



webCONNECT SSO

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a Whitepaper prepared by
OpenConnect Systems, Inc.
September 21, 2007

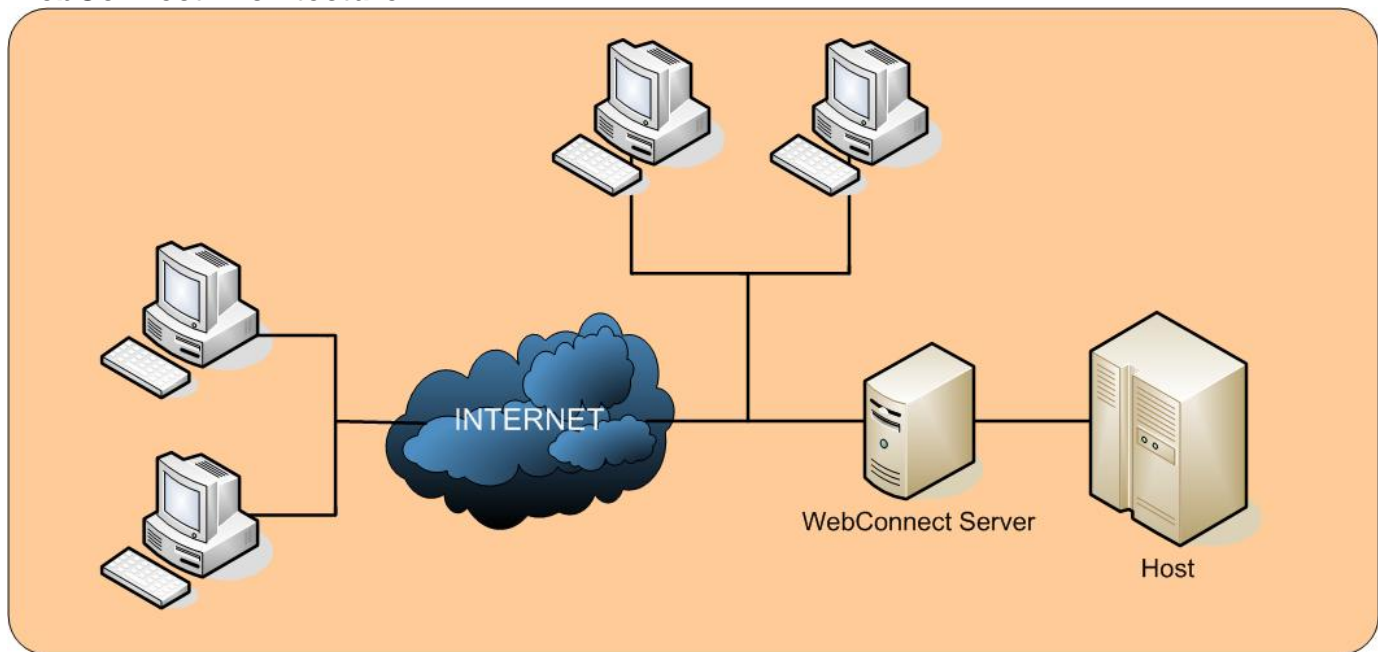


Introduction

WebConnect is client-server based software that provides browser enabled Java-based emulations to 3270, 5250 and VT/SSH data streams. In 1996, OpenConnect created the Web-to-Host market by introducing it's premier connectivity software, WebConnect, to provide a secure software connectivity link that enables browser-based and application-based access to information residing on mainframe and other host computer systems.

OpenConnect's Mainframe-to-Web technology is covered by U.S. Patent No. 5,754,830, which enables an SNA-style persistent connection to host applications over the Internet. This allows traditional information sources over corporate intranets to be shared with business-to-business extranets created from Internet technology. Mainframe and other client server host applications can be easily enabled for Mainframe-to-Web access, without changing a single line of source code. Once enabled, the user can access commercial information through a Web Browser.

WebConnect Architecture



With employees, customers, suppliers, and partners spread throughout the world, enterprises NEED to provide secure mainframe access to all users across the Internet, intranet, or extranet.

Without WebConnect:

- Client machines need special software/hardware to make a connection to a host's telnet port.
- This solution requires client machines to be maintained or configured increasing the burden on support and I.T. staff.

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With WebConnect:

- Software is centrally located on a server or group of servers
- Centralized configuration
- Only software required on the Client is a Java Runtime Environment and/or Web browser
- Client may run as an Applet, Application or HTML
- Use of advanced Java technologies such as Swing, Web Start and Pack200 compression
- Microsoft **.Net** enabled clients
- Microsoft Vista support
- Bundled SSL encryption, (No additional server or service required)

WebConnect Features

As a full-featured emulation package, WebConnect provides all the functionality of a fat client emulation software, in addition to the most secure Web-based access possible.

WebConnect's features include:

Supported Server Platforms

- Windows NT, 2000
- UNIX
- AIX
- HP
- Solaris
- LINUX/390/zSeries

Supported Client Platforms

- OS/2
- MAC
- UNIX
- Windows (2000, 2003, XP, VISTA)

Host Server Support

- Direct Host Connection (SSL)
- IBM Mainframe
- IBM AS/400
- Proxy Host Connection
- UNIX

Web Server Support

- Apache Web Server
- Microsoft IIS
- Netscape Enterprise Server
- Self-Contained Server

Client Browser Support

- Internet Explorer
- Netscape Navigator
- Safari
- Firefox

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Emulation Support

- 3270 Terminal Emulation
- 3287 Printer Emulation
- 5250 Terminal Emulation
- 3812 Printer Emulation
- VT100 Emulation
- VT220 Emulation
- SSH Emulation

Host Emulation Client Type

- AutoVista 3270 to Java Applet “on-the-fly”
- Java Applet
- Java Application
- Java Web Start Capable
- 3270 to HTML “on-the-fly”
- .NET Client
- Swing Client

Management and Administration

- Centralized configuration (LDAP)
- Centralized Monitoring
- Customized TCP Ports
- Extended Logging
- Management Reports
- Session Security (SSL)
- Support for Host Groups

Emulation Features

- Application Programming Interface (JHLLAPI, EHLLAPI, COM)
- Copy, Cut and Paste (Block & Append)
- Custom Colors, Attribute, Hotspot and Key Mapping Support
- Dynamic Emulation Resizing
- Graphical Emulation (VT220)
- Macro Support
- Macro Startup Support
- Screen Printing
- Mainframe Associated Print

Third Party Proxy Server Support

- Client Side
- Server Side (Reverse Proxy Support)

Security

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- Authentication (Strong Password Support)
- HTTP(s) Tunneling
- RSA ClearTrust certified
- Single Sign-On to Mainframe Environment (RACF, Top Secret and ACF2)
- SSL 3.0 up to 128 bit encryption
- SSL with Server Authentication or Server and Tivoli Access Manager Server certified

Other

- File Transfer via IND\$FILE
- Applet Menu Item Configuration
- Associated Print
- Certificate Wizard for Managing Client/Server
- Client Authentication
- Enhanced Keyboard Remapping (Server, Session and User)
- Firewall Support
- Java Applet Size 490+
- LDAP Support for centralized storage
- Load balancing of Telnet Sessions
- Multiple Client Support for Various Configurations
- National Language Support
- Protocol Compression
- Scalability (Sessions per service instance, Windows = 3000, UNIX = 5000)
- Server Based Management of User Configurations
- Single Service Manager Port
- Supports distributed Environment separated from Web Server
- Telnet-negotiated Security
- Usage (license) Management
- Multiple instances per platform

Security

Security is a must for enterprises conducting business over the Internet. WebConnect provides security at all stages of the process, from the Client to the Server and from the Server to the Host. In addition, several, optional security features allow administrators to define a user-base and limit access by functionality.

WebConnect security features include:

Session Security

For each Defined Host Session you can:

- Define Security between client and WebConnect Server
- Define Security between WebConnect Server and Host
- Define session limits

Global Security

- Built-in encryption at up to 128-bit strength
- SSL X.509 certificate authentication
- Specify invalid logon attempts

WebConnect utilizes four different communication ports

- The use of ports and TCP/IP masks forms a base security layer
- Splitting encrypted and non-encrypted traffic allows administrators to restrict certain assets to encrypted-only access

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User Security

Level 0:

- By default, out of the box, all defined host sessions are available to any user who can access the WebConnect server.

Level 1:

- Require User Authentication
 - Define Users or Retrieve Users from LDAP
 - Once authenticated, all defined host sessions are available to any valid user

Level 2:

- Limit User Sessions
 - Define specific host sessions for each user

Level 3:

- Access Control
 - Create Groups and Rules Groups consist of one or more users Groups are controlled by a Rule
 - Rules define what you can access, how much, how long and when

What's New?

WebConnect 7.0, OpenConnect's latest version of its award-winning software offers a long list of new features, including:

- New Java Swing and .NET 2.0 Clients with improved User Interface
 - Redesigned menu structure for ease of use
 - Simplified and consolidated user settings dialog
 - Improved user configuration dialogs for attributes/colors
 - Right-click menu for easy access to edit operations as well as switching between sessions
 - User-editable ClickPad that can be undocked
 - Screen history for 3270 and 5250 sessions
 - Improvements to copy/paste operations
 - Improved macro recording feature
 - Pack200 compression
- .NET client provides full-featured interactive emulation option for sites adverse to Java deployment
- Still support Java 1.1 client and provide ability to select client-type on a per-user basis when needed
- Updated SSL
- Administrative interface improvements requested by users

The new Swing enable client found in WebConnect 7.0 also includes the ability to execute as a standalone Java application. This has been available with the Classic Applet in prior versions but required a custom wrapper in addition to the standard applet. The Swing Applet already includes the proper application startup code in its jar file.

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The customer need only copy the Swing Applet jar file to the local desktop and create a shortcut with the appropriate command line options. This shortcut provides access to selected WebConnect sessions without use of the standard web-based user interface.

Technical Specifications

WebConnect Server

- Operating System
AIX 5.2+
HP-UX 11.11+
SOLARIS 2.8+
RED HAT ENTERPRISE LINUX 3+
WINDOWS 2000 with a minimum of Service Pack 2
WINDOWS 2003
LINUX for S/390 – SuSE Linux 390 Version 8.0
- 500 MB hard disk
- Memory Utilization
Minimum 85MB of RAM available for platforms to run 1000 concurrent users, each with one encrypted host session. On average, add an additional 85MB of RAM for every 1000 concurrent encrypted host sessions.
- Session Limitations
UNIX - Maximum 5000 host sessions per service instance
WINDOWS Server Operating Systems - Maximum 3000 host sessions per service instance
Minimum 400 MHz processor for 3000 host sessions
Microsoft recommends 128-MB memory, 256 MB for WINDOWS 2000

Client Platform requirements

- CPU – Minimum 500 MHz, 1 GHz+ recommended
- RAM – 32 MB for WIN, 64 MB for NT, 128 MB for WINDOWS 2000/XP
- OS – Y2K compliant Intel

Browser Requirements

- **CLASSIC APPLETS**
WebConnect requires a browser that supports Sun's Java Dev. Kit 1.1 or higher
NETSCAPE - Netscape Navigator Version 7.0+ with JRE 1.4.2+
MSIE -Microsoft Internet Explorer Version 5.0.1+ with JVM Build 3802 or greater
SUN- JRE 1.4.2+ (Java Runtime Environment) and **Java 1.5**
SAFARI- Safari 1.0.2 & 1.2 w/ JDK 1.4.2
- **HTML CLIENT**
The HTML Client requires a browser that includes “cascading style sheets or layers” (Netscape 6.x+ or IE 5.0+ or Safari 1.0.2 or 1.2).

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- **SWING CLIENT**
WebConnect requires Java 1.5+, approved WebConnect browser that supports Java (IE, Mozilla-based (Firefox, Netscape))
- **.NET CLIENT**
WebConnect requires Microsoft .NET Framework 2.0, J#2.0 Redistributable Package, .NET Security Policy, IE 6/7.

NOTE: Some browsers retain cookie credentials until all instances of the browser are closed.

Summary

WebConnect provides a secure software connectivity link that enables browser-based access to information residing on mainframes and other host computer systems.

End-users of mission-critical applications receive these four benefits when moving to a Web-based solution:

- **Increased productivity**
Several traditional 32bit host access products are reportedly slower than 16bit Windows predecessors. This is partially due to the large complex nature of these solutions. It's difficult to expect high performance from a product that needs 35-45 megabytes of hard drive space for simple host access. WebConnect's client portion ranges from 220K to 450K in size; almost 100 times smaller than traditional emulation products or other similar competitor's type products. Due to the optimized Web-based clients, performance is noticeably increased. Reducing the amount of traffic on the network increases response time and optimizes performance.
- **Improved performance**
Since the access device is a Web browser, users have reduced the complexity of applications on the desktop. Centralized configuration gives administrators management of setting up the required parameters.
- **Equivalent functionality**
Users are not forced to sacrifice functionality when moving to a Web-based interface. In fact, they gain additional functions like SSL 3.0, 128 bit encryption, HTTPS, and/or compression capabilities, to once again reduce infrastructure costs.
- **Variety of client interfaces**
WebConnect offers four client options to present to your user:
 - Java Applet
 - 3270/5250 to HTML-based Emulation
 - Graphical interface (via AutoVista)
 - Graphical Java Objects (via eXtremeVista)

With WebConnect

- Use your Web-browser as the access device
- Reduce the complexity of your desktops while adding security
- Limit the number of things that could go wrong
- Provide a new graphical Web interface to existing mission-critical applications

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Contact Information

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