



PROXY Pro Version 10.2

What's New

Release 10.2 Hotfix #1
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Overview

Version 10.0 marked the beginning of the 3rd generation of PROXY Pro technology. The new architecture helps to lay the foundation for many enhancements down the road including things like scale up and scale out as well as multi-factor authentication, native x64 versions etc.

Version 10.2 builds on the v10.0 architecture and v10.1 release to deliver improved capabilities and added value.

Major New Features in v10.2

Host Console Watermark and Border Options to Show Connection

This version of the Host now supports additional options for alerting a console user when a remote control session starts or is active. These settings are configured in the Host Control Panel and include the ability to show a border around the screen being captured (all monitors) and/or a translucent watermark that displays the connected user, also on all monitors. Note that this is in addition to the previous alert features including Popup Notifications, Beep, etc.

Ability to Launch the Installed Master from the Web Console

The installed Master connection window can now be launched when clicking on a Host name in the Web Console. This is in addition to the "Connect in Browser" and ClickOnce options and is available on the Windows platform. This capability is available for both live remote control sessions as well as playback of recorded sessions.

New Utility to Allow Host Settings Updates Through a Gateway

The new PROXY Pro Host Updater Utility is a long-running desktop application that connects to a Gateway and allows an administrator to automatically apply a set of Host settings updates in JSON format to all Hosts that are in communication with that Gateway, regardless of whether they are on the LAN or in the same domain. (This is in contrast to the Deployment Tool, which only works peer-to-peer with Hosts that are on the LAN). This new utility is installed alongside the Deployment Tool via the DeploymentTool.msi installation package.

New Gateway Host Grouping Rule (by Active Directory Computer Membership in Security Groups)

PROXY v10 supports automatically organizing Hosts in the Gateway Server by Active Directory "organizational unit" hierarchy. Version 10.2 extends this functionality to include a new type of Host Grouping Rule "AD Security Membership". This new rule is similar to the existing "Active Directory" rule (which is now renamed to "AD Organizational Unit"). However, instead of placing the Host in a group named for the one OU which contains the Host computer, the Host is placed in one group for each of the possibly many AD security Groups of which the Host computer is a member.

Ability to Have HOD Report to Multiple Gateway Servers

To meet certain availability and redundancy requirements, PROXY will allow a downloaded HOD to report to multiple PROXY Pro Server installations. The first set will always be the Server installation the HOD was downloaded from while alternate/additional Servers can be configured by an administrator.

Host Settings JSON Representation Improvements

The PhSetup command has supported exporting and importing Host Settings from and to a Host for several releases. This release introduces new functionality to make this easier. First, the Deployment Tool now lets you Export a Host Configuration to JSON, either by saving to a file or copying to the Clipboard. Second, PhAdmin now has a hidden button that lets you import a JSON file, which can be made visible either by holding down the Shift key when you start it up, or by using a new "/all" option on the command line. This is a good option meant for administrators of the Hosts.

New Package Names for Easier Identification

The downloadable packages have now been renamed to align with current terminology and naming. The base name for the downloads is now “PROXYPro” and the editions are now named “RAS-Edition” (formerly Private Cloud Edition, or PCE) and “P2P-Edition” (formerly Workstation Edition).

Major New Features in v10.1

Improved High DPI and Scaling Support

Host v10.1 will automatically “scale down” a high DPI screen to reduce the amount of data sent to the Master, and to let the Master have a reasonable “Fit 1-to-1” view. Master has performance improvements in rendering the Host screen, especially in the case of “Fit-to-Window”.

Host on Demand for Windows as EXE Deployment

The Host on Demand can now be deployed as an executable download in all browsers, and no longer requires ClickOnce Deployment support. In browsers that support ClickOnce deployment, the Host on Demand is still deployed that way for an improved user experience.

Clipboard Transfer Improvements

Master v10.1 on Windows connected to Host v10.1 on Windows has enhanced Clipboard Transfer support, including the ability to transfer files and folders (e.g. via Windows Explorer), and to drag-and-drop files from the Master desktop onto the Master Connection Window to initiate a clipboard transfer operation to the remote Host.

Recording Retention Guard

Recordings can be created on demand or by policy (Auto-Recording feature), and may need to be preserved indefinitely by some customers in order to meet certain compliance requirements. The Gateway can now be configured to prevent the deletion of recording either by automatic controls, such as age settings, or by manual attempts. This includes archiving recordings of Hosts that are deleted from the Gateway to a new item, “Recordings of Deleted Hosts” in the “System” Gateway group.

Macintosh and iOS Master Enhancements

The Master for Macintosh and Master for iOS now have full PROXY v10 authentication support, and can handle all authentication scenarios both on initial connection and when connecting to items from the “Recent Hosts” or “Recent Recordings” lists. (Previously, configurations that required a web-based login, like Azure Active Directory, did not work from the “Recent” lists.)

Macintosh software is supported on OS X 10.9 (Mavericks) and later, including the recently released 10.14 (Mojave). iOS software is supported on iOS v9 and later, including the recently released iOS v12.

Web Console Improvements

Improvements across many pages of the Web Console. Session state now remembers group selection when navigating back to the Hosts page or upon Refresh. Easier access to key information across pages, with more reliable and flexible sorting of data.

Gateway Server “HTTPSYS” Transport Support

When Web Console and Gateway Server are installed on the same machine, Gateway Server can now register with the Windows operating system “HTTP.SYS” driver and share the listening ports with Web Console. This allows WSS-protocol connections (only) to be made to the Gateway Server on the port normally used to access Web Console (e.g. port 443), and in many configurations facilitates only having to open one port to the internet to allow access to all of Identity Manager, Web Console, and Gateway Server.

Reverse Web Proxy Support

PROXY Pro Server now supports being placed behind a “reverse web proxy”. This is an appliance or other software product that terminates incoming HTTPS connections, and forwards them to the back-end service (PROXY Pro Server).

New Setting: Allow access to Find a Desktop from External Addresses

This new setting, which is “on” by default, can be turned “off” to disallow any attempt to connect as an authenticated client to the Identity Manager, Web Console, or Gateway Server. In this configuration, the system can be exposed to the internet and the only functionality available to external users is “Share my Desktop” (i.e., Host on Demand).

Major New Features in v10.0

Two-Factor Authentication

Until now, authentication had been limited to Windows Authentication. Version 10 allows us to break from that in order to use alternate identity providers and provide multi-factor authentication. The initial release will include support for talking directly to the Microsoft Azure Active Directory (AAD) tenant service.

Hierarchical Grouping

The Gateway now supports hierarchical groups. These groups will possess security inheritance, and Active Directory synchronization via Host Grouping rules (i.e. organizing Hosts workstations according to their location in AD).

Active Directory Synchronization

This feature allows for Hosts to be organized in the same way that they are organized in Active Directory. This is driven by enhancements to the Host Grouping rules feature and the addition of hierarchical groups.

Decoupling of components

The Gateway Server, Web Console, and supporting SQL Server instance can now be installed on different machines. This specifically includes running against a SQL instance managed separately (perhaps a SQL Server high-availability cluster)

Streamlined installation experience

Highly improved installation experience for Web Console and Gateway Server. This will facilitate the services running on multiple boxes, setting up of SQL Express if needed, and automatic handling of prerequisites.

HTML5 Remote Control and Recording Playback

As an alternative to the ClickOnce or installed connection windows, version 10 introduces the ability to use an HTML5 browser with no plugin. The Web Console will offer HTML5 as an option when ClickOnce is available, and use it by default when there is no native helper application available.

Migration to SQL database

All data is now kept and managed by Microsoft SQL Server. Use of the “Jet” database engine (MDB files) has been retired.

Tighter integration between Gateway Server and Web Console

The Gateway companion service will no longer be necessary as Web Console and Gateway Server now communicate directly with each other.

Refreshed UI

Both installed components and Web UI will have an updated look and feel

More functionality available in the Web Interface

This includes full administrative functionality, so that the MMC-based Gateway Administrator is no longer required to perform certain administrative tasks.

Remote PrxSysInfo generation

Ability to generate PROXY System Information reports (prxsinfo) remotely. An administrator can now remotely request their respective servers, Host and Gateway, to initiate PrxSysInfo reports, and the results of those reports will be transmitted to the client for viewing and storage.

Optimized Scrolling

Version 10 Masters connecting to version 10 Hosts have an optimization that greatly improves vertical scrolling.

Operating System Requirements

PROXY Pro v10.2 supports the same Windows operating systems as v10.1, except for Windows Vista which is no longer within Microsoft extended support. Specifically, Host, Master, and other client components work on all Windows operating systems currently in support by Microsoft:

- Windows 7, Windows 8.1, Windows 10
- Windows Server 2008, Server 2008r2, Server 2012, Server 2012r2, Server 2016, Server 2019

The PROXY Pro Server (Identity Manager, Web Console, and Gateway Server) require Windows Server 2012, Server 2012r2, Server 2016, or Server 2019.

PROXY Pro for Macintosh now requires Macintosh OS X v10.9 (Mavericks) or later. Earlier versions of OS X do not support TLS v1.2 and therefore cannot communicate with PROXY Pro v10.0 or later.

Compatibility

The PROXY Pro Server can manage a variety of Host software versions in your environment. Due to restrictions to ensure reliable, secure encryption is always used, not all previous Host software versions are compatible with version 10. The minimum supported Host version is v7.0.4, although the latest release/hotfix version of the major version you're running is recommended.

In addition, because SSL support has been restricted to TLSv1.2 or later only in version 10, the following Host versions are required in order to connect to the Gateway Server v10 with the SSL or WSS protocols:

- v8.0.2 hotfix#3 or later (released March 2013)
- v8.10.1 or later (released May 2014)
- v9.0.0 original release or later (released June 2015)
- v10.0.0 original release or any later major or minor version

Furthermore, due to a bug in earlier versions of PROXY WSS protocol support, not all Host versions that support TLSv1.2 and WSS can be managed successfully when they report via WSS to the HTTPS port(s) introduced in v10.1. Incompatible Hosts will perform status reporting correctly, but cannot be connected to for services. The following Host versions are fully compatible with Gateway Server v10.1 HTTPS support:

- Host v10.1 original release or later (released November 2018)
- Host v10.0 hotfix#3 or later (released August 2018)
- Host v9.0.1 hotfix#8 or later (released August 2018)
- At the time of this writing, no Host v8.10.2 is compatible (through hotfix#5), but this may change if/when v8.10.2 hotfix#6 is released.

Enhancements and Fixes in v10.2 Hotfix #1

Major changes in this release:

- Deployment Tool allowed the new “Watermark” settings to be configured, but did not include this setting when creating a Windows Installer Transform (MST) file.
- The new Web Console feature to launch the installed Master as the default connection experience was not remembering and using that setting if the browser was not Click-Once Deployment enabled.
- Additional information is included in the System Information report to facilitate diagnosing certain kinds of problems.

Enhancements and Fixes in v10.2

In addition to the major new features in v10.2, several issues were resolved in this release:

- The “Suppress Input” feature of the Host was not working in v10.1 and its hotfix releases. This feature is disallowed by default (in Host Control Panel, Options tab, Keyboard and Mouse Suppression), but when allowed, input suppression was not happening. This is fixed in v10.2.
- The ability of the Gateway Server to restrict a Master user to only File Transfer Read or File Transfer Write access to a Host was not working correctly in Host v10.0 or later; the Master user was incorrectly given both File Transfer Read and File Transfer Write access. This only is an issue if users are in the Gateway Server security model as having only one of the two File Transfer rights, and this issue does not affect any other Host services or access rights.
- The Gateway Server incorrectly created two Audit log events with ID=209 for each closed reverse connection. This problem was introduced in v9.0.1 hotfix#6 and exists in all v10.x releases until now. This simply resulted in a redundant entry in the AuditLogs*.CSV files, and had no material impact on anything.
- A few regression issues in the installed Master v10.x (versus installed Master v9 and earlier) were found and fixed. Specifically:
 - Having a pipe character (|) in the Host station name caused peer-to-peer connection attempts to fail with error 0xC004C001 (Host not found).
 - Connection Window window automatic resizing logic was not working for text-mode Hosts (like the Gateway Server “System” group Hosts).
 - The “Send Keystroke” menu on the full screen toolbar, when connected to a Host for Macintosh, did not reflect the Macintosh shortcuts, whereas the Send Keystroke menu on the main toolbar did.

Enhancements and Fixes in v10.1 Hotfix #2

Major changes in this release:

- Fixed Gateway Server reliability problems. Problems could occur if SQL database connection is lost and then restored just as the Gateway Server is being stopped; if a single user opened 9 or more connection windows to different Hosts; or if SQL database connection is not available when the Gateway Server is stopped.
- Host “Active Users” window may have appeared off-screen on a High-DPI monitor.

- Host support for importing and exporting settings in JSON format has been improved. All settings can be expressed in this format for import, and export generates all settings except licenses and simple passwords (these are omitted for security reasons). Deployment Tool supports saving a Host settings configuration to a JSON document.
- Master application could crash on certain Windows OS versions if a defective version of a system DLL (ATLTHUNK.DLL) is installed. This version of Master no longer uses that DLL.
- The latest OpenSSL, v1.0.2r, has been incorporated into the product.

Enhancements and Fixes in v10.1 Hotfix #1

Major changes in this release:

- An issue in certain account management operations in v10.1 original release has been found and fixed. When changing an imported account from Administrative to Master category, or when changing which groups an imported Master-category account has access to, the security associated with existing Hosts was not updated properly. As a result, users who previously had access to Hosts and who no longer should have that access due to the change, could continue to access those Hosts. On upgrade from v10.1 to v10.1 hotfix#1, any incorrect entries in the database are fixed, and all account management operations are processed properly in Hotfix#1.
- The database used by PROXY Pro Server (normally named RemoteControlGatewayDb, although this name may have been changed/configured at original install time) is now automatically backed up before performing a database upgrade. The backup is performed with the T-SQL "BACKUP DATABASE" command to the default location for backups configured in SQL Server. The file name for the backup is the database name, the text "_beforeupgrade_schema_", and the internal schema number of the database being backed up. In a default installation, upgrading from v10.1 to hotfix#1 results in a backup file "RemoteControlGatewayDb_beforeupgrade_schema_1003580.bak". Note that once the database is backed up and upgraded, other install/uninstall operations will not create additional backups.
- The Gateway Server runs several cleanup tasks according to the "periodic tasks" schedule configured via Web Console. These tasks normally run at Gateway Server startup, and then periodically according to the schedule. A bug in v10.0 hotfix#3 and later commonly prevented these tasks from being scheduled and run. This generally did not cause any problems in the installation, although Audit log CSV files, recording files, and other items that get cleaned up by age policy were not cleaned up. This issue is fixed in Hotfix#1, and all items that should have previously been cleaned up will be cleaned up after upgrade to Hotfix#1.
- PROXY Pro Sever v10.1 reintroduced support for reverse web proxies (web proxies configured to be immediately in front of the Server system); this was supported in v9 but not v10.0. Minor issues around the handling of the X-Forwarded-For header were fixed in Hotfix#1, and this release is recommended if a reverse web proxy is in use.
- Improved forward web proxy support for clients and Host, when using the WS and WSS protocols, is implemented in Hotfix#1. Forward web proxy support now looks for:
 - PROXY-specific registry overrides to control and configure the behavior, including the ability to turn auto-discovery of proxy configuration off and omitting all web proxy support. For more information about this configuration, please contact technical support.

- For client software running as a logged-in user in Windows (e.g., Master), use the system per-user proxy configuration (in Internet Explorer > Internet Options, or system Control Panel > Internet Options, or Windows 10 Settings > Network > Proxy). If the auto detection flag is set, the operating system's WPAD support is used to automatically detect the proxy configuration.
 - For both client software, and the Host service, the system-wide proxy configuration set via the "netsh winhttp set proxy" command is read, and used if set. Note that these settings do not provide auto-configuration, but can provide an explicit proxy configuration.
 - If no instructions regarding web proxy have been found, auto-detection using the WPAD support is tried. Note that because auto-detection can be a time-consuming process, a direct connection (without proxy) is attempted while the web proxy configuration is detected. If the direct connection fails, and a web proxy configuration is discovered, the connection is automatically retried through the web proxy.
- The software free trial period in this release is 14 days, and does not require any license key. If a longer trial period is required, a time-limited license key can be issued; please contact Sales for help with this.
 - The latest OpenSSL, v1.0.2q, has been incorporated into the product.

Enhancements and Fixes in v10.1

In addition to the major new features in v10.1, several issues were resolved in this release:

- Installers now fully support TLSv1.2-only environments. Previously, the software could run in this environment, but TLSv1.0 and TLSv1.1 had to be enabled to install or update the software.
- Installed Host reliably allows the Master to have input control of the Host machine. Previously, plug-and-play operations (e.g. unplugging a mouse or keyboard, or starting up without an attached mouse or keyboard) could cause the Host to lose the ability to inject input into the system.
- Host on high DPI or non-100%-scale displays did not display the "toast" popup messages (if they are configured to display on connect, disconnect, and file transfer). These messages now reliably appear on the display.

Enhancements and Fixes in v10.0.0 Hotfix #3

Major changes in this release:

- Gateway Server has a number of reliability and performance improvements. All customers using PROXY Pro Server v10 are encouraged to upgrade to Hotfix#3 for the best experience.
- Web Console now recognizes and supports additional extensions for Chrome that provide Click-Once Deployment support. See <https://products.proxynetworks.com/links/clickonce4chrome/> for the latest information and links to the supported extensions.
- PROXY Pro Server logins of users that had a large number of security group memberships (more than approximately 80 groups) may not have been evaluated correctly; excessive groups were ignored, so user may not have been given all rights they were eligible for.
- Installed Master fixed a bug with credentials prompting in peer-to-peer (Workstation Edition) connections.

- Host has a compatibility update to work with a future PROXY Pro Server feature that allows Web Console and Gateway Server to share a single port for SSL/WSS connections. (This feature is known as “HTTPSYS support”, and is planned for PROXY v10.1 release.)
- OpenSSL library has been updated to v1.0.2p release.

Enhancements and Fixes in v10.0.0 Hotfix #2

New for this release:

PROXY Pro Server

The v10.0.0 release has performance limitations that made installations managing large numbers of Hosts (say, greater than 5000) not work reliably. The performance “hot spots” have been addressed in the Hotfix#2 release, and installations managing over 10,000 Hosts are now supported and perform reasonably.

Major defect fixes in this release:

- Gateway Server now has more robust computation of SPN name for Kerberos authentication to Hosts; this specifically helps in environments with multiple trusted domains.
- Gateway Server has many improvements in reliability, supportability, and performance of Host status processing.
- Gateway Server may fail to stop in a timely fashion when the Server Control Manager requests it to stop, and a crash-at-exit behavior has been fixed.
- If SQL authentication (SQL account and password) are used to set up the SQL database in the ServerProducts installer, these credentials are now correctly stored and used on subsequent upgrades. Previously, they were stored encrypted correctly, but not restored and decrypted properly.
- Master cannot save connection information on machines with a non-English locale (specifically, one where the numeric decimal symbol is not a period “.”).
- Master menu bar and toolbars can now only be moved by clicking the grabber control; this prevents accidental moving or undocking of these bars.
- PhSetup and Deployment Tool (deploying Host with settings) no longer fail when “removesecurityace” is followed by an “addsecurityace”.

Enhancements and Fixes in v10.0.0 Hotfix #1

Note on upgrading to this release:

This release supports upgrading of all server-side components directly from the v10.0.0 initial release. No uninstalls are required. The server-side components cannot be upgraded from v9 or earlier releases. All other product components, including Host and Master, support upgrading from previous releases.

New for this release:

Server Installation

In version 10.0.0, installation of the server software was greatly simplified by providing a bundle installer. This allowed all of the server-side components to be installed by running a single

installation file. With hotfix #1, we took this further and now guide the user step by step to ensure these components are configured correctly. Additionally, we now actively guard against many potential misconfigurations. Various scenarios which some customers ran into with the initial release have been collected, analyzed and now guarded against.

Server Configuration Check utility

This is a new standalone utility added to help diagnose and modify a server installation. It will examine the server system's configuration and identify possible configuration errors. It also allows for easy changing of the DNS name, networking ports, and SSL certificate selections for the installation. This utility is conveniently accessible from the Windows Start menu.

Deployment Tool

In the initial release of v10.0.0, the PROXY pro Deployment Tool had not been updated. This release contains an updated release of the Deployment Tool (v10). Installation of this tool will upgrade v9 and earlier versions while preserving the relevant/supported state. This resolves the issues around creating and applying configurations for the Master component.

Major defect fixes in this release:

- Better handling of transparent/invisible cursor shapes has been implemented. Master now treats invisible pointer as equivalent to "null" pointer, so "show local cursor if Host cursor is missing or hidden" option works.
- Cursor calibration now correct when scaling. Host user mode mouse input injection was wrong in multiple monitor configuration with different display scale factors.
- Print spooler is now stopped as appropriate after installation of Remote Printing.
- Various user interface glitches fixed throughout Web Console – popup display, column sorting, etc.
- Master v10 was not sorting by IP address correctly.
- Host Manage Visual Effects (MVE) feature more reliable, should restore wallpaper correctly, and manages ClearType setting explicitly.
- Gateway Server v10 TCP polling was broken. The Gateway server tried to simultaneously connect to entire poll range, which caused severe problems for large polling ranges. This now polls as before, one address at a time.
- Security and Reliability "X-Forwarded-For" in HTTP header on WSS protocol caused Gateway crash.
- A Master crash in specific circumstances fixed.
- A Host crash in specific circumstances fixed.
- Using PhSetup to repeatedly add security to Host configuration no longer creates duplicate entries.
- Other reliability improvements that enhance the stability of Host, Master and Gateway components.
- Account validation on non-domain joined machines evaluates the authority.
- Master cycling monitor window is now always view-only and cannot take input control.

- The Gateway server may not automatically remove transient Hosts that have gone away and may blank out most fields of a Host record if there was an error during Host status processing.
- The latest OpenSSL, v1.0.2o, has been incorporated into the product.
- The End User License Agreement for all components (EULA) has been updated.

Documentation

Documentation is available at:

- The “**PROXY Pro Server Installation Guide**” is a PDF included in the Private Cloud Edition download (zip file)
- [PROXY Pro Web Console Operations Guide](https://products.proxynetworks.com/docs/proxy/v100/wc/)
(https://products.proxynetworks.com/docs/proxy/v100/wc/)
- [PROXY Pro Host Guide](https://products.proxynetworks.com/docs/proxy/v100/host/)
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