

Maximum Flexibility for Modern IT

Attachmate® Reflection® Enterprise Suite 2011 combines the most advanced Windows- and browser-based terminal emulators into one powerful solution. This robust suite lets you save time with centralized administration and enhanced customization control, and offers unrivaled security for host sessions. It supports Windows 7, Windows Vista, the latest security standards, and modern virtualization technologies. With Reflection Enterprise Suite 2011, you can deploy one or both products to any user—casual, power, local, or remote—from a central location.

SUITE COMPONENTS

Reflection Enterprise Suite 2011 includes two products:

- Reflection Standard Suite 2011—Terminal emulation software that connects Windows users to host applications on IBM, UNIX, and OpenVMS systems.
- Reflection for the Web 2011 Standard Edition—Terminal emulation software that connects browser users to host applications on IBM, UNIX, and OpenVMS systems.

With Reflection Standard Suite 2011, you can:

- Connect Windows users to applications on IBM Mainframe, IBM AS/400, UNIX, and OpenVMS hosts.
- Support modern operating environments, including Windows 7, Windows Vista, Windows Server 2008, Microsoft App-V, VMware, and Citrix XenApp.
- Enhance data security by masking customer information on live host screens, assigning specific levels of data access to different user groups, and logging credit card data access by employees.
- Use the Reflection PCI/DSS mode to prevent users from connecting to host systems via non-secure protocols and configurations.
- Use Browser UI mode for a familiar, streamlined browser interface.
- Enhance user productivity with customizable tabs, faster-running VBA macros, and support for key Windows 7 features.
- Reduce desktop footprint and lock down desktops by controlling the features you install.
- Automate routine tasks using the familiar VBA platform.
- Create custom applications that integrate Reflection sessions using a .NET embeddable terminal control.
- Run EXTRA!® and Reflection session files, macros, and related HLLAPI applications.
- Protect sensitive data in motion with updated SSL/TLS and SSH security protocols.

What's New in Reflection Standard Suite 2011?

- *Compatible with Windows 7, Citrix Ready, and VMware Ready logos.*
- Support for modern operating environments, including Windows 7, Windows Vista, Windows Server 2008, Microsoft App-V, VMware, and Citrix XenApp.
- Enhanced security features designed to help you meet evolving PCI DSS requirements.
- Microsoft Ribbon and browser-like user interface modes.
- Support for the SFTP 4.0 standard.
- .NET control for creating custom applications that embed Reflection terminal sessions.
- Integration with Microsoft Office 2010.
- Faster-running VBA macros.
- Updated Attachmate Customization Tool for more flexible configuration options.
- Triple-mouse-click support.



With Reflection for the Web 2011 Standard Edition, you can:

- Securely connect local and remote browser users to applications on IBM Mainframe, IBM AS/400, UNIX, and OpenVMS hosts.
- Centrally install, deploy, and manage your terminal emulation applications.
- Support emerging technologies, including Windows 7; Google Chrome; zLinux; and Microsoft, Citrix, and VMware virtualization platforms.
- Take full advantage of scalable, high-performing servers with the automated 64-bit installer for Windows and Linux.
- Use the JavaScript macro recorder to build complex macros that swiftly automate business processes.
- Drag and drop icons to a configurable toolbar—and even map commands, keyboard actions, and macros to custom buttons.
- Authenticate users with Active Directory, LDAP, X.509 smart cards, Kerberos, and web portal authentication methods.
- Use enterprise directory services, such as Active Directory, to control user access to sensitive data and resources—without making any changes to your LDAP schema or data.
- Facilitate compliance with regulations such as Payment Card Industry (PCI), Sarbanes-Oxley, Gramm-Leach-Bliley, HIPAA, and Basel III.
- Meter usage in standard desktop or Citrix environments with the Reflection Metering Server.

What's New in Reflection for the Web 2011 Standard Edition?

- Native 64-bit support for Windows and Linux servers, for enhanced performance and scalability.
- Swift automation of business processes with a JavaScript macro recorder.
- Easier administration of user access rights through an LDAP session-access report.
- A configurable toolbar that lets users map file transfer requests, favorite commands, macros, and other actions to custom buttons.
- Bolstered host security, with updates to the Reflection server's Tomcat servlet engine and Java runtime.

Product Highlights**Get Ready for Windows 7 and Office 2010**

Reflection Enterprise Suite 2011 leverages key Windows 7 and Office 2010 security and productivity features. With support for Trusted Locations, User Account Control (UAC), the Microsoft Ribbon user interface, VBA, .NET, and Windows Error Reporting (WER), Reflection makes it easy for you to maximize your Microsoft investment.

Reflection for the Web 2011 Standard Edition runs seamlessly on any platform that supports current versions of Java, including Windows 7.

Satisfy the Latest Security Requirements

Reflection Enterprise Suite 2011 helps you thwart threats to the network and meet important external security requirements. Reflection is validated for FIPS 140-2 and certified for DoD PKI—the U.S. government's top security standards. This high level of security helps you comply with Sarbanes-Oxley, HIPAA, and Basel III mandates.

What's more, Reflection Enterprise Suite 2011 is designed to help you meet the latest PCI DSS requirements. New security features allow you to mask data on live host screens, redact data as it is entered, prevent users from connecting to host systems via wireless networks and other non-secured configurations and protocols, log credit card data access by employees, and define specific levels of data access for different user groups.

And with an upgrade to Reflection for the Web 2011 Enterprise Edition, you can even add an extra layer of protection in front of the host with secure token authorization.

Boost User Productivity with Quick, Streamlined Functions

Reflection Enterprise Suite 2011 makes it easier for users to work seamlessly. Customizable tabs make multiple host applications easy to distinguish, and a new browser-like user interface mode provides a familiar, easy-to-navigate interface that maximizes screen real estate.

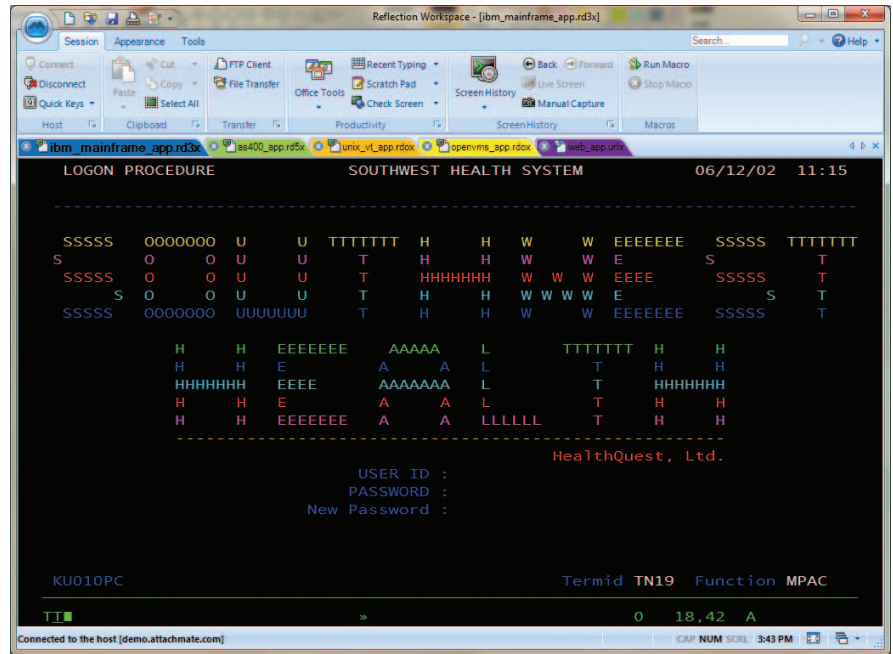
Integration with Office 2010 allows users to copy host data into a Word doc, e-mail message, or PowerPoint slides with the click of a button. Also, Reflection Enterprise Suite 2011 incorporates features such as Auto Complete, Auto Expand, Spell Check, Scratch Pad, Recent Typing, and Screen History—making host applications as easy to use as Office applications.

Keep IT Complexity Under Control

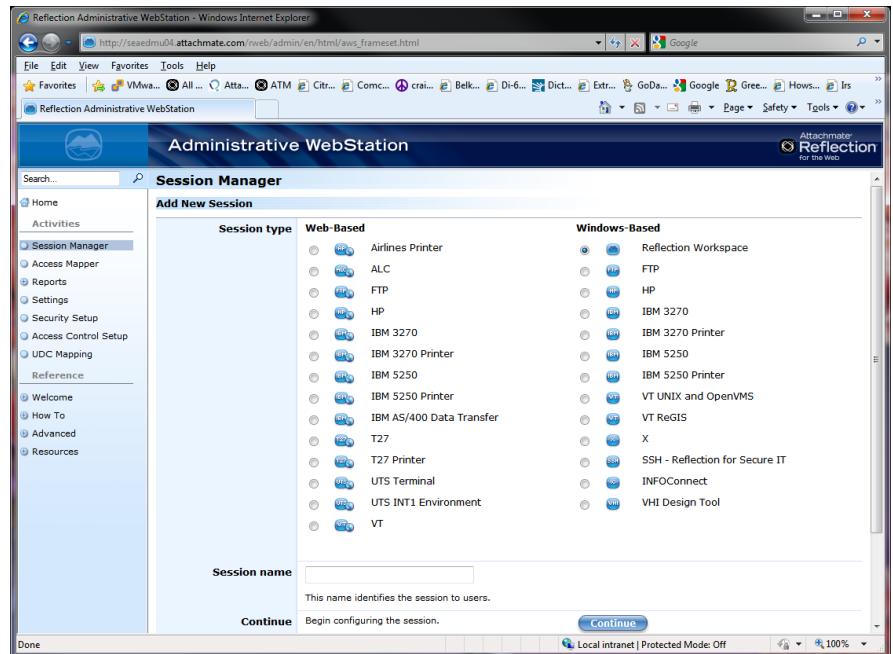
Reflection Enterprise Suite 2011 gives you the flexibility you need to control IT complexity, from centralized management to more powerful customization tools. You can implement dynamic, real time updates of user configuration files, and perform granular feature installs to reduce desktop footprint and lock down desktops. And with the Reflection for the Web SDK, you can build custom solutions or integrate emulation applets with other Java-based technologies.

Integrate Critical Technologies

Reflection Enterprise Suite 2011 supports a mix of existing and emerging IT technologies, including Windows 7, Active Directory, and Group Policy; Microsoft App-V, VMware, and Citrix XenApp; and IPv6 and 64-bit computing.



Reflection for IBM® 2011 in tabbed Multiple Document Interface (MDI) mode.



With Reflection for the Web 2011, administrators can configure web-based terminal sessions using the Session Manager. Those terminal sessions can then be quickly deployed via the web to local or remote users and securely run within any current browser.



TECHNICAL SPECIFICATIONS

Product Components:

- Reflection Standard Suite 2011
- Reflection for the Web 2011 Standard Edition

REFLECTION STANDARD SUITE 2011

Emulation Types

- IBM System z (Mainframe):
 - 3270 text and graphics terminals and printers
- IBM System i (AS/400):
 - 5250 terminal and printers
- UNIX and OpenVMS:
 - VT terminals (including Japanese)
 - Support for numerous host character sets, including UTF-8 (Unicode)
 - Wyse 50+, Wyse 60, SCO-ANSI, and BBS-ANSI
 - Linux console, AT386, IBM 3151, xterm, and VT-UTF8
 - ReGIS (VT340, VT330, VT241, and VT240) and Tektronix graphics terminal emulation

Network Protocols

- IBM System z (Mainframe):
 - TN3270E and SSL/TLS
- IBM System i (AS/400):
 - TN5250E and SSL/TLS
- UNIX and OpenVMS:
 - Extensive Telnet options
 - Support for serial connections
- All host types:
 - IPv4 and IPv6 support
 - SOCKS client support

File Transfer

- IBM System z (Mainframe) and IBM System i (AS/400):
 - IND\$FILE, APVUFILE, DISOSS, SQL data query, LIPI, and batch file transfer
- UNIX and OpenVMS hosts:
 - WRQ Reflection proprietary protocol, FTP, Kermit, Xmodem, and Zmodem
- Reflection Secure FTP Client:
 - NEW - Support for SFTP 4.0 to ensure proper translation of international characters
 - SSH, SSL/TLS, SOCKS, and Kerberos security protocols
 - Extensive firewall support
 - File browsing on z/OS hosts with TSO data sets
 - Save FTP client sessions in Layouts
 - Management of FTP settings via Reflection Administrator
 - IPv4 and IPv6 support
 - Change UNIX file permissions with FTP client

- SFTP downloads resume after interruption
- Support for a wide variety of FTP servers, including IBM System z, IBM System i, UNIX, NetWare, Unisys, HP 3000, and OpenVMS
- FTP site wizard
- Site-to-site transfer between FTP servers
- Export/import settings in XML format
- Wildcard filters
- Automation tools (script recorder and Microsoft OLE Automation)
- Drag and drop file transfers directly to the desktop

Security

- IBM System z (Mainframe) and IBM System i (AS/400):
 - NEW - Data masking on 3270 and 5250 host screens
 - NEW - Ability to prevent non-secure host connections
 - Automatic Kerberos sign-on (System i)
 - Express Logon Feature (System z)
- UNIX and OpenVMS:
 - Support for Kerberos
 - Reflection Key Agent accepts SSH keys and certificates for single sign-on authentication
 - SSH encryption:
 - SSH X client launching
 - X11 forwarding
 - Command line SSH utilities (ssh, scp, and sftp)
 - Port forwarding (tunneling) for TCP/IP ports through secure channel
 - Integrated multihop SSH configuration support
 - Password, keyboard interactive, public key (user key and X.509 certificates), and Kerberos authentication
 - Smart card support through PKCS #11 interface
 - SSH key agent
 - Key generation and conversion (RSA-1, RSA, and DSA) utility
 - Easy uploading of users' public keys to SSH servers
 - SSH connection reuse
 - Standard SSH configurations
- Reflection Kerberos Client:
 - Secure authentication
 - Datastream encryption (DES and 3DES) for Telnet and FTP
 - Support for ticket forwarding and renewal
 - Compatible with Microsoft and Leash32 credentials caches
 - Standard Kerberos configurations
 - Support for Kerberos KDCs using TCP or UDP
- All host types:
 - Support for SSL/TLS and SOCKS

- FIPS 140-2-validated cryptographic module (Certificate #1027)
- Adheres to Federal Desktop Core Configuration (FDCC) and United States Government Configuration Baseline (USGCB) security policy requirements
- PKI support built to meet DoD standards:
 - PKCS #11 support
 - U.S. DoD Common Access Card (CAC) support
 - Online Certificate Status Protocol (OCSP) support
 - Certificate Revocation Lists (CRL)
 - Intermediate certificate storage through LDAP
 - Reflection Certificate Manager
- Privacy filters
- Trusted Locations

Productivity

- IBM System z (Mainframe) and IBM System i (AS/400):
 - NEW - Micro Focus Rumba and IBM PComm session file, keyboard, and macro support
 - Spell Check and Auto Correct
 - Recent Typing
 - Auto Expand and Auto Complete
- All host types:
 - Integration with Microsoft Office
 - Application, desktop, and Internet search support
 - Screen History
 - Scratch Pad
 - Advanced cut/copy/paste
 - Keyboard and mouse mapping or remapping
 - NEW - Triple-mouse-click support

Printing

- IBM System z (Mainframe):
 - 3287 (LU1 and LU3)
- IBM System i (AS/400):
 - 3812, 3912, and 5553 printer emulation
 - Host Print Transform
- UNIX and OpenVMS:
 - Windows or host control
 - Network, local, or print-to-disk
 - ReGIS color graphics support
 - Print logging
 - Fixed pitch TrueType and printer font
 - Serial device to host communications
 - Line-drawing characters

Programming and Automation

- NEW • Embeddable .NET control
- Native .NET API



TECHNICAL SPECIFICATIONS (continued)

- Integration between Reflection .NET API and Microsoft Visual Studio IDE
- VBA support
- Macro recorder for VBA
- Programmatic access to over 400 properties and methods via Reflection API
- Microsoft OLE Automation
- EXTRA! Basic and Reflection Basic macro runtime and editing
- NEW** • Support for encrypted EXTRA! Basic macros
- HLLAPI, eHLLAPI, and WinHLLAPI (IBM System z and IBM System i only)
- Reflection Command Language (RCL) (UNIX and OpenVMS only)

User Interface

- IBM System z (Mainframe) and IBM System i (AS/400):
 - Segoe for Attachmate font (for a consistent user experience with Windows 7)
 - Customizable screen sizes for 3270 host applications
 - Word wrap
- UNIX and OpenVMS:
 - Full-screen terminal mode
- All host types:
 - NEW** - Browser UI mode
 - Attachmate implementation of the Microsoft Ribbon user interface
 - Classic mode interface for EXTRA! and Reflection
 - Ribbon customization utility
 - Tabbed or windowed Multiple Document Interface (MDI)
 - Configurable tabs, including colors, renaming, and more
 - Local and online HTML Help
 - Customizable hotspots
 - Graphical keyboard mapping
 - Full-color editing

Administrative Tools

- Granular UAC support
- Integration with Reflection Administrator:
 - Web console for centralized administration of settings files
 - Web-based deployment of settings files and updates
- Windows Error Reporting (WER) support
- Centralized management of settings files using Group Policy
- Application customization tool for settings and installation files (including MSI)
- Support for Windows administration features:
 - Windows Installer (MSI)
 - Active Directory
 - Roaming user and multiple user profiles
 - Group Policy
 - Application self-repair

International Support

- English, French, German, Spanish, Italian, Japanese, and Brazilian Portuguese languages
- Support for Chinese Simplified/Traditional, Korean, and Japanese code pages (IBM System z and IBM System i only)
- Localized keyboards, displays, and printers
- Support for standard input-method editors

Operating System Support

- Microsoft Windows 7*
- Microsoft Windows Vista*
- Microsoft Windows XP
- Microsoft Windows Server 2003 Terminal Services
- Microsoft Windows Server 2008 Terminal Services
- Citrix XenApp
- Microsoft App-V
- VMware

REFLECTION FOR THE WEB 2011 STANDARD EDITION

Emulation Types

- IBM System z (Mainframe):
 - 3270 terminals and printers
- IBM System i (AS/400):
 - 5250 terminals and printers
- UNIX, Linux, and OpenVMS:
 - VT52, VT100, VT220, VT320, and VT420

Network Protocols

- All host types:
 - IPv4/IPv6
- IBM System z:
 - TN3270, TN3270E, and SSL/TLS
- IBM System i:
 - TN5250 and SSL/TLS
- UNIX, Linux, and OpenVMS:
 - Telnet, NS/VT, SSL/TLS, and Secure Shell (SSH2)

File Transfer

- SFTP (SSH2) support
- Secure FTP (SSL/TLS wrapped)
 - Works with any conventional FTP server
 - Secure access to multiple FTP hosts through one firewall port
 - LDAP-based access control using secure token authorization
- 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)
- IBM System i data transfer
- Ability to save frequently used IND\$FILE, FTP, and System i file transfers

Compliance

- Adheres to Federal Desktop Core Configuration (FDCC) and United States Government Configuration Baseline (USGCB) security policy requirements

Authentication

- Microsoft Active Directory single sign-on
- LDAP integration with Microsoft Active Directory, RACF, Novell eDirectory, Sun Java System Directory, IBM Tivoli Directory Server, OpenLDAP, and any other RFC 2256-compliant LDAP server
- 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, Oracle WebLogic Portal, and CA SiteMinder

Encryption

- FIPS 140-2-validated cryptographic modules (Certificates #787 and #820)
- SSL/TLS
 - 256- and 128-bit AES, Triple DES, and DES encryption
- Secure Shell (SSH2)
 - 256- and 128-bit AES, Triple DES, and DES encryption (128/192/256 bit; cbc/ctr)

Authorization (Access Control)

- LDAP integration to restrict terminal, printer, and file transfer session access to authorized users
- 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
- Dynamic LDAP group support
- Secure terminal and file transfer connections to multiple hosts through a single port in the firewall

Auditing

- Reflection Management Server log
- Reflection Metering Server log
- Log data tracks usage by LDAP distinguished names

Key Exchange

- RSA
- DSS/Diffie-Hellman



TECHNICAL SPECIFICATIONS (continued)

Printing

- NEW** • Screen printing, with configurable headers and footers
- IBM 3287
- IBM 3812 (HPT and non-HPT)
- VT logging and controller-mode printing

Programming and Automation

- NEW** • JavaScript macro recorder and editor
- Macro sharing
- Centralized creation and management of macros by administrators
- Macro mapping to keystrokes, mouse triggers, and customizable toolbar buttons
- 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
- Keyboard mapping, compatible with any Windows, Linux, or Macintosh keyboard
- Mouse action mapping, compatible with any Windows, Linux, or Macintosh mouse
- NEW** • Customizable toolbar
- NEW** • Toolbar buttons mappable to commands, terminal keys, keyboard actions, macros, file transfer requests
- 3270 and 5250 light pen support

Web-Based Administrative Tools

- Management Server:
 - Automated management server data replication for load-balanced environments
 - Step-by-step configuration for web-based host sessions
 - Session creation and management for certain Reflection Windows-based and PC X server products
- NEW** • LDAP-based control of host access
- Metering Server:
 - Usage logging
 - Session number limitation
 - License enforcement

International Support

- English, French, and German language support
- NEW** • Italian language support
- Extensive international code page and keyboard support, including Eastern European and Cyrillic code pages and character sets
- ROECE Latin code page (Eastern Europe) for IBM System z and IBM System i

Server Installation Support

- Can be installed on any operating system that supports Java, including Windows, Linux, zLinux, UNIX, and z/OS
- Automated installer for Windows, Linux, zLinux, and Solaris, with all necessary components including Tomcat servlet engine and Oracle (Sun) Java Runtime Environment
- NEW** • Includes native 64-bit installer support for 64-bit versions of Windows and Linux
- WAR file installer for J2EE application servers

System Requirements

- Reflection for the Web Clients:
 - Web browser enabled for Java 1.5+
 - TCP/IP network connection
 - Any hardware system that meets the minimum requirements for the Java Runtime Environment
 - Supported browsers include Internet Explorer 6.0+, Mozilla Firefox 1.5+, Safari 1.3+, Google Chrome 1.3+, and Java Web Start 5.0+
- Reflection Administrative WebStation:
 - Installs on web server; runs on any workstation in web browser that supports Java 1.5+
 - Any hardware system that meets the minimum requirements for the Java Runtime Environment
 - Supported browsers same as terminal emulation client

Reflection Management Server:

- Java Servlet 2.3-compliant servlet engine and Java Server Pages (JSP) 1.2, JDK 1.4+
 - Will run on any J2EE-compliant servlet engine or application server, including Tomcat, Oracle WebLogic, IBM WebSphere, or Sun Java System Application Server
- ### Reflection ID Management Server and Reflection Metering Server:
- 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, Oracle WebLogic, IBM WebSphere, or Sun Java System Application Server

* 32- and 64-bit editions.

About Attachmate

Attachmate delivers advanced software for terminal emulation, legacy modernization, managed file transfer, and enterprise fraud management. With our technologies, more than 65,000 businesses worldwide are putting their IT assets to work in new and meaningful ways. www.attachmate.com



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