

# WebDemo Technology Overview

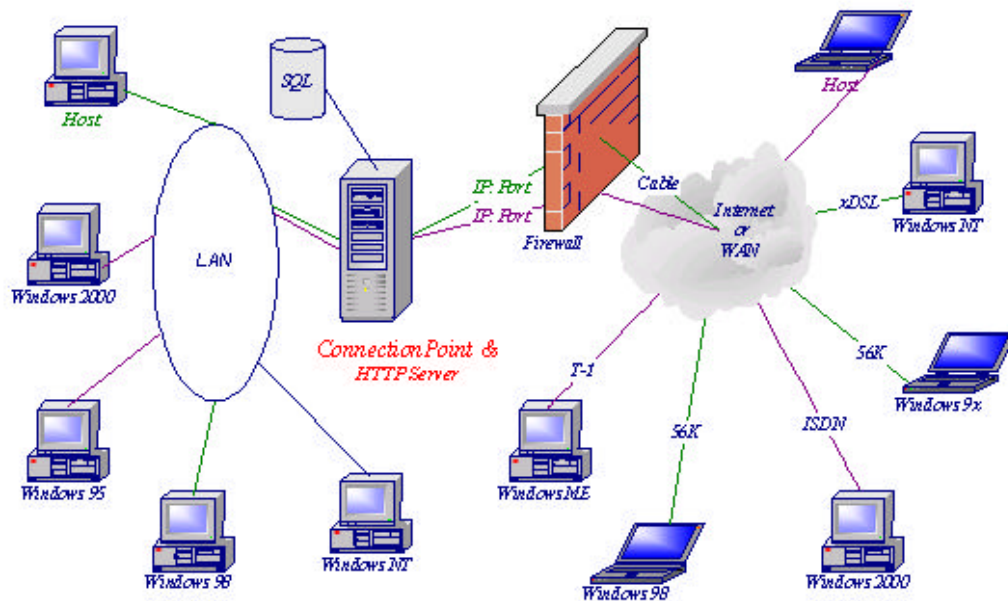
## I. WebDemo ConnectionPoint

### A. What is the ConnectionPoint

The center of WebDemo that acts as the Linkivity Server is called the ConnectionPoint. The connectionPoint coordinates all the activity between the Host and the Participant when WebDemo's collaboration tools are in use. The ConnectionPoint manages all connections including any firewall conflicts caused by the Participant's network. Whether you are conducting a meeting, a training session or helping a customer, the ConnectionPoint establishes and maintains the session and allows the Host to use special functions to facilitate the session. These collaboration tools include Keyboard Chat, Voice Chat, Video, Record and Playback, File Broadcast, Viewport and Remote Control.

### B. How The ConnectionPoint Works

The Java based ConnectionPoint is the command center of the WebDemo Collaboration tool-set and has been designed and developed to satisfy a broad range of business applications. The ConnectionPoint architecture allows for maximum scalability. When the Host and a Participant are in a collaborative session it is the ConnectionPoint's job to create and maintain the session through a computer network such as the Internet or Intranet using an existing TCP/IP network protocol. The ConnectionPoint resides on an HTTP server at a site determined by the owner of the server. When a collaboration tool such as Keyboard Chat is started between the Host and the Participant the ConnectionPoint communicates the necessary information to allow the Keyboard Chat function to perform. The ConnectionPoint provides the same service for all the WebDemo collaboration tools.



## C. Database

During the standard install, a Jet Engine database driver (MDAC) is automatically installed if it does not already exist on your server (it is already installed on any Windows 2000 platform). The Database Administrator can manage the Jet Engine database by using Microsoft Access. Any ODBC-compliant database can be used to replace the Jet Engine database such as Microsoft SQL Server. With a few simple steps the Database can be replicated, and the product will use the new database engine within minutes.

## D. IIS (Internet Information Services)

The Web site runs on IIS (Internet Information Services). IIS is part of a Windows 2000 Server or Advanced Server install, and can be found on the Windows 2000 Pro CD. For Windows NT, IIS can be downloaded from Microsoft's site at no charge.

## E. Selecting Your ConnectionPoint Port

It is recommended to use Port 443 since that appears to have a higher user success rate since port 443 is normally left open for encryption purposes. Listed below are essential points to consider when you select a port for your ConnectionPoint.

As the default, WebDemo's web site runs on port 80 and the ConnectionPoint runs on port 443 in which case one IP address is used. We chose port 443 as the ConnectionPoint's default port since most users have this port open in their firewall. We have set this as the default to save your network administrator any changes that is now the current network firewall configuration.

Historical note: In previous versions of WebDemo the ConnectionPoint default port was set to port 70. In light of the Microsoft's recommendation to have port 70 closed in firewalls, we changed the ConnectionPoint default port, to port 443.

## F. Firewall

The ConnectionPoint actively manages all online sessions, providing secure connectivity that will not interfere with network firewalls. With the ConnectionPoint, network administrators can spend less time addressing firewall configuration or security issues.

For the most part, firewalls block inbound connections. If something or someone is trying to connect to your machine from the outside (this is called an *inbound* connection), firewalls do a great job at intercepting these connection requests and handling them according to the company's policies. WebDemo first downloads a java applet onto your local machine, which then attempts to establish a connection back to its originating Linktivity Server (ConnectionPoint). This *outbound* connection is first attempted by using a TCP/IP socket connection. Some firewalls and more secure sites will block even these types of connections regardless of whether it is an inbound or outbound connection or what port it is trying to use. Therefore, when the java applet's attempt to connect to its ConnectionPoint fails, it switches automatically to another connection method. This method is known as the HTTP tunneling method, where all communication to and from a PC to the ConnectionPoint simulates a browser to Web Server communication.

As far as performance, the TCP/IP Socket connection method is a more efficient way of establishing any maintaining communication. Therefore, this is the method we attempt first. Although the HTTP tunneling method does not perform as well, we have tuned many things in the ConnectionPoint to squeeze out as much performance as possible from this connection method.

## **G. Security**

Security is handled in many ways. There is the security of someone logging into the WebDemo site, which can be handled with Secure Socket Layer (SSL), there is the security of the data being transferred WebDemo clients and the ConnectionPoint, the security of the interaction between a Service Representative and customer, and the security overall of a Web Server.

1. When logging into a WebDemo Web site is something that has to be extremely secure, we recommend getting a SSL certificate from a company such as VeriSign. This "Secure Socket Layer" certificate ensures that logins occur over a HTTPS connection so that username and password are encrypted before they are sent to the IIS Server. This SSL certificate can be purchase to provide different levels of encryption such as 40 or 128-bit encryption.
2. Any communication between PCs and the ConnectionPoint is never done with clear text. All messages sent across the wire are in a proprietary format, encrypted, and compressed. Due to security purposes, we cannot reveal our message formats, encryption method, or compression method. Our encryption is an 8-bit encryption nonetheless.
3. Web Server security is something that everyone is becoming more and more conscious about as more and more worms and viruses are created and spread. We recommend that people keep up with the updates from Microsoft for IIS and the updates form their virus protection software.

### **General Security of a ConnectionPoint**

The WebDemo collaboration tools talk to a single, predetermined database. The Collaboration tool's ability to talk to its database is limited to predetermined read and write operations. There is no way to manipulate the tools to delete database entries, or to examine anything other than specific Collaboration tool data. Manipulation of Collaboration tool-specific data by the ConnectionPoint itself is limited. For example, the ConnectionPoint can change the date on a predefined field to today's date. It does not have the capacity to do anything else. It offers no user interface. It has no flexibility to do anything other than the few predetermined tasks that have been assigned to it.

The WebDemo collaboration tools only talk to other people who have called them. The key point here is that you or a user must call the ConnectionPoint. The ConnectionPoint cannot establish connections to other machines or networks. It can only talk to people who have requested a connection to it.

## **H. Encryption**

The ConnectionPoint never sends meeting content in clear text. The ConnectionPoint uses a proprietary data format (based on industry standards) for transmitting data to and from the Host and the Participant. For more details on encryption, read points 1 and 2 in the section titled "Security" above.

## II. Components

---

### A. Host

Web-based Design—requires no client software installation. Participants log in to your Web site and are instantly available for interactive PC collaboration or support. All that is required is a Windows based PC and a connection to the Internet.

Remote PC Control—allows the Host to assume control of a remote PC, provided that the customer has granted remote access permission.

Viewport—allows the Host to show the participant a view of his/her desktop. The Viewport can be resized to show whatever the host needs to display to the participant. (i.e. a PowerPoint presentation)

True Color Representation. True colors between 256 colors and High Color (16-bit to 24-bit) are available for added enhancement to the Viewport.

Transparency Tools—allows the Host or participant to annotate within the Viewport area.

Voice chat—allows Participants with microphone and speaker-equipped PCs to communicate with the Host across their Internet connection.

Keyboard chat—provides a simple, direct way for Participants and the Host to communicate online in real-time while resolving support issues.

File Broadcast. File Broadcast allows the presenter of a WebDemo session to broadcast files to any or all attendees

Convenient Web Guide. WebDemo enables users to “co-browse” with WebDemo participants so presenters can direct attendees to specific live Web pages for training or support.

Record and Playback. The Record and Playback feature records a meeting session and saves the recording for playback at a later time.

Outlook® E-mail Integration. The Outlook E-mail Integration integrates Microsoft Outlook® and WebDemo by allowing a meeting session to be scheduled in Outlook from an e-mail produced by WebDemo.

Video Conferencing—Optional Feature Component. Upon electing to add the Video Conferencing feature component to your WebDemo system, participants attending the meeting session are allowed to send live video images from their PC cameras. Participating members in the Video Conference are then able to view everybody’s images that are displayed. This component is uniquely integrated with Voice Chat, therefore transmitting the video image synchronized with the audio sound.

### B. Participants

Voice Chat—allows Participants with microphone and speaker-equipped PCs to communicate with the Host across their Internet connection.

Keyboard Chat—provides a simple, direct way for Participants and Host to communicate online in real-time while resolving support issues.

### C. Bandwidth Considerations

WebDemo Collaboration Tools require the Host and Participants to have a minimum of a 56K Internet connection with at least 40Kbps connectivity. In addition the following requirements must be met:

<b>Server Hardware and Software Requirements (minimum)</b>	
Minimum processor	PII 400 (Pentium II, 400 Mhz)
Recommended	PIII 800 (Pentium III 800 Mhz) with 256 MB of RAM
Operating Systems which can run a Linktivity server	Windows 2000 Server
Voice Chat	Microphone, sound card and current drivers
ConnectionPoint - Website	IIS (Internet Information Services)
WebDemo controls	IE (Internet Explorer 4.01 or later) or Netscape 5.0 and JVM (Microsoft Java Virtual Machine)
Bandwidth	56K

<b>Hosts Software Requirements</b>	
Operating Systems which can run a Host session	Windows 98, Windows NT, Windows 2000, or XP
Compatible Browsers	Internet Explorer 5.0 or greater, Netscape 4.7X

<b>Participants Software Requirements</b>	
Operating Systems which can run a Customer session	Windows 95, Windows 98, Windows NT, Windows Millennium, Windows 2000 or XP
Compatible Browsers	Internet Explorer 5.0 or greater,
Bandwidth	33.6K