Server Standard or Premium
Windows Server 2008 R2* – RTM or higher	7	Standard
		Enterprise
		Data Center
		Web
		Essential Business Server Standard or Premium
		Small Business Server Standard or Premium

Table 1 – Supported Server Operating Systems

* - Currently the **IIS 6 Metabase Compatibility** role service must be installed

Appendix 2 – eXpress Enterprise Web Parameters

The file, Parameters.htm, in the installation directory is used when launching XYZ eXpress Enterprise. The name/value pairs are as follows:

Name	Value
URL	This is the path to your "XYZWebCfgCGI.exe". By default, this is located at: "http://<YourServer>/XYZeXpressNet/CGIEXE". Just as in the sample installed with eXpress Net, it should NOT contain a slash at the end of the quoted string literal. If you chose the default locations, <YourServer> is the only portion of Parameters.htm that you will need to change.
UserSet	This parameter identifies the file containing the users configured by the XYZ eXpress Enterprise Administrator program (XYZeXpressEnterpriseAdmin.exe). User screen assignments, preferences and all other settings are stored into and retrieved from this file. The administrator can name the file but it MUST match in this configuration. Please note that the extension (.uset) is a required part of the file name but it MUST NOT be used in this reference. The default file name is "Users". Note: Administrator must copy the contents of their XYZ eXpress Enterprise Administration program's configuration directory into the web server for user access. We recommend that the administrator perform maintenance of their user configurations on a local machine before distributing them to the web server, as to not disturb production machines and users online.
UserName	This is an optional setting if you are having all users log in using the same setting, but this is not recommended.
Password	This is an optional setting if you are having all users log in using the same setting, but this is not recommended.
UserNameOption	UserNameOption: This allows the administrator to decide how the user logs into eXpress. The choices are as follows: 0 = Current user login name (Windows login name) 1 = Machine name 2 = Env. variable set by Customer. Env. variable name is "UTSExpressNetWebUser" or "T27ExpressNetWebUser" 3 = Prompt for name (default) forces users to input a UserName and Password before starting 4 = Use name passed in the "UserName" parameter and password passed in the "Password" parameter
ForceDownloads	ForceDownloads: Set this to Value="N" (default) or Value="Y". When set to "Y", configured scripts, keyboards, etc. will be automatically downloaded with each launch of eXpress Net.

Table 2 – Web Parameters

Sample NameValuePair parameters installed with XYZ eXpress Enterprise:
```
<NameValuePair Name="URL"
Value="http://<YourServer>/XYZeXpressNet/CGIEXE"/>
<NameValuePair Name="UserSet" Value="Users"/>
<NameValuePair Name="UserName" Value=""/>
<NameValuePair Name="Password" Value=""/>
<NameValuePair Name="UserNameOption" Value="3"/>
```

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