

## Reflection for the Web 2008 Unisys Edition

Reflection® for the Web 2008 Unisys Edition is terminal emulation software that securely connects browser users to applications on Unisys, IBM, HP, UNIX, and OpenVMS hosts. Strong authentication and encryption capabilities safely deliver fully functioning host applications across the public Internet. And a secure token authorization feature adds a layer of LDAP access control in front of your host applications, integrating them into your modern security infrastructure.

### With Reflection for the Web 2008, you can:

- Secure all host sessions with secure token authorization and AES or Triple DES encryption over SSL/TLS.
- Authenticate users with Active Directory, LDAP, X.509 smart cards, Kerberos, and web portal authentication methods.
- Use your existing LDAP users and groups to control user access to sensitive data and resources.
- Facilitate compliance with regulations such as Payment Card Industry (PCI), Sarbanes-Oxley, Gramm-Leach-Bliley, HIPAA, and Basel II.
- Leverage existing security technology infrastructures—including X.509 certificates, Online Certificate Status Protocol (OCSP), and Certificate Revocation Lists (CRL)—via Reflection for the Web’s Public Key Infrastructure (PKI) support.

### COMPONENTS

Reflection Management Server  
 Reflection Security Proxy Server  
 Reflection Metering Server  
 Reflection Thin Terminal Emulation Clients  
 Reflection Thin File Transfer Clients  
 Reflection Thin Printing Clients

### What’s New in Reflection for the Web 2008 Unisys Edition?

- Simplified management of PKI certificates.
- Troubleshooting enhancements for PKI/smart card authentication and OCSP.
- Improved screen reader support for greater accessibility.
- Advanced copy/paste options.
- Macro sharing between sessions of the same type.
- Ability to save frequently used IND\$FILE transfers.
- Custom color support for the cursor, ruler, and terminal-screen elements.
- Enhanced text rendering and scaling.
- URL recognition and opening from emulation client.
- Cursor ruler support for VT emulation.
- Option for users to make local, customized copies of terminal sessions.
- Option for users to sort and group terminal sessions according to their own preferences.

## Product Highlights

### Centralized Installation, Deployment, and Management

Reflection for the Web is centrally installed and deployed on the web server for instant availability to all browser

users. Once you make updates on the server, users automatically download the new version the next time they connect. Costly, time-consuming desktop-to-desktop management is no longer necessary.

**Robust Security Options**

Reflection for the Web provides standards-based encryption with FIPS 140-2 validated cryptographic modules. These modules facilitate compliance with internal and external security regulations such as Payment Card Industry (PCI), Sarbanes-Oxley, Gramm-Leach-Bliley, HIPAA, and Basel II.

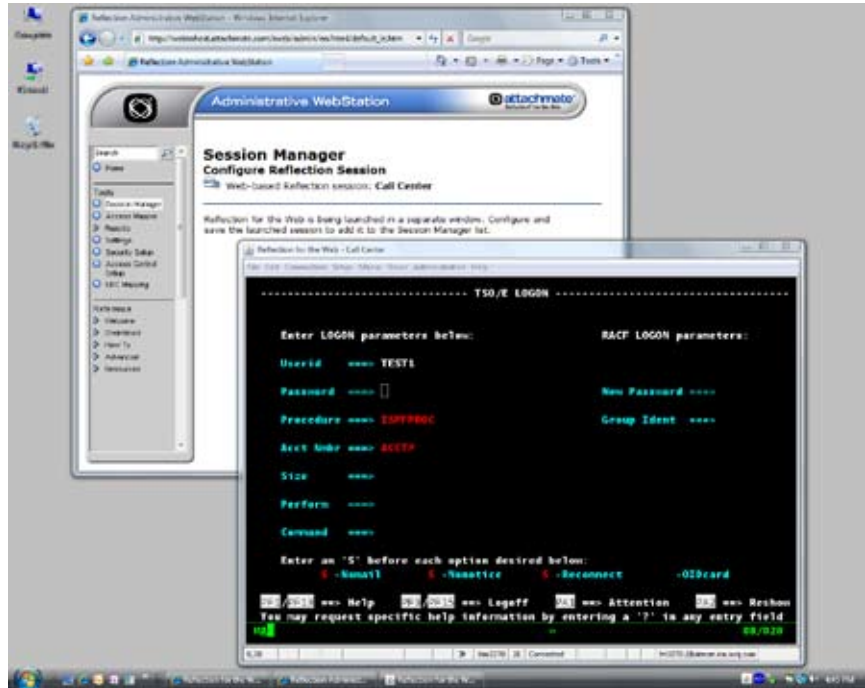
Reflection for the Web includes a security proxy server that extends host access to remote users without exposing hosts to Internet threats. The security proxy server works with the management server to control access to terminal emulation and file transfer hosts based on Active Directory or LDAP user and group membership.

**Any Browser,  
Any Operating System**

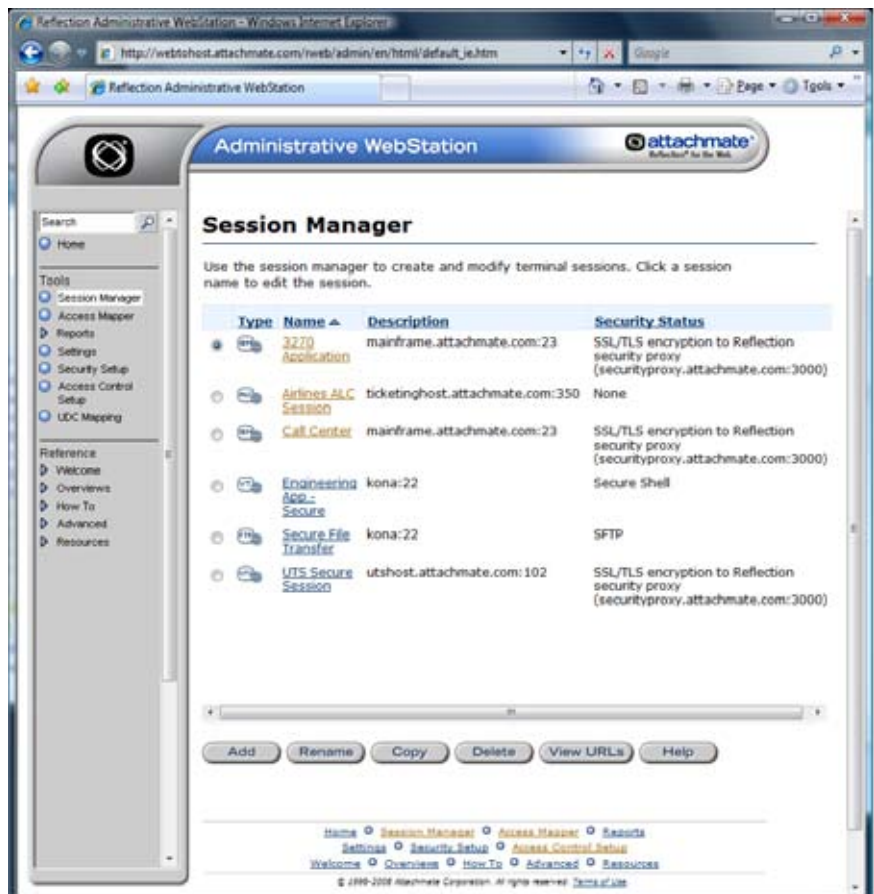
Reflection for the Web is platform independent. The client runs in any browser—including Internet Explorer, Netscape, Mozilla Firefox, and Safari—and on any operating system that supports Java—including Windows Vista®, Linux, and Mac OS X. The servers also run on any Java-supported operating system, including Windows®, Linux, UNIX, and z/OS.

**Development Focus  
on Evolving IT Needs**

Reflection for the Web developers are focused on meeting your evolving IT needs. Today, we are concentrating on security, scalability, and interoperability with emerging technologies. This level of focus on and investment in terminal emulation is unmatched by our competitors.



Administrators can configure new web-based terminal sessions using the Session Manager.



After configuring a new web-based terminal session, administrators can save it in the Session Manager. Now it is ready for users to access.

## TECHNICAL SPECIFICATIONS

### Connection Basics

#### Emulation Types

Unisys Clearpath Dorado Systems:

- UTS20, UTS40, UTS60, and UTS70

Unisys Clearpath Libra Systems:

- T27

IBM System z (Mainframe):

- 3179, 3180, 3196, 3197, 3270, 3278, 3477, 3486, and 3487
- Models 2 (24x80), 3 (32x80), 4 (43x80), and 5 (27x132)

IBM System i (AS/400):

- 5250, 5251, and 5291

UNIX, Linux, and OpenVMS:

- VT52, VT100, VT220, VT320, and VT420

HP e3000:

- HP2392 and HP7009x

#### Network Protocols

All host types:

- IPv6

Unisys Clearpath Dorado Systems:

- INT1 and SSL/TLS

Unisys Libra Systems:

- TCPA and SSL/TLS

IBM System z:

- TN3270, TN3270E, and SSL/TLS

IBM System i:

- TN5250 and SSL/TLS

UNIX, Linux, OpenVMS, and HP e3000:

- Telnet, NS/MT, SSL/TLS, and Secure Shell (SSH2)

#### File Transfer

SFTP (SSH2) support

Secure FTP (SSL/TSL-wrapped):

- Secure access to multiple FTP hosts through one firewall port
- LDAP-based access control using secure token authorization
- Reflection Security Proxy Server hides the FTP server name/port and protects the host from external exposure


Standalone FTP client (independent of emulator)

FTP command line interface

FTP with automatic detection of ASCII and binary formats and preset file transfer configurations

IBM System z IND\$FILE file transfer for CMS, TSO, or CICS

Browse host files for IND\$FILE (for quick access to host file lists)

 Ability to save frequently used IND\$FILE transfers

IBM System i data transfer

### Security

#### Authentication

Microsoft® Active Directory single sign-on

LDAP integration with Microsoft Active Directory, RACF, Novell eDirectory, Sun Java System Directory, IBM Tivoli Directory Server, and OpenLDAP

Public Key Infrastructure (PKI) support

Certificate Revocation List (CRL) support

Online Certificate Status Protocol (OCSP) support

Certificate policy support

X.509 certificate support for smart cards

Automatic Kerberos sign-on (System i)

Kerberos v5 with Microsoft Active Directory

Integration with IBM WebSphere Portal, BEA AquaLogic Interaction, BEA WebLogic Portal, and CA SiteMinder

#### Encryption

AES, Triple DES, and DES encryption

SSL/TLS (via the Reflection Security Proxy Server or direct to host)

Secure Shell (SSH2)

#### Authorization (Access Control)

LDAP integration to verify authorized terminal session access

Personalization of a wide variety of parameters, such as LU/device name, based on user identity, DNS name, or IP address

LDAP-based access control through secure token technology

Secure terminal and file transfer connections to multiple hosts through a single port in the firewall

#### Auditing

Reflection Management Server log

Reflection Security Proxy Server log

Reflection Metering Server log

#### Key Exchange

RSA

DSS/Diffie-Hellman

### Printing

Screen printing

T27 printer with TCPA communications protocol

IBM 3287

IBM 3812 (HPT and non-HPT)


VT logging and controller-mode printing

HP passthrough printing


### Programming and Automation

Assignment of macros to terminal sessions

Macro sharing via importing and exporting of files

 Macro sharing between sessions of the same type

Macro mapping to keystrokes and mouse triggers

 URL recognition and opening from emulation client

Password prompt for recorded macros

Java-based API for scripting applets with JavaScript, VBScript, or Java

Compatibility with Host Access Class Library (HACL)

Programmatic access to FTP file transfer

### Web-Based Administrative Tools

Management Server:

- Automated management server data replication for load-balanced environments

- Step-by-step configuration for web-based host

sessions (local or remote)

- Session creation and management for certain Reflection Windows-based and PC X server products

- Authentication and authorization configuration of Reflection sessions

Metering Server:

- Usage logging

- Session number limitation

- License enforcement

- Usage metering (including generation of usage reports) for certain Reflection Windows-based emulation and PC X server products

### Server Installation Support

Can be installed on any operating system that supports Java, including Windows, Linux, UNIX, and z/OS

Automated installer for Windows, Linux, Solaris, and HP-UX, with all necessary components including Tomcat servlet engine and Sun Java Runtime Environment

WAR file installer for J2EE application servers

### System Requirements

Reflection for the Web Clients:

- Runs in Java 1.1/2-enabled web browser that runs trusted applets

- TCP/IP network connection

- Any hardware system that meets the minimum requirements for the Java Runtime Environment

- Supported browsers include Internet Explorer 6.0+, Netscape 7.0+, Mozilla Firefox 1.5+, Safari 1.3+, and Sun Java Web Start

Reflection Administrative WebStation:

- Installs on web server; runs in web browser on any workstation

- Any hardware system that meets the minimum requirements for the Java Runtime Environment

- Supported browsers same as terminal emulation client

Reflection Management Server and Reflection Metering Server:

- Installs on any machine running Java Runtime Environment 1.5+ with 250 MB of disk space

- Java Servlet 2.3-compliant servlet engine and Java Server Pages (JSP) 1.2, JDK 1.5+

- Will run on any J2EE-compliant servlet engine or application server, including Tomcat, BEA WebLogic, IBM WebSphere, or Sun Java System Application Server
- Minimum of 256 MB of RAM required

Reflection Security Proxy Server:

- Any server running Java Runtime Environment 1.5+

- 150 MB of disk space

- Minimum 512 MB of RAM required

## About Attachmate

Attachmate helps businesses extend, manage, and secure their IT investments. We offer a broad range of solutions—from terminal emulation and legacy integration products to innovative systems and security management tools. With our technology, more than 65,000 customers worldwide are putting their IT assets to work in new and meaningful ways. Learn more at [www.attachmate.com](http://www.attachmate.com).



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