PROXY Pro Version 11.1
What's New

Release 11.1 Hotfix #2
October 2026
(document updated 29 September 2026)

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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.

The version 11.X series builds on the v10.0 architecture and v10.1, v10.2, v10.3, v10.4, and v10.5 releases to deliver improved capabilities and added value.

Important Information about Upgrading

Upgrading PROXY Pro Server v10.4 or v10.5 to PROXY Pro Server v11.0 (or later)
Additional configuration must be done when upgrading from PROXY Pro Server v10.4 or v10.5 with Azure Active Directory integration enabled to PROXY Pro Server 11.0 or later. Additional changes are required when upgrading from PROXY Pro Server 10.3 or earlier.

When upgrading to v11.0 (or later), two changes must be made in the App Registrations in your Azure Active Directory (now EntraID) directory:

1. The App Registration, Redirect URI must be changed from "https://*support.yourwebsite.com*/pim/core/" to be "https://*support.yourwebsite.com*/auth/signin-entraid".

2. In the App Registration, API permissions must be given as follows:
    a. Application permission for Microsoft Graph > Directory > Directory.Read.All remains the same as v10.X
    b. Add a Delegated Permission for Microsoft Graph > User > User.Read.

Note that PROXY v11 automatically handles > 200 group memberships, which was an issue in v10.X. However, the guidance to reduce the number of groups visible to the PROXY application still applies, and may be useful, to avoid unnecessarily large requests and responses.

Upgrading PROXY Pro Server v10.3 or earlier to PROXY Pro Server v10.4 (or later)
Additional configuration must be done when upgrading from PROXY Pro Server v10.3 or earlier with Azure Active Directory integration enabled to PROXY Pro Server 10.4 or later.

V10.4 and later switched from using the Azure AD Graph API to the newer Microsoft Graph API for accessing information from the Azure Active Directory directory. The PROXYProServerProducts.exe installer includes a warning page during upgrade if AAD integration is enabled with a reminder of this change. For the AAD integration to work with PROXY Pro Server v10.4, two changes must be made:

1. API Permissions: in the Azure management portal, your Azure AD directory, visit App Registrations, API Permissions, and select Microsoft Graph. Choose Application Permissions (not Delegated Permissions), expand Directory and check the box for Directory.Read.All (Read Directory Data). Once applied, click on the Grant Admin Consent button to complete the process. The permissions for Azure Active Directory Graph can be deleted or left alone; they are no longer needed or relevant.

2. Firewall Rules: if the Server is firewalled blocking outbound access to cloud services, there should be exceptions for the following URLs for PROXY v10.3: https://graph.windows.net; https://login.windows.net; https://login.microsoftonline.com. In v10.4 using Microsoft Graph API, URLs that must be allowed are https://graph.microsoft.com; and https://login.microsoftonline.com.

3. Additionally, if upgrading to v11.0 or later, follow the steps in the section above for v11 compatibility.

Operating System Requirements

PROXY Pro v11.1 works on all currently supported Microsoft Windows operating systems. Specifically, Host, Master, and other client components are supported on all Windows operating systems currently in support by Microsoft, in all architectures (x86, x64, Arm64):

- Windows 11
- Server 2016, Server 2019, Server 2022, Server 2025

In this release, Windows on Arm64 is supported via the 32-bit X86 installers. This includes the Host.msi installer (not Host-x64.msi), Master.msi, and DeploymentTool.msi. A future version of PROXY will provide support for Windows on Arm64 as native Arm64 binaries.

The PROXY Pro Server (Authentication Manager, Web Console, and Gateway Server) require Windows Server 2016, Server 2019, Server 2022, or Server 2025, and only x64 architecture is supported. Because Web Console requires Microsoft Internet Information Services (IIS), installation is not supported on a Windows Domain Controller or a server that also runs Windows Server Update Services (WSUS).

Note that PROXY Pro v11.0 was officially supported on Windows 10, whereas v11.1 is not. However, no changes have been made that prevent or interfere with using PROXY v11.1 on Windows 10, and Windows 2016 (which is the same base operating system) remains supported.

PROXY Pro v10.5 Hotfix #1 (and later) now supports installation on "Windows Server Core" (also known as "Windows Server (without Desktop Experience)"). Specifically, the PROXY Pro Server components, and the PROXY Pro Host, can be installed and operate correctly on Windows Server without Desktop Experience.

Some PROXY Pro Host for Windows features have specific requirements:

- The **Screen Blanking** feature introduced in v10.4 requires the Host to be run on Windows 10 v2004 or later, or Windows Server 2022 or later. This feature is not available in Session Host on Demand.
- The **Remote Printing** feature requires the PROXY Remote Printing support to be installed. This support is available in x86 and x64 architectures, but not Arm64. This support is not selected for installation by default since v10.2 HF#3.
- The **Remote Speaker** feature introduced in v11.0 requires the Windows Media Foundation API to be available. This feature is missing on Server operating systems without the "Desktop Experience" installed, and on some international versions of Windows.
- The **Remote Terminal** feature introduced in v11.0 requires the Host to be run on Windows 10 v1809 or later, or Windows Server 2019 or later. This feature is not available in Session Host on Demand or in Host for RDS sessions. It does work when connected to the Host for RDS console.
- The **H.264 Media screen capture** option requires hardware accelerated video encoding support on the Host machine. Masters and other clients can live view and playback recordings with no special requirements.

PROXY Pro for Macintosh now requires Macintosh OS X v13 (Ventura) or later. Both x64 and Arm64 architectures are supported natively in a single installation package. PROXY Pro for iOS now requires iOS 17 or later. PROXY Pro Host for Android now requires Android 12 (Snow Cone) or later.

SQL Server Database Support

In general, Microsoft SQL Server 2016 or later (any edition) is supported. However, Microsoft KB4538581 documents issues with a SQL feature called "Scalar User-Defined Function (UDF) Inlining". PROXY Pro database code can be affected by these issues, and therefore the PROXY Pro Server cannot be supported on affected SQL Server versions.

These versions are:

- SQL Server 2019 RTM through CU30 (inclusive)

- SQL Server 2022 RTM through CU17 (inclusive)

Note that the PROXY Pro Server installer will offer to install SQL Server Express 2019 CU32 on the server machine during a clean install, and will offer to upgrade earlier versions of SQL Server Express if installed with the name "SQLExpress". Optionally you can point to an off-box SQL Server instance.

Note well that Microsoft SQL Server 2016 is going out of support in July 2026. Future versions of PROXY will no longer support SQL Server 2016 or SQL Server 2017 and will require SQL Server 2019 or later. Customers are strongly encouraged to upgrade or migrate to SQL Server 2019 or later to simplify future PROXY upgrades.

Compatibility

Note that PROXY Pro v11.x is compatible with previous versions of PROXY back through v8.10. (Note that PROXY v10-v11.0 were compatible back through v7.0.4)

The PROXY Pro Server can manage a variety of Host software versions in your environment. Due to technology restrictions, including changing security and encryption requirements, not all previous Host software versions are compatible with version 11.1 and later. The minimum supported Host version is v8.10.0.

For out-of-support versions of Windows, the recommended PROXY Host is the last hotfix/release of the following PROXY versions:

- Windows XP and Server 2003 can use PROXY v8.10.2
- Windows Vista, Windows 7, Windows 8, and Server 2008 can use PROXY v9.0.1 or v10.0
- Windows 8.1, Windows 10, and Server 2012 can use PROXY v10.5

In addition, because SSL support has been restricted to TLSv1.2 or later only in version 10 and later, the following Host versions are required in order to connect to the Gateway Server v11 with the SSL or WSS protocols:

- v8.10.1 original release 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 HTTPSYS 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 and later HTTPSYS 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)

PROXY v11.1 Hotfix #2 (October 2026)

THIS UPDATE IS REQUIRED FOR ALL PROXY SERVER v11 INSTALLATIONS
This release includes a critical update to fix a compatibility issue with a new version of the Microsoft ODBC Driver 18. If the new ODBC Driver is installed on the server, earlier versions of the PROXY Pro Gateway Server will stop working. More details are below.

Major changes in this release:

- **Compatibility Issue with Microsoft ODBC Driver 18 v18.7.1.1 addressed:** PROXY Server v11 uses the Microsoft ODBC Driver 18, and shipped with v18.6.2.1 or earlier. The newer ODBC Driver v18.7.1.1 exposed a compatibility issue with the Gateway Server that affects all v11 releases (v11.0, v11.0 Hotfix#1, v11.1, and v11.1 Hotfix#1). This compatibility issue is resolved in this release and this release now redistributes Microsoft ODBC Driver v18.7.1.1.
    - **Note well:** If you have already worked with PROXY Networks Support Team to apply a workaround of configuring the PROXY Server to use ODBC Driver 17, that workaround is automatically reverted when upgrading to this release, and no additional action is required.
- **Host for Macintosh**: Updated to resolve compatibility issue with macOS 27. Note that prior versions do not function on macOS 27, and must be upgraded to this version. The upgrade can be done before or after the operating system upgrade; if done after, proper operation is restored once the Host for Mac is upgraded.
- **Authentication Manager User Info page** has been changed to report less information. This page is designed to provide an easy way to verify a user's login and group memberships; the information that was removed could be considered sensitive and is unnecessary for the intended functionality.
- **Web Console "broken access control" issue**: the Web Console previously allowed an authenticated Standard user to craft HTTP requests to the server and read (but not modify) some information that appears in the administrative-category user interface. No unauthenticated access was allowed. The accessible information was primarily the Activity and Accounts pages content. There are no reports of this happening, but this change is made as part of our ongoing commitment to security.
- **OpenSSL:** OpenSSL v3.5.9 is incorporated into this release. All internal libraries and redistributables have been updated to latest versions available to provide the best reliability, security, and performance. There are no known issues or vulnerabilities in PROXY's usage of OpenSSL and other libraries; these updates are routinely done out of an abundance of caution.

PROXY v11.1 Hotfix #1 (August 2026)

Major changes in this release:

- **IMPORTANT: Requires RSA 2048-bit or ECC 224-bit certificates:** The v11.1 release tightened security requirements but did not check or warn that the requirements were met at installation or upgrade time. Hotfix #1 now validates that certificates meet the new length requirements to prevent invalid configurations.
- **Elliptic Curve Cryptography (ECC) support:** The v11.1 release inadvertently broke support for ECC-based certificates in the Gateway Server. This support has been restored in Hotfix #1.
- **Improved handing of uncommon IIS configurations:** Upgrading the PROXY Pro Server can touch the Internet Information Services (IIS) configuration of the PROXY Pro Server Web Site. Previously, some customizations of the site bindings could be lost during this process; in Hotfix#1 and later, the installer preserves all bindings and settings including SNI host name and options flags.
- **Master improvements:** a few issues in the installed Master have been fixed: the "Send Clipboard as Keystrokes" feature now works correctly for non-US keyboard mappings (including proper handling of AltGr characters); the Windows Restart Manager support, improved in v11.1, now works correctly when multiple instances of Master are run; Master handling of Hosts that do not provide or allow Remote Control or Remote View access improved. (The latter is evident with the new, experimental Host for Linux.)
- **OpenSSL:** OpenSSL v3.5.8 is incorporated into this release. All internal libraries and redistributables have been updated to latest versions available to provide the best reliability, security, and performance. There are no known issues or vulnerabilities in PROXY's usage of OpenSSL and other libraries; these updates are routinely done out of an abundance of caution.

PROXY v11.1 (July 2026)

New Features in v11.1

- **IMPORTANT: Requires RSA 2048-bit or ECC 224-bit certificates:** the Gateway Server now uses OpenSSL v3.5 series for encryption with all protocols. This release tightens security requirements, and now requires RSA certificates 2048 bits or longer, or ECC certificates 224 bits or longer. RSA 2048 bit certificates have been industry standard for some time, so this new requirement is unlikely to impact many installations.
    - **Hosted customers**: No action is required. Certificate management is handled as part of the hosted service, so these changes do not require any updates or intervention on your part.
- **Improved Authentication Support:** support for Entra Workforce (single tenant), External ID (CIAM), and Government Cloud directories is now available. Authentication Manager settings now validates settings and provides guidance as to possible issues or misconfiguration. Additionally, the application client secret expiration date from EntraID is reported in the Authentication Manager settings page.
- **Improvements in Web Console:** new Local IP Addresses column in Host displays (for Host v11.1 or later); new option to remove the "Quick Connect PIN" from the Web Console landing page.
- **Installed Master improvements:** Local IP Addresses column for Gateway-based Hosts (when using Gateway v11.1 and Host v11.1, or later); preference in Master Settings > Other Services > Full Screen to prefer full screen on single monitor or entire desktop; File Transfer improvements fix UI glitches and some performance and functional edge cases; command line option "/t" to specify Host type to ensure Master provides appropriate user experience for Hosts connected to via the command line; removed requirement for D3D acceleration for client to support H.264 encoded video playback; Master now puts up prompt to recover state if the Windows Restart Manager restarts the Master, or if the Master terminates abnormally.
- **Host for Windows improvements:** Host now has settings for watermark size and location, and the blank screen color and message.
- **Macintosh and Mobile now enables TLS v1.3:** Host and Masters now built on updated runtime that uses TLSv1.3 for connections, when the underlying operating system supports it.
- **Improved Remote Terminal feature:** Remote Terminal was introduced for Windows only in v11.0. In this release, it's extended to Host for Mac as well as the new experimental Host for Linux, and the login sequence has been improved on all platforms.
    - **Macintosh support:** The Host for Mac adds Remote Terminal alongside its existing Remote Control service. Connections are made through the Gateway from the Web Console or the Windows Master. A user can log in as the account currently at the Mac console, as another local account, or, when permitted, as root.
    - **Login and session changes (all platforms):** Failed login experience improved with better error message and guidance for how to specify domain account; default shell now starts automatically on login (Windows default shell is Command Prompt; Mac default shell is user's configuration); can now change login within a Remote Terminal session: using login command again switches to a different user within the same session, without reconnecting; the login prompt now reports the account that is logged in and the shell in use; Remote Terminal connections are now listed in the Host's Active Users list.

Capability	Windows	macOS	Linux
Remote Terminal	✓ (since 11.0)	✓ (new)	✓ (new)
Log in as any local user	✓	✓	✓
Privileged/Admin login	✓ SYSTEM	✓ root	✓ root
Log in as console user	✓	✓	No
Connect via Gateway	✓	✓	✓
Connect Peer-to-Peer	✓	(future)	(future)

- **EXPERIMENTAL Host for Linux:** A port of the Host for Mac is now available for testing on Debian x64, Ubuntu x64, and Mint x64. The Host is provided as a .DEB package for x64 architecture only,

and supports a command-line interface providing Remote Terminal services (only – it does not provide GUI remote control at this time). Like Host for Mac, it keeps a reverse connection to a PROXY Pro Server and is therefore accessible on-LAN or off-LAN through the system, with access controls managed by the Web Console and Gateway Server.

Enhancements and Fixes in v11.1

- **Host for Macintosh Arm64 platform support:** The Host for Macintosh is now provided in both x64 and Arm64 architectures, in a single installation package. Mobile Device Management (MDM) support is now included in the Host for Macintosh, comparable to the MDM support in Host for iOS.
- **Master for Macintosh Arm64 platform support:** The Master for Macintosh is now provided in both x64 and Arm64 architectures, as a "universal binary" in a single installation package.
- **Windows for Arm64:** The Host for Windows was intended to be usable on Windows-for-Arm64 systems, but a bug in the installer prevented it from being installed correctly. This is fixed in this release, and Windows for Arm64 is fully supported with the Host as a 32-bit (x86) application. A future PROXY release will provide a seamless upgrade to native Arm64 support.
- **ServerConfigCheck management:** significant improvements have been made to the ServerConfigCheck utility to identify more situations that need updating and to manage the SQL Server database connection information. New management capabilities include a "Change SQL Server Connection" button on the main page to manage the SQL database the installation works against, and to update/configure the authentication method and credentials used.
- **ServerConfigCheck configuration:** to provide new capabilities to update settings that may be preventing the installation from working. New configuration capabilities include:
    - Manage License Keys: available as button on main page, to view/add/delete license keys
    - Gateway Server Access page: allows configuration of how clients should connect to GWS both Internal and External
    - Network Information page: allows configuration of Local Network Address Ranges, Local Network Exceptions, and Trusted Device List
    - Gateway Directories: allows configuration of AuditLogs directory and Recordings directory
    - Improved logic eliminates restart of Gateway Service (avoiding disruption of connections to Host for services) and reduces restarts of Authentication Manager and Web Console. Specifically, updating license keys or updating the SSL certificate will not restart the GWS or Web Console, so users using the system are not disrupted.
- **Security hardening:** significant improvement in Web Console security hardening: eliminating unused endpoints; ensuring proper use of GET and POST verbs; requiring anti-forgery token on all POST requests; improved security headers including content-security-policy.
- **OpenSSL:** OpenSSL v3.5 (Long-Term Support) series is incorporated, and specifically v3.5.7 is included in this release. Future releases will ship the latest release of OpenSSL v3.5.x.
- **Automatically delete Hosts fix:** The Gateway Server setting "Automatically delete Hosts older than" had an incorrect and unexpected behavior with Hosts that have long-lasting reverse connections. This setting is intended to be used to automatically remove from the Gateway Server Hosts that are not expected to be seen again by the Gateway. Due to a quirk in how "seen" was evaluated, Hosts with reverse connections had a "seen" time of when the reverse connection started. Thus, if that connection lasted longer than the "Automatically delete" setting duration, the Host record could get deleted incorrectly. The Host would reappear at the Server when the connection eventually dropped and was reestablished. Now, this scenario is recognized and handled correctly, and Hosts are never deleted from the Gateway Server if they have a reverse connection, and the "seen" time is updated when the reverse connection is dropped.
- **Web Console improvements**
    - Activity views did not consistently group related activity, particularly the Remote Terminal service
    - Local time zone is now consistently captured from browser client and used
    - Scenarios of getting blank or HTML-encoded error messages, or getting HTTP Error 400, have been addressed.

PROXY v11.0 Hotfix #1 (November 2025)

New features in this release:

- **New Authentication Support:** Cisco Duo MFA is now supported as an "add-on" MFA provider to any other configured identity provider.
- **New Authentication Capability:** Multiple EntraID directories can be registered as authentication providers; previously, only one could be registered.
- **Future Capabilities:** The internal structure of settings in Authentication Manager was reorganized into generalized authentication providers, allowing for much more flexible configuration. Future PROXY releases are expected to introduce support for additional providers.
- **Installed Master End-to-End Authentication:** The Master always attempts to "single sign-on" the Master's identity to the Host when connecting for File Transfer or Remote Management, to satisfy end-to-end authentication, when the Master's identity matches the identity used to authenticate to the Gateway Server. A new setting in Options > Master Settings > Other Services provides a checkbox "Always prompt for end-to-end credentials for FT and RM to Host, and do not SSO with Master identity" to change this behavior and force a credentials prompt to allow the technician to specify a different identity for access to the Host.

Major changes in this release:

- **Web Console Upgrade:** Web Console UI customization (done consistent with the "PROXY Pro RAS White Label Guide", aka PROXYPro-WCCustomization&Rebranding.pdf) was not preserved when upgrading from v10.X to v11.0. The installer now handles this automatically when upgrading to v11.0 HF#1 or later. Installations that have been upgraded to v11.0 already can be easily fixed to restore the customizations; please contact Technical Support for the necessary steps.
- **Server Products Installer**: the Server products installer has been improved to handle many more edge cases, esp. around SQL access both on clean installation and on upgrades. Installer now offers to upgrade local SQLExpress installations to SQL Express 2019 + Cumulative Update 32. Note this upgrade is not required, but is recommended, as future versions of PROXY will (eventually) drop support for SQL Server 2016 and require SQL 2019 or later. Clean installation creates a larger initial PROXY database, which avoids an installation issue in some configurations.
- **Installed Master Web Login supports EntraID Conditional Access:** Web-based login from native Windows apps, specifically the installed Master, uses the Microsoft Edge "WebView2" component as of v11.0 FCS. However, a missing configuration option in this usage prevented EntraID Conditional Access from querying the machine state, resulting in failed authentications. This is fixed in v10.5 HF#8 and v11.0 HF#1 and later.
- **Remote Terminal:** The Master Remote Terminal feature was unable to connect to Hosts via Peer-to-Peer connections if the Host was in simple password mode, due to incorrect authentication. This is fixed, and this scenario is fully supported.
- **Master Installation default setting changed:** PROXY Master v9 and later defaulted to automatically attempting a connection to the Host for the Remote Printing service; this could be turned off via a checkbox in the Master Options > Master Settings dialog. In PROXY v11.0 FCS, this option was turned off by default for all users who had not explicitly used the Options > Master Settings dialog to set some preferences there. In HF#1, the behavior is fixed so that users who had used PROXY Master prior to HF#1 kept this option turned on by default (i.e. to auto-connect Remote Printing), but new installations of PROXY Master would default to **not** auto-connect Remote Printing. Note that users can and use the Options > Master Settings dialog to set the best default behavior for their environment, e.g. whether the Remote Printing feature is commonly available and used, or not.
- **Require EntraID for Interactive Logins setting:** The Authentication Manager setting "Require external IdP (e.g. EntraID) authentication for interactive browser-based logins" was not working in v11.0 FCS, and is fixed in Hotfix#1. This setting allows the installed Master and other SDK-based applications to use Windows Authentication credentials, while requiring Web Console and brower-based activity to use EntraID authentication.
- **OpenSSL:** OpenSSL v3.0.18 is incorporated into this release.

- **Host for RDS and Host for VDI license key issue:** The license keys used for Host for RDS and Host for VDI in the v11.0 initial release did not support the ability to enable the new Remote Speaker and Remote Terminal capabilities. New license keys are available that work with v11.0 HF#1 and later v11 releases that enable these capabilities. Contact technical support if you have the original keys and would like to enable these capabilities.
- **File Transfer regression issue:** Starting in v10.5 HF#6, File Transfer would not successfully copy an entire directory to the root folder of a destination drive. Individual file copies, and copies of directories to anywhere other than a drive root were unaffected. Either the Host or the Master must be upgraded to this version (or later) to get the fixed behavior. [Previously included in v10.5 Hotfix#8, but not in v11.0 initial release.]
- **Gateway Server Auditing improvements:** The Gateway setting "Auditing > Only log failures" now only affects the writing of success events to the application Event Log. Success events are always written to the CSV text file. Additionally, the logic for "Maximum log file age (days)" was adjusted to ensure that the specified amount of audit data is preserved. Previously, the calculation was based on the audit file creation date, so on a weekly rollover, fewer days were preserved than expected. [Previously included in v10.5 Hotfix#8, but not in v11.0 initial release.]
- **Screen Blanking**: The Host software now ensures that the Screen Blanking message is always on top of all other windows and popups on the screen. Previously, some system popups like Task View could appear to the console user. Note that with this fix, Screen Blanking is no longer supported for Session Host on Demand (but does work correctly in Pinned Host on Demand). [Previously included in v10.5 Hotfix#8, but not in v11.0 initial release.]
- **Host Screen Capture:** fixed specific instances where Host screen capture would not actually capture the screen. This was known to impact screen capture of RDP sessions, but could also rarely occur in other configurations. [Previously included in v10.5 Hotfix#8, but not in v11.0 initial release.]

PROXY v11.0 Release (March 2025)

New Features in v11.0

New Host Services
(Applies to both Peer-to-Peer and RAS Editions)

The PROXY Pro Host for Windows supports two new services – Remote Speaker (audio capture) and Remote Terminal (Remote Command Prompt/Shell).

Remote Speaker is an entirely new capability that allows audio from the remote Windows Host speaker to be heard at the installed Master for Windows as well as the ClickOnce Connection Window. This has been a popular request from customers that need their employees to be able to hear what's happening on a remote system in addition to viewing and controlling it. Some examples include the ability to hear the audio from a video being played on the remote system and to be able to hear audio notifications from remote applications meant to alert the user to something important.

Remote Terminal is a new service implemented in the Host for Windows that allows access to a command line window on the remote machine. Once connected, you can run any EXE program, including CMD.EXE (to get a Command Prompt) or POWERSHELL.EXE (to get a PowerShell shell). Remote Terminal is accessible as a tab in the installed Master connection window and from the Web Console as a text-mode terminal emulator.

Independent Connections for Services
(Applies to both Peer-to-Peer and RAS Editions)

New in v11 is the ability to connect to Hosts for services like File Transfer, Remote Management, the new Remote Terminal, and others independently. Prior to this, a Remote Control connection was required before these services could be connected to. Access to these services is based on configuration of the security model

that provides granular rights and permissions. This new functionality gives the ability to access a machine without disturbing the console user or viewing their screen.

Improved Client Support for Host for Mobile
(Applies to RAS Edition)

The installed Master for Windows and the ClickOnce Connection Window now support remote view of Host for Mobile instances. Previously, these Hosts could only be viewed via the "Connect in Browser" client from Web Console.

Video Capture for Windows and Export to MP4/H.264
(Applies to both Peer-to-Peer and RAS Editions)

The Host for Windows can now perform "video capture" of the screen for recording and display in the Installed Master for Windows and the ClickOnce Connection Window. This provides an alternative screen capture method which, in some cases, will provide a superior remote view/remote control experience. This feature requires hardware video acceleration on the Host machine, and is therefore not enabled by default on Host installations. This feature is also limited to one monitor at a time; if the Host computer has multiple monitors, the primary monitor is captured by default, and the Master can switch to other monitors individually. The "Entire Desktop" view is not available.

The installed Master for Windows and ClickOnce Connection Window now have the capability to export recordings directly to MP4/H.264 files. This new capability eliminates a two-step process some of our customers were performing. The MP4 target is in addition to the current WMV export capability.

PROXY Pro Server "Master" category is now called "Standard"
(Applies to RAS Edition)

Users are imported into the PROXY Pro Server Web Console as Administrative-category, Standard-category, or Personal-category users. Previously, the Standard user category was called "Master" user category.

Simplification of Server Maintenance/Management/Migration
(Applies to RAS Edition)

There have been significant internal changes that now make it simpler to deal with server maintenance issues like migration of the PROXY Pro Server and/or the SQL database. Operations like backup, restore, relocation, and reconfiguration will now require fewer steps. Some of the work done to accomplish this includes:

- Server WorkstationID is "virtualized" and stored in the database, simplifying the instructions for moving the software installation to a new/different machine.
- SQL Server Connection strings are removed from the Web.config files and now stored in a single location.
- The Server license key now resides in the database, simplifying the instructions for moving the software installation to a new/different machine.

Additionally, there are many minor changes designed to improve supportability – so that if a problem occurs, it's easier to collect the relevant information and diagnose and fix the problem. The System Information report has been overhauled to eliminate unnecessary information and include new relevant information. The Server Configuration Check utility can detect and fix more issues, and future releases will advance this further. All PROXY Pro services log startup, shutdown, and significant error events, to the system Application Event Log.

Expanded Options for Database
(Applies to RAS Edition)

PROXY Pro v11 has more flexible capabilities for accessing the required SQL Server database. Previously, Windows Authentication (via SSO) was required for the services to connect to SQL. The services now continue to support that SSO/Windows Authentication, but can also be configured for SQL Server native accounts, and for AzureSQL using explicit username and password.

PROXY Pro v11 also supports more kinds of SQL Server. In addition to SQL Server Express (typically on the same machine as the PROXY Pro software) and any edition of SQL Server accessible off-box on the LAN, you can now use Azure SQL database instances (in the Azure cloud), Amazon RDS for Microsoft SQL Server (in the AWS cloud), and Google Cloud SQL for Microsoft SQL Server database engine (in the Google cloud).

Managed Service Provider – MultiTenant Support
(Applies to RAS Edition)

Managed Service Providers interested in supporting multiple independent organizations on one PROXY Pro Server installation may be interested in the newly available MultiTenant licensing and operating mode. Contact Proxy Networks for more information.

Partner Support
(Applies to RAS Edition)

Customers using the PROXY SDK to build custom applications have access to an updated SDK for PROXY v11. This includes new APIs to access new features and services, including a new Proxy Encoder2 control to convert PRXREC recording files directly to MP4/H.264/AAC format, merging audio (if provided). This addresses the need for partners to employ a two-step conversion process (convert PRXREC to WMV, then convert WMV to MP4).

Enhancements and Fixes in v11.0

In addition to the major new features in v11.0, innumerable enhancements and fixes are incorporated into this release, including:

- OpenSSL v3.0.16 is incorporated into this release.
- Improved user experience, especially of installer and server utilities, on high-DPI displays.
- Gateway Server feature to automatically select the same SSL certificate as is configured in the Web Console IIS configuration. This simplifies automated certificate management when Gateway Server and Web Console are installed on the same machine, as only the IIS configuration needs to be explicitly updated. Note that this synchronization happens per the periodic tasks schedule, which defaults to once a day. Manual replacement of the certificate should use the PROXY Server Config Check utility, but if the certificate is updated in IIS on an emergency basis, the Web Console > Gateway > Gateway Settings > Protocol dialog has a "Synchronize Now" button to force an immediate synchronization.
- PROXY Server authentication via EntraID enhanced to now provide a choice, when logging out, of logging out of PROXY only, or logging out of both PROXY and EntraID (which additionally logs out of any other EntraID-based services in that browser). In PROXY v10, logging out after using an EntraID identity always logged out fully, which was disruptive to other services depending on EntraID.
- Web-based login from native Windows apps, specifically the installed Master, now uses the Microsoft Edge "WebView2" component instead of the older Internet Explorer component. This improves security and ensures conformance to current web standards.
- File Transfer improvements for installed Master for Windows and ClickOnce Connection Window. This includes improvements in speed in many cases and resolution of problems copying per-user directories.
- General bug fixes and UI improvements to the PROXY Pro Host Updater tool.
- Host tray Active Users window now displays icons for Remote Admin/Management, Remote Terminal, and Remote Speaker.

- Security model has new permission option to allow Remote Terminal to operate as the machine System account. This access right must be granted on the Gateway Server (for GWS-based connections) or the Host permissions (for Peer-to-Peer connections) in order for the user to use the "login system" command to operate as the System account.
- Web Console general UI improvements including display of logged-in user in Hosts grid and search box activation on Enter key. Additionally, the Host Details view now clearly shows services Host reports as capable-of, as well as more concise list of services currently connected.
- Host on Demand for Windows now has a unique PIN on each "launch" from the Web Console. Previously, the ClickOnce HOD preserved state, so would reuse the same PIN. Now, running the HOD as ClickOnce maintains the PIN across Elevation/Pin operations, machine restarts once pinned, etc., but will have a different PIN if "Exit Host" is executed, and then the HOD is relaunched from the WC Share button. (Note that HOD-as-EXE does not preserve state, so always gets a new PIN on each download & launch.)
- Host Tray - if Host security settings are changed (e.g. via PHSETUP or WC > Edit Host Settings) the Tray menu now immediately/automatically reflects changes to console user's permissions. Specifically, the "Terminate Connection" menu item is enabled or disabled as appropriate.
- The "Send Keystroke" button on the Installed Master for Windows and ClickOnce Connection Window now includes 'Caps Lock', 'Num Lock', 'Scroll Lock' and 'Pause/Break' options when connected to Windows Hosts. For Mac Hosts, the 'Caps Lock' option is now offered. This facilitates getting these states synchronized between local and remote keyboards.

PROXY v10.5 Hotfix #8 (August 2025)

Major changes in this release:

- **File Transfer regression issue:** Starting in v10.5 HF#6, File Transfer would not successfully copy an entire directory to the root folder of a destination drive. Individual file copies, and copies of directories to anywhere other than a drive root were unaffected. Either the Host or the Master must be upgraded to this version (or later) to get the fixed behavior.
- **Server Installer**: A sensitivity to OS language was fixed in the Server installer. The certificate matching logic failed to properly evaluate and match Subject Alternative Names in SSL certificates on non-English user interfaces.
- **Host and Master for Macintosh:** The Host for Macintosh and Master for Macintosh have been updated to address a compatibility issue with MacOS 15 (Sequoia). Note that this update was available separately from support, but this is the first release that includes this update.
- **Screen Blanking**: The Host software now ensures that the Screen Blanking message is always on top of all other windows and popups on the screen. Previously, some system popups like Task View could appear to the console user. Note that with this fix, Screen Blanking is no longer supported for Session Host on Demand (but does work correctly in Pinned Host on Demand).
- **Host Screen Capture:** fixed specific instances where Host screen capture would not actually capture the screen. This was known to impact screen capture of RDP sessions, but could also rarely occur in other configurations.
- **Master Web Login Improvement:** The Master (and other client programs) now use the Microsoft WebView2 component, instead of the older Internet Explorer control, to present a web experience for logon. This provides much better compatibility with whatever pages are required to complete the logon, including EntraID Single-Sign-On and conditional access.
- **Gateway Server Auditing improvements:** The Gateway setting "Auditing > Only log failures" now only affects the writing of success events to the application Event Log. Success events are always written to the CSV text file. Additionally, the logic for "Maximum log file age (days)" was adjusted to ensure that the specified amount of audit data is preserved. Previously, the calculation was based on the audit file creation date, so on a weekly rollover, fewer days were preserved than expected.
- **OpenSSL:** OpenSSL v3.0.16 is incorporated into this release.

PROXY v10.5 Hotfix #7 (September 2024)

Major changes in this release:

- **Cegid Peoplenet ClickOnce helper**: The third-party Cegid Peoplenet ClickOnce helper for Chrome and Edge was updated to v2.0 and changed its internals in a way that prevents earlier versions of PROXY from detecting that it's installed and available. This release of PROXY correctly detects the v2.0 version of the extension (but not earlier versions). The informational page at https://products.proxynetworks.com/links/clickonce4chrome/ has been updated to reflect this information.
- **OpenSSL:** OpenSSL v3.0.15 is incorporated into this release.

PROXY v10.5 Hotfix #6 (May 2024)

Major changes in this release:

- **Several security-related improvements have been made in this release**. All PROXY Pro Server customers are encouraged to update to this release.
    - One cross-site scripting (XSS) issue was identified and fixed.
    - The PROXY Identity Manager now has its own password guessing attack logic for Windows accounts, layering on top of the account lockout policies in Windows. This ensures that password guessing attacks cannot be performed, even if the Windows account lockout policies are either not in place or are generous enough to allow an attack. Note well that is only for Windows local and Active Directory accounts; authentication through Azure AD/Entra ID is not affected, and relies on the policies established in those directories.
    - The Gateway Server cipher selection has been strengthened to allow only the strongest ciphers while maintaining backward compatibility. Gateway Server running on Windows Server 2012r2 or earlier offers more ciphers than on Windows Server 2016 or later for compatibility reasons.
- **Host SSL Certificate**: Host service now uses SSL certificate from the "ProxyHostService\MY" store only, and does not use or store certificates in the Local Machine store. This resolves some compatibly problems with other applications.
- **ServerConfigCheck**: On a configuration change, the ServerConfigCheck utility now ensures that the Gateway Server stops politely, and is restarted, *or* it now reports a clear error message that there was a problem. Previously, it could try to restart the service, leave the service stopped, and not report an error.
- **PROXY System Information Report:** Several improvements have been made to the system information report to collect more information about the system configuration.
- **File Transfer Improvements:** The File Transfer feature has a number of performance, reliability, and error handling improvements, including a fix for a regression in the "progress" dialog where file progress was not shown (was stuck at "0%"). Many fixes only require the Master to be upgraded, but all benefits accrue when both Master and Host are updated to this release.
- **OpenSSL:** OpenSSL v3.0.13 is incorporated into this release.
- **Updated Redistributables:** The Microsoft OLEDB SQL Driver and Microsoft ODBC Driver 17 included with the ServerProducts installer have been updated to the latest releases. PROXY Pro Server requires *any* version of these components to be installed; these specific versions are not required by the PROXY Pro Server but are recommended by Microsoft to address security issues.

PROXY v10.5 Hotfix #5 (January 2024)

Major changes in this release:

- **Terminology Update:** Microsoft has rebranded Azure Active Directory to now be called Microsoft Entra ID. References have been updated in the software throughout to match the new branding.
- **Reliability Improvements:** a few rare but serious reliability issues affecting specific scenarios in PROXY Pro Server have been addressed. The issues resulted in a Gateway Server abnormal termination or a Host that appears connected-to, when it is not, and which cannot be connected to again.
- **Gateway Server "Auto-Recording":** a reliability issue in the Auto-Recording feature has been addressed. Customers using Auto-Recording are strongly encouraged to upgrade to this release.
- **Improved User Experience:** Web Console Recording Settings and Auto Recording Settings dialogs have improved messaging, and configuring Host Screen Capture preferences now handles the case of preferring kernel-mode screen capture when possible but specifying a user-mode profile for use when kernel-mode is not available.
- **OpenSSL:** OpenSSL v3.0.12 is incorporated into this release.
- **Updated Redistributables:** The Microsoft OLEDB SQL Driver and Microsoft ODBC Driver 17 included with the ServerProducts installer have been updated to the latest releases. PROXY Pro Server requires *any* version of these components to be installed; these specific versions are not required by the PROXY Pro Server but are recommended by Microsoft to address security issues.

PROXY v10.5 Hotfix #4 (September 2023)

Major changes in this release:

- **Installed Master for Windows:** This release adds a new checkbox in Options > Other Services which enables the Master to request Input Suppression of Hosts v10.3 or earlier. This ability was removed from Master v10.4 when Screen Blanking was introduced to ensure the user experience was consistent and reliable. Host v10.4 and later advertise whether they support and allow Input Suppression and Screen Blanking, so buttons are enabled only when appropriate. By checking the new checkbox, the Suppress Input button is enabled for older Hosts, and the old functionality that the user can request this by clicking the button, and the button will not remain down if it's not allowed, is restored.
- **Installed Master for Windows:** a bug prevented the Master from saving per-connection Remote Control and File Transfer settings for items in the Favorites and History lists; this has been fixed.
- **Host for Macintosh**: significant stability improvements in the Host for Macintosh. All customers using Host for Macintosh are encouraged to upgrade to this new release.
- **Host Updater Tool**: The Host Updater tool had a number of UI issues addressed. There were no significant functional issues. There are significant improvements to the robustness and clarity of input validation and error messages.
- **Host Status**: if the Gateway Server is restarted while Hosts have reverse connections, when the Gateway Server starts again the Hosts initially had "OK" status before they reported back in to the system. Hosts should report back fairly quickly, so this was a minor issue, but if a Host fails to report back in at all, it would have kept the incorrect "OK" state. This loophole has been fixed.
- **OpenSSL:** OpenSSL v3.0 (Long-Term Support) has been incorporated into PROXY. The latest OpenSSL release in that series (v3.0.10) is now used.
- **ZLIB** compression library has been updated to v1.2.13.

PROXY v10.5 Hotfix #3 (March 2023)

Major changes in this release:

- **Major improvement – Host Settings Updater is now the Host Updater:** The Host Settings Updater utility introduced in PROXY v10.2 has been enhanced to take advantage of a feature in Host v10.3 and later that allows the push installation of Host software updates through a PROXY Pro Server to

machines under management running Host v10.3 or later. See the PROXY Pro Host Updater guide available at https://proxynetworks.com/documentation for more information.

- **OpenSSL:** latest OpenSSL release (v1.1.1t) incorporated throughout the product.
- **Server Configuration Check**: this utility now highlights more clearly when there is a configuration problem.
- **Meta4 (now Cegid Peoplenet) ClickOnce helper**: The third-party Meta4 ClickOnce helper for Chrome was updated to v1.3, and changed its internals in a way that prevents earlier versions of PROXY from detecting that it's installed and available. This release of PROXY correctly detects both v1.2 and earlier, and v1.3 and v1.4 of that utility. (Note that this extension has been further updated to v1.4 and has been rebranded as "Cegid Peoplenet ClickOnce launcher", offered by Cegrid Spain S.A.). The informational page at https://products.proxynetworks.com/links/clickonce4chrome/ has been updated to reflect this information.
- **Host Settings fix:** an issue was introduced in Host v10.5 HF#1 that affected Hosts reporting to an improperly configured Gateway Server (Gateway Server that has an SSL certificate selected, but that certificate is not available on the server machine). In this case, the Host can lose its list of configured Gateways, along with some other settings, when reporting to such a Gateway. This occurs most often when the server certificate is replaced, the old certificate is deleted, and only IIS is updated, not the Gateway Server. Administrators should use the Server Configuration Check utility to ensure both IIS and Gateway Server are updated properly when a new certificate is installed.
- **HTML5 Remote Control and Recording Playback**: a number of issues were fixed, specifically in recording playback, that could occur in less-common situations.
- **Deployment Tool installation:** The Deployment Tool could not be installed on a system with the (non-default) "AlwaysInstalledElevated" Windows Installer option enabled. This Windows Installer option is now supported by this, and all other, PROXY installers.
- **Gateway Server robustness:** The Gateway Server could wait indefinitely, tying up resources, if Host(s) reported in for status and did not proceed with the wire protocol correctly. This resulted in 0xC004C055 errors that prevented new/additional connections.
- **Updated Host for Macintosh and Master for Macintosh:** The Host and Master for Macintosh have been updated with a new runtime for improved reliability, and with a small number of minor issues fixed. The Master for Macintosh is now distributed as a standard "PKG" format, instead of the previous DMG format. Note that Macintosh software now requires macOS 10.15 (Catalina) or later.
- **Updated Master for iOS:** The Apple AppStore now has an updated Master for iOS application for use with PROXY Pro Server. This includes recording playback fixes, and significantly improved on-screen keyboard support. Note that this version of Master for iOS now requires iOS 15 or later.

PROXY v10.5 Hotfix #2 (October 2022)

Note well: due to reliability improvements mentioned below, all customers running PROXY v10.5 FCS or Hotfix#1 are encouraged to upgrade to this Hotfix at their earliest convenience. This is particularly important for the PROXY Server components, but Host and Master for Windows are potentially affected as well and should be upgraded if possible.

Major changes in this release:

- **Transport Reliability:** PROXY Pro v10.5 introduced revised network transport code that improved efficiency and server capacity. Several issues have been addressed, including a scenario seen in some cloud deployments where the Gateway Server could become unresponsive.
- **Server Management of LAN Hosts via UDP:** in a LAN environment where Hosts are configured to report to the Gateway Server via the UDP protocol, incorrect Host status could be reported due to quirks in the PROXY UDP-based transport. This problem is aggravated by an issue in the Host v10.0 through v10.4. Customers using UDP on the LAN are encouraged to upgrade Hosts and their Server(s) to this Hotfix. This issue manifests as an error code 0xC004C000 when it occurs.

- **Host for Macintosh Clipboard Transfer fix:** when transferring files via clipboard to or from the Host for Macintosh, the "root" identity was used for the file operations. This identity does not have access rights on many user-specific folders like Desktop, Documents, and Downloads, leading to errors. File operations are now performed as the logged-in console user.
- **Identity Manager "Request Too Long" error:** Authentication via Identity Manager involves a number of long cookies in the browser. If these cookies are not managed properly, a "Request Too Long" error can occur while logging in. When this happens, the user must close all browser instances, or otherwise clear session cookies, to reset the state. A change has been made in Hotfix#2 to reduce the number of cookies that can accumulate, which mitigates this issue.
- **System Information Report:** The PROXY System Information Report has been improved to ensure all relevant information is collected, and to clarify the root cause of various cases where data cannot be collected.

PROXY v10.5 Hotfix #1 (July 2022)

Major changes in this release:

- **Windows Server Core** PROXY Pro v10.5 Hotfix #1 now supports installation on "Windows Server Core" (also known as "Windows Server (without Desktop Experience)"). Specifically, the PROXY Pro Server components, and the PROXY Pro Host, can be installed and operate correctly on Windows Server without Desktop Experience. Note that without the Desktop Experience, the server must be administered remotely or via command line at the console. Some PROXY Pro Server management and configuration utilities must be run on the console and are harder to launch without the Start menu. Server "Core" installations are only recommended for IT organizations that are familiar with and comfortable with that environment.
- **OpenSSL:** latest OpenSSL release (v1.1.1q) incorporated throughout the product.
- **New Feature – Host on Demand Auto-Timeout**: a new Server setting allows an administrator to set a maximum time a Host on Demand instance can remain reporting to the Gateway Server after a remote control session with it ends (or, if it's never controlled, the time is from when it first reports in). A Host on Demand instance that "times out" is stopped, as if the "Stop Host Instance" administration function is used. This feature works for both Windows and Macintosh Host on Demand instances, transparent to the Host itself. (Note that installation default value is to disable this functionality; it can be set in General settings as a number of hours up to 672 = 28 days.)
- **Host for Macintosh**: significant stability and functional improvements in the Host for Macintosh. All customers using Host for Macintosh v10.5 are encouraged to upgrade to this new release.
    - Support for the "TLS Certificate Security Model" relationship between the Host and Gateway Servers.
    - **Host for Macintosh** has important fixes to Permission to Connect, including proper handling of login, logout, and user-switching desktop transitions.
    - **Host for Macintosh** now supports multiple desktops, and Host windows automatically appear on, or move to, the active desktop.
    - **Host for Macintosh installer improvements**. The StationName and HostNotifications settings can now be set via the hostsettings.json file if present at install time. Also, Host settings from a Windows Host can now be used ("phsetup mode:exportjson") to initialize Mac Host settings via the Installer.
- **Master for Macintosh** has some improvements. Improved performance when multiple Masters view the same Host; "Send clipboard as keystrokes" feature now consistently sends the plain text on the clipboard and not any formatting information, and auto-reconnect to Host is more reliable.
- **PROXY Pro Master** "caption bar" showing tab name and trial expiration information now defaults to not being shown on new/clean installations, and if dismissed (via "x" close box in bar) or hidden via View menu, that setting is reliably saved and the bar will correctly remain hidden.

- **Server Products installer** updated to distribute/install Microsoft **SQL Server Express 2016 SP3** in "Quick Install" mode**.** Also, installer now has much better error reporting if there is a problem with installing SQL Server Express.
- **Server Configuration Check (SCC) utility enhancements**, including SSL certificate check for necessary SAN entry. More uniform reporting of SSL certificate information. Will not allow selecting a certificate where the Common Name matches the FQDN of the server, but that name is not mentioned in the Subject Alternative Name list.
- **More proactive Host status updating** when a remote control connection attempt succeeds or fails unexpectedly, that is contrary to the display status in the Web Console, the out-of-date status will be updated accordingly.
- **AzureAD Integration:** AzureAD requires the domain name and Client ID strings to be lower case. Identity Manager now automatically lowercases these strings as necessary.
- **Web Console** custom branding template had an incorrect PNG. The correct PNG now appears in the CustomTemplate directory.
- **Host Settings Updater** utility improves its behavior if not all Hosts to be updated are online consistently. The utility has always retried to reach Hosts that are offline, but the retry logic has been updated to avoid excessive retries. These excessive retries put unnecessary load on the system, and could generate a large amount of audit data, potentially filling the database.
- **SSL Certificate handling improvements:** the PROXY software, including the installers, Server Configuration Check utility, and certificate utilities, have been updated to show more consistent information about certificates, and to evaluate certificate validity consistent with recent standards/conventions. Specifically, Google Chrome requires that the DNS name used to access a server be listed in the server's Subject Alternative Names list, and the certificate "Common Name" is ignored. PROXY now conforms to this rule, and will prevent a certificate from being selected that does not meet this requirement.
- **Improved PROXY System Information Report** (prxsinfo.exe). Improved information around PIM settings, Azure AD integration, and SSL certificates not in the machine's "Personal" certificate store but selected for use in IIS and/or Gateway
- **Static and Dynamic Application Testing**: informational alerts identified by SAST and DAST scanners have been addressed, providing much cleaner scan results. This includes updating libraries that were older but had no known security vulnerabilities, and other changes to mitigate false positives.
- **PROXY Pro Server** reliability and functional improvements include:
    - **Rare issue** where Gateway Server, or Server system in general, could display a blank AccountID. This was a symptom of a failed login where the Identity Manager didn't cache information for later use properly.
    - **Web Console** has some UI improvements, notably in the Edit Host Settings functionality. The addition and editing of Gateway Configurations on a remote Host is more reliable and presents a better user experience.

PROXY v10.5 Release (March 2022)

New Features in v10.5

Improved Host for Macintosh
(Applies to RAS Edition)

The Host for Macintosh has been substantially revised. This new Host software can operate in an "On Demand" mode, in a "Persistent" mode (for unattended access, including to the login screen), as well as in both modes simultaneously. The previous Host for Macintosh only operated in an "On Demand" mode.

Improved Gateway Server "Reverse Connection" Capacity
(Applies to RAS Edition)

The PROXY Pro Server, and the Gateway Server component specifically, has increased capacity to maintain "reverse connections" with Hosts that are off-LAN. Previously, up to 2500 connections could be maintained; in PROXY v10.5, this limit is increased to 8000.

Enhancements and Fixes in v10.5

In addition to the major new features in v10.5, several issues were resolved in this release:

- **Deployment Tool Improvements**: The Deployment Tool has a number of minor improvements and fixes, including better and easier-to-use support for exporting and importing the entire state of the tool, or individual Host Product Configurations, to JSON format. This allows this information to be archived in a neutral format, and to be moved from machine to machine.
- **Application Pool Configuration Improvements:** The Identity Manager and Web Console application pools now have Start Mode set to AlwaysRunning instead of OnDemand; this improves application startup time and first response time from idle. Additionally, on Windows Server 2019 and later, the "removeServerHeader" option is set to omit the standard "Server:" header.
- **Address Restrictions for HTTPSYS Connections**: The Gateway HTTPSYS protocol now supports address restrictions to limit where connections can come from.
- **Host TLS Certificate Location:** Host will create a TLS certificate, if no appropriate certificate is found in the machine Personal store. In v10.4, that certificate was placed in that store; in v10.5, the certificate is placed in a private location to isolate the certificate from accidental use by other software.
- **Host Station Name Macros**: the %USERNAME% macro now resolves to "Not-Logged-In" instead of an empty string ("") if no user is logged in, consistent with the %USER% macro; and the %ADDR% macro now always resolves to an IP address of the machine.
- **Connect in Browser:** the in-browser Remote Control experience has several user interface and usability fixes, including proper handling of scroll bars (when needed) and the Fit-To modes.
- **Latest OpenSSL release:** the latest OpenSSL release (v1.1.1n) has been incorporated into this release.
- **Usability and Reliability:** a large number of minor usability, user interface, and software reliability issues were addressed since v10.4 HF#2.

PROXY v10.4 Hotfix #3 (March 2022)

Major changes in this release:

- **Gateway Server**: a reliability issue with connections through the HTTPSYS transport support has been fixed. Customers are encouraged to upgrade to this release if they have experienced any service disruptions.
- Latest OpenSSL release (v1.1.1m) incorporated into product.

PROXY v10.4 Hotfix #2 (Oct 2021)

Major changes in this release:

- **Host screen capture improvements**: Host v10.4 uses the Windows DXGI API for screen capturing, replacing the previous legacy technique. Several issues are addressed, including fixing issues with multiple monitor systems (specifically when multiple video cards are in use).
- **Host GPU utilization**: Host v10.3 introduced display "watermark" features, and v10.4 added screen blanking. Prior to this release, these features caused high GPU utilization even when they were not in use.

- **Host installation and deployment**: The service for Host v10.4 is automatically started at the end of an installation, but the process used caused issues with some deployment systems, specifically Microsoft System Center Configuration Manager. This release changes the process used to stop and start the Host service, and works around issues that were seen. The installer also more reliably prompts for system restart (or exits with code indicating a restart is required) when a restart is recommended or required.
- **Web Console Security Editor**: the Web Console security editor user interface has several fixes in edge cases that were not commonly exercised to ensure that all security editing operations are understandable and consistent.
- **Operating Systems:** Windows 11 and Windows Server 2022 are now recognized and decoded by the software, and are fully supported.

PROXY v10.4 Hotfix #1 (Aug 2021)

Major changes in this release:

- **Host "Beep on Connect"**: The Host "Beep on Connect/Disconnect" feature was inadvertently broken in the v10.4 FCS release. If this feature is important to your users, please upgrade the Host to this Hotfix release.
- **Host Permission To Connect, Sensitive to Lock Screen:** The Host Access settings, Connection Permission, "Do not prompt for permission on logon or lock screen" was not correctly recognizing the lock screen in Windows 10 if the system User Accounts > Advanced > Secure sign-in setting was set to not require users to press Ctrl+Alt+Delete to log in. The Host now recognizes and handles this case correctly, so the Host Connection Permission feature works as expected.
- **PROXY Pro Server Recording Analytics:** The Server system did not guarantee the collection and storage of events reported in the Analytics > Recording reports. New recordings, and playback of those recordings, are now guaranteed to be collected and reported on.
- **Gateway Server management of Host status:** The Gateway Server has a few changes related to properly maintaining and reporting on the status of its relationship with Hosts. Hosts that report to the Gateway Server and experience an authentication problem are now consistently identified as "Authentication Problem" status. The Gateway Server no longer makes outbound connections to Hosts (per the Update Host Status Every setting) if the Host reported in via SSL or WSS protocol, or if the last network connectivity kept a reverse connection. This reduces the load on the Gateway Server and avoids unnecessary network traffic.
- **Azure Active Directory with many groups:** The PROXY Pro Server now detects when a user authenticates via AzureAD and group memberships are omitted because more than 200 groups would be returned in the result. The Server does not allow the user login and reports error 0x8A0C01DB with message "User authenticated successfully, but has too many group memberships to be processed correctly. Reduce the number of group memberships, or contact Support for other options." This issue is best addressed by modifying the application registration in AzureAD to limit the groups reported to the PROXY Pro Server.
- **Web Console security editor improvement:** When using the Web Console to edit Group security, and inheritance is broken (changing "Inherit permissions" from Yes to No), the set of security added via the "Add" button did not include all previously allowed access if any users or groups inherited security from more than one parent. This is fixed, so this operation will not lose or omit any previously granted rights.
- **Various User Experience Improvements**: A number of places in the product have improved messaging to clarify the root cause when something goes wrong, or to otherwise generally be more accurate and provide useful, actionable information. Areas of improvement include the installers (including indicating when a manual reboot is required after installation or upgrade on Windows Server 2019), F1=Help support, the documentation linked to by F1=Help, dialog improvements in Deployment Tool, Web Console message when in Limited Administrator mode, and installed Master

now includes detailed error code, as well as descriptive Status state, for Hosts in certain non-OK statuses.

PROXY v10.4 Release (Jun 2021)

This release of PROXY Pro offers significant improvements and enhancements that apply to both the RAS and P2P editions. As a result of these improvements, along with consideration of the Microsoft Windows product lifecycle, the minimum Windows operating system requirements have been updated. Version 10.4 will now actively block installation on unsupported versions of Windows. Please see the section "Operating System Requirements" elsewhere in this document for more information.

New Features in v10.4

Improved Screen Capture for Windows Hosts
(Applies to both P2P and RAS Editions)

The screen capturing engine, also known as User Mode Screen Capture (UMSC), has been updated to use Microsoft's DirectX Graphics Infrastructure (DXGI). This results in a more responsive remote control and viewing experience. This update ensures we are using the most modern and high-performance APIs available to us.

PROXY Pro Host for Windows Screen Blanking Support
(Applies to both P2P and RAS Editions)

The ability to blank the remote Windows Host console during Remote Control has been reintroduced. This provides the remote user privacy while performing sensitive operations. This feature had been available in much older versions of PROXY Pro but had to be removed when changes to the Windows operating system made it unreliable. With this release, it has been completely redesigned and uses modern technology that allows us to ensure screen blanking is reliable. This new method also allows us to display a message on the remote Host console indicating that the machine is currently connected to by a technician. All PROXY Pro clients have been updated to be able to request screen blanking of the remote Host and the Host itself will be configurable to allow or disallow this feature. The Host will advertise the availability of this feature to the Master client and only then will it become an option for the client. Keyboard and mouse input will also be suppressed while the screen is blanked. This is necessary so that a console user cannot interfere with the remote-control session. As a failsafe, C-A-D will still function at the console to get to the Windows Lock Screen. This screen will be operable by both the remote-control connection and the console user, giving the console user the opportunity to log out the session or restart the computer.

This new functionality applies only to Hosts running on Windows 10 (build 2004) and later and requires a v10.4 Master.

Improved secure relationship between Hosts and Gateway
The relationship between the Host and Gateway server has been rearchitected. This allows us to deprecate the proprietary "Shared Secret", when it was needed, and makes things more reliable and easier to manage. This relationship is now standards-based identification using SSL certificates and the TLS protocol. Note that this new relationship is in effect for Host v10.4 when communicating with Gateway Server v10.4; combinations involving older versions will continue with the existing behavior (e.g., Windows Auth if available or Shared Secret).

Web Console "Move Group" Functionality
The Web Console now offers a "Move Group…" context menu item on Groups, which allows the group (and all of its members and descendants) to be moved to a different location in the Group hierarchy.

Web Console "Change Group Memberships" Improvements
The Web Console now provides a better user experience when changing the Group memberships of multiple Hosts. When multiple Hosts are selected and "Change Group Memberships…" is selected, the "Change Group Memberships" dialog appears. Note well that in this case, the dialog only shows the currently selected group, and not all memberships that these Hosts have. The key improvement in this case is when the "+" button is used to add Group memberships, a confirmation dialog appears showing that the group membership change was successful, and how many Hosts were modified. The Change Group Membership dialog remains open, with the same Hosts selected, so additional operations can be performed.

Azure Active Directory Integration now uses Microsoft Graph API
In earlier versions of PROXY, the Azure AD integration used the Azure AD Graph API to query data from AAD. In this release, PROXY now uses the newer Microsoft Graph API. When upgrading a PROXY Pro server that has already been integrated with an Azure AD using the older Azure AD Graph API (v10.3 and earlier), the installer will detect this and offer both guidance and confirmation that the necessary permissions have been updated in Azure prior to continuing the upgrade.

Support for European Keyboards in the HTML5 client
Although the installed Master and ClickOnce connection windows support reliable remote control of certain European keyboards, the HTML5 remote control client did not. Support for this has been added and tested with QWERTY and DVORAK keyboards against French, German, Spanish, and Portuguese.

PROXY Pro Host Installation Improvements
(Applies to both P2P and RAS Editions)

As of this release, the PROXY Pro Host no longer ships kernel mode drivers in the Host. This provides an improved installation/upgrade experience by eliminating or at least minimizing the need for a reboot after a new Host is installed. When upgrading from earlier versions of the Host, the drivers are automatically uninstalled, and a system restart is necessary to complete that uninstallation. Clean installation of Host v10.4 no longer requires a restart, and upgrades of Host v10.4 to later versions should not require a restart and will leave the Host service running in a usable state.

Note that in prior versions of PROXY, the Host utilized kernel mode drivers for the following functionality:

- Kernel -mode (mirror driver) display capture
- Input injection at kernel level
- Input suppression at kernel level

Additionally, The Host service in the Service Control Manager will now set automatic restart options, like the Gateway Server does. This helps ensure the Host restarts if it fails for any reason.

PROXY Pro Host and Master for iOS and Android
Host for iOS and Host for Android, and Master for iOS, have been updated in their respective App Stores. Enhancements include full support for PROXY Pro v10.4 features, device-wide "Dark Mode" option in the Master, improved ability to share diagnostic logging if needed, ability for an Administrative Web Console user to "Stop Host Instance" on the mobile device, and various small improvements in stability and reliability. As of this writing, current version is 10.4.3905 (Host) and 10.4.3906 (Master)

See the section "Enhancements and Fixes in v10.4", later in this document, for more about this release

Enhancements and Fixes in v10.4

In addition to the major new features in v10.4, several issues were resolved in this release:

- **File Transfer Navigation Tree Improvement**: The File Transfer tab will now include the "Downloads" folder and "Shared Desktop" shortcuts for the current %Userprofile% in the navigation

tree. These folders will show up for both the local and remote machines providing a console user is logged in.

- **Reliable Master Toolbar Representation of Available options**: The Host and Master have been updated with a new protocol so that the Master will be able to accurately determine if Manage Visual Effects, Input Suppression, and Screen Blanking are supported on the remote Host. This provides confidence that the selected actions will be enforced at the remote Host as requested. These items are disabled if the features are not available on the connected Host. When selected, the items automatically unselect themselves if the operation is not available at this time.

PROXY v10.3 Hotfix #5 (Mar 2021)

Major changes in this release:

- An issue that could cause Analytics data to not be available for reporting has been found and fixed. Under rare circumstances, the transformation of basic audit data into the reportable version seen in the Analytics tabs could fail because of a timeout due to long processing times. The Gateway Server, which controls this process, now has a much longer timeout, and processes the data in chunks, to prevent this from happening. Any systems with a backlog of data will self-heal after an upgrade to this release.
- PowerShell scripting operations to configure the PROXY Pro Server could fail due to a time out under limited circumstances. The timeout limit has been increased in this release to avoid this problem.
- The "DbInstallerCmd" utility is used to update the database from an earlier release to the latest version and is normally run automatically by the Server Products installer. This utility has a new command line switch "/nobackup" to suppress the automatic backup that normally runs (when there is a schema version update). Manually running this command, with this switch, is recommended in environments that have a large database and a strong backup policy.
- The PROXY Pro Server Configuration Check utility did not handle machine-local Gateway Server service accounts correctly when trying to select an SSL certificate, causing the selection for the Gateway Server (but not IIS) to fail. This is now fixed.
- Gateway Settings > Auditing > "Automatically delete log files older than" minimum setting value has been updated. Previously, this could be set as low as 1 day; the new minimum is 31 days. The installation default value is 40 days, so most installations are not affected by this change. If a setting value of less than 31 is in effect before upgrade, it will be changed to 31 days during the upgrade.

PROXY v10.3 Hotfix #4 (Jan 2021)

Major changes in this release:

- Important fixes in the Gateway Server address scenarios where Host would be listed as an "OK" status when the system should have known that was not correct (e.g., Host should be marked "Offline" or "Unreachable"). Note that one issue affecting Hosts with reverse connections was introduced in v10.3 Hotfix#3, but there are other scenarios and fixes in this area from earlier releases.
- Several important reliability fixes are included in the Host component. Although the issues rarely occur, it's recommended that Hosts be upgraded where possible to avoid these issues.
    - Host deadlock at exit makes service uncontrollable and cannot stop.
    - Host clipboard cache confusion results in Host being stuck in "Host in Use" state after connection ends.
    - Host Service power management notification handling improved so that Host is able to report shutdown consistently, allowing Gateway Server to mark the Host as "Offline"; previously, some machines with Windows 8 (or later) "Fast Startup" power management mode enabled were not reporting, resulting in an "Unreachable" or other status.

- Gateway Server "Wake on LAN" functionality enhanced to send an additional wake packet to the /24 subnet broadcast address of the Host. This is in addition to the last known IP address, and the general broadcast address 255.255.255.255. For example, a wake request to address 192.168.1.47 previously sent packets to 192.168.1.47 and 255.255.255.255; now, an additional packet is sent to 192.168.1.255 (the IPv4 address with the last octet set to 255).
- Web Console HTML5 "Connect in Browser" client fixes client-side performance issue.
- Web Console > Accounts > Gateway Identities view, Export data, now includes each user's last login time.
- Host on Demand for Windows now provides expected elevation prompts if the console user is a member of the local "Power Users" group.
- Host for iOS and Host for Android have been updated in their respective App Stores. As of this writing, current version is v10.3.3889. New features include:
    - Support for device-wide "Dark mode" display option
    - Sleep management – options to keep device awake while connection is active
    - Other minor user interface improvements
    - Support for Mobile Device Management (MDM) deployment and configuration
    - Web proxy support for Android devices (previously available on iOS)
    - Additional options under Settings for extension tags
    - Ability to more easily configure diagnostic logging, and share the logging if you experience issues
- All PROXY installers have Property value "ALLUSERS"=1, which resolves a compatibility issue with deploying the software via Microsoft InTune.
- Latest OpenSSL release (v1.1.1i) incorporated into product.

PROXY v10.3 Hotfix #3 (Oct 2020)

Major changes in this release:

- Several important reliability fixes are included in the Web Console and Gateway Server components. Although the issues rarely occur, and may not occur in all environments, it's recommended that all PROXY Pro Server installations be upgraded to this release to avoid these issues.
    - A Gateway Server crash due to an error in Host status processing was fixed. This could happen only in a small window if the connection failed after it was established but before the Gateway read the Host status.
    - A transport-level crash due to improper error handling was fixed. This could impact either Host or Gateway, and occurred if an inbound connection was established, and the initial protocol negotiation occurs, but then client fails to send expected data within a timeout period.
    - A memory leak in the Web Console, resulting in error code 0xC004C056, could occur if the HTML5 Remote Control feature was used and the Gateway Server internal access was using the TCP, WS, or SSL protocols (and not WSS).
- Gateway Server system host "Performance Monitor" now reports on Identity Manager and Web Console process statistics, if those processes are on the same machine as the Gateway Server.
- ServerConfigCheck utility now reports on Identity Manager discovery document problems with much more accurate and useful information; previously, most problems would be (possibly incorrectly) reported as HTTP 503 (service not available).
- Web Console Analytics > Services page showed station name plus machine name (if these are different) in this view, but only allowed search on station name. Elsewhere in the product, the station name (only) is shown. The machine name was removed from the Services view for consistency and to avoid confusion with searching.
- Web Console's Host context menu options "Connect via [Client] for View Only" was not properly handling the "view only" request and the helper application would take input control on connection.

This impacted "Connect via ClickOnce for View Only" and "Connect via Installed Master for View Only" on Windows, and "Connect via Helper for View Only" on Macintosh.

- Web Console > Gateway > Gateway Settings > Grouping Rules > IPv4 Grouping Rule was previously limited to a range of 4096 addresses per rule. This has been relaxed and ranges up to 16777215 are now permitted.
- Installed Master did not dismiss the automatic reconnect dialog if remote control was reconnected, but one of the other services could not be connected-to. This specifically happened with Gateway-based connections where the Master user did not have the right to access the Chat service.
- The HostPrep utility (used to prepare a Host installation on a system that is being "sysprep"ed for duplication or imaging) did not work correctly in any v10.x release, and the result was that Host settings could not be established in the base image and preserved across the Windows "sysprep" operation.
- Host for Transient VDI-type Hosts were not generating new or unique Host PIN values, so all VDI instances from the same image had the same Host PIN.
- An issue with remote controlling a Host machine that in turn runs the Hyper-V Manager Virtual Machine Connection (VMC) window to remote control a Hyper-V virtual machine has been fixed. The behavior is that shifted characters, e.g., symbols type by using SHIFT and a number key, were not reliably being injected into the virtual machine. PROXY Pro Host now works around this issue with the VMC application to ensure these characters are entered correctly. If you experience this issue, you must upgrade the PROXY Pro Host on the machine running VMC to get the fixed behavior.

PROXY v10.3 Hotfix #2 (Aug 2020)

Major changes in this release:

- Master for Macintosh now has full support for Hosts with multiple monitors, with features comparable to the Master for Windows. Specifically, the "Select Host Monitor" menu and the "Next Host Monitor" button are on the toolbar and in the menus. Master for Macintosh also now supports auto scroll of the Host view when in Fit 1-to-1 mode by holding the SHIFT key while moving or dragging the mouse.
- Remote Control clients now have "Next Host Monitor" button on toolbar. When remote controlling a Host with multiple monitors, in addition to the previous features to select single monitors to view, a new toolbar button "Next Host Monitor" is available to cycle through the monitors more conveniently. This is available in Master for Windows, Master for Macintosh, and in the HTML5 Remote Control page in Web Console. Additionally, the keyboard accelerator Ctrl+] activates the "Next Host Monitor" feature, and keyboard accelerator Ctrl+[toggles Fit-to-Window mode. These accelerators work in Master for Windows and Master for Macintosh.
- The Host for Android is now supported on ChromeOS Chromebooks that support running Android applications. This allows a Web Console user to view the screen of the Chromebook when it is shared.
- The Host handling of SSL certificate errors when configured to report to a Gateway Server has been updated. Previously, the option to accept an untrusted certificate was conditional on the specific error that was reported. Because the error could change, this was not a completely predictable configuration option. In this release, the option to accept a particular certificate ties that acceptance to the specific certificate, independent of what the error is. This makes this functionality more predictable and has been implemented consistently on all PROXY Pro Host platforms – Windows, Macintosh, iOS, and Android.
- Identity Manager setting "Require Azure AD for interactive web-based logins". This configuration option is designed to accommodate a specific configuration, where Windows Accounts are to be used by PROXY SDK clients (including custom applications written against the SDK, as well as the Master), but all web-based logins should require Azure AD and not provide the choice of entering a Windows account. This streamlines single sign-on using Azure AD for browser-based client activity, without disabling Windows Accounts for other usages.

- The Server Configuration Check utility (in the PROXY Pro Server installation) now performs additional checks and warns on configuration issues that were not previously detected. Specifically, the IIS Application Pools for Web Console and Identity Manager are started if they're not running, and a warning is issued if they cannot be started. The utility also checks that the Application Pools and Gateway Server are configured to run as the account specified at installation time.
- The PROXY System Information reporting tool now reports on some additional data to help diagnose problems. More information about the machine's relationship to its Windows domain, including whether that relationship seems to be working, is reported. The total size and free disk space of each drive is also reported, to help identify low disk space issues.
- The "text mode" screen used by the PROXY Pro Server "System" Hosts (Gateway At-a-Glance and Gateway Server Performance) were not drawn with the correct colors by the HTML5 Remote Control client or the Master for Macintosh. This is now fixed.

PROXY v10.3 Hotfix #1 (Jun 2020)

Major changes in this release:

- New feature: HTML5 Remote Control clipboard support now supports placing a selected file (uploaded from the client browser) onto the Host clipboard; this file can then be Pasted on the Host into the file system. This feature provides a basic file transfer capability (from Master to Host only) within the HTML5 Remote Control experience. This works with all Hosts that support file objects on the clipboard (both Windows and Macintosh), up to a file size of 28 megabytes.
- Web Console now correctly detects the "ClickOnce Deployment" ready state of all browsers on Windows to correctly choose when to use ClickOnce Deployment of the helper applications. Previously, some scenarios in Web Console, and some browser configurations, were not properly detected.
- A resource leak in Web Console in the HTML5 Remote Control component could cause the process to run out of address space and stop accepting new logins with error 0xC004C056; this has been fixed.
- A regression bug in installed Master on Windows prevented the Gateway Hosts tab, Hosts list view, from preserving user customizations (changes in column order, changes in column width, which column to sort by, etc.) when a new Gateway Server was connected to, or when the existing connection was refreshed.
- A transport-layer issue could cause TCP connections to take up to 30 seconds to close; this most commonly impacted the Master Connection Window closing a Peer-to-Peer connection to a Host via TCP.
- The Web Console "Host Settings" feature now reliably prompts for end-to-end credentials; previously, an incorrect error code may have prevented the prompt from appearing.
- Deployment Tool "Export Settings to JSON File" was not exporting the Installation Files list; this meant that exporting the settings and importing them for another user, or on another machine, did not restore this state. This is now fixed, and these settings are exported (and later imported) correctly.
- Several Host station name macros (including USERUPN, USERDISPLAY, and USEREMAIL) depend on lookups from Active Directory. If the user logs in when a domain controller is inaccessible, these values cannot be retrieved, however, when a DC becomes available later (e.g., if user gets on a VPN to the corporate network), the Host did not update them. The Host now attempts to refresh this information when there is a network address list change (e.g., changing networks or joining/leaving a VPN).
- Host for Macintosh and Master for Macintosh are now "sleep aware" and respond promptly when the Macintosh sleeps or wakes up, restoring connections much quicker than previous releases.

PROXY v10.3 Release (Jun 2020)

New Features in v10.3

PROXY Pro Host for Mobile (Android and Apple iOS Devices)
Version 10.3 introduces support for screen viewing of Android devices (v8 "Oreo" or later) and Apple iOS devices (iOS v11.2 or later). These phones and tablets will run a native application that will provide an On-Demand Host (HOD) that can be configured to report to a standard v10.3 PROXY Pro Server.

New and Easier Identification of All Hosts – Installed and HOD
A new mechanism to help identify a specific Host, installed or on Demand (HOD), in the Web Console or installed Master has been implemented. The Host instance will be assigned a unique 6-digit personal identification number (PIN) that the end user can provide to the Master user for quick identification. This will be the case for all Host implementations, both installed and On Demand and for all platforms (Windows, Macintosh and the new Android and iOS sessions). This is especially helpful for non-enterprise managed machines where station names may not contain information that is meaningful to the Master user.

Quick Connect ability directly from the Web Console Landing Page
A Host can now be connected to by simply entering the 6-digit PIN, as discussed in the item above, directly into the landing page of the Web Console. The security model remains intact as credentials will still be required, but upon entering credentials, the Master user will be brought directly to the associated desktop.

Gateway Server Component as a Native 64-bit (x64) Application
Improved capacity for the PROXY Pro Gateway server component for Hosts reporting from the internet. Along with Windows 64-bit Operating Systems, increased addressable memory relaxes capacity restrictions, allowing up to 2500 reverse connections from Hosts – (a 25% increase).

Macintosh File and Folder Transfer via Clipboard
The Host and Master for Macintosh now support file transfer using the clipboard. This includes single file, group of files, and folders with recursive transfer. This functionality works both from Macintosh to Macintosh as well as between Macintosh and Windows operating systems.

Remote Management Service Improvements
Performance and reliability improvements have been made in the Remote Management feature of the connection window with special attention to, and a drastic improvement in, the speed of the "Software Manager -> Installed Products" node.

In-Browser Connection Window Allows Easy Launch of the Full Client
A new button on the In-Browser (HTML5) connection window allows an easy switch to the full client, ClickOnce or installed Master, when available.

Improved and Streamlined Experience for Launching Master and Host on Macintosh and iOS
Both Macintosh machines and iOS devices now make the process of launching Master and Host simpler. Previously, PROXY prompted to ensure required helper apps were installed before trying to launch them. In v10.3, a newly designed web page automatically launches the apps if they're already installed and provides instructions on how to get them (by download or AppStore) they're not yet installed.

Ability to Hide Unused Window Tabs in Installed Master
We have reintroduced the ability to configure the installed Master UI to hide the window tabs that are not in use by that installation.

Integration of the latest OpenSSL Library Series (v1.1.1)
To keep up with the latest security trends, the OpenSSL Library integrated with PROXY Pro is now the v1.1.1 series as of this release (v10.3)

Dynamic Station Name Resolution
Hosts that are configured to use Dynamic Station Name Macros will now display the evaluated name in their Host Control Panel or settings, depending upon the Host. This is helpful in order to know what the Master user should expect to see for the reported Host Station Name.

Easy Scroll to Navigate Viewing Larger Desktops
Easily scroll across desktops larger than the Master connection window by simply holding either of the SHIFT keys and moving the pointer to any edge of the screen. This is available in both the Installed and ClickOnce Master for Windows as well as the Master for Mac.

Send Clipboard as Keystrokes to Login Screen
Master for Windows, ClickOnce Master, and Master for Macintosh now support "Send Clipboard as Keystrokes" function. This takes plain text on the clipboard and types the corresponding characters, which is useful for entering credentials in places where the clipboard functionality is not available, e.g., the Windows logon screen.

Responsive Web Console Landing Page
The landing page of the Web Console will now display cleanly on various screen sizes for phone, desktop and iPad.

PROXY Air will now Support Mobile Host Devices
The new Hosts for iOS and Android, as discussed above, will be supported in our PROXY Air service.

Enhancements and Fixes in v10.3

In addition to the major new features in v10.3, several issues were resolved in this release:

- Server installation default protocol for external access to the Gateway Server is now set to WSS port 443; previously this was TCP port 2303, and that's not commonly exposed to the internet. This is an installation default change only; no settings are changed on upgrade.
- The Host back-off policy has been modified to distribute reconnection attempts after a Gateway Server restart better. This results in faster recovery of Host reverse connections to provide connectivity to all Hosts. Note that upgrading Hosts is required to gain this improvement.
- The product names PROXY Pro Master and PROXY Pro Host have been standardized and unified across all platforms; previously, some clients were referred to with different names.
- Web Console Group Security Editor had a regression error introduced in v10.2 HF#2 that is now fixed; the ability to change security to apply to "This group only" or "This group and subgroups" was impacted.
- Proxy System Information report (prxsinfo) has several improvements in information collected, including information about SSL certificates selected in IIS and available in the local machine store.
- The PROXY Server Products installer (aka Bundle installer) upgrades the ODBC Driver 17 from the originally redistributed version v17.1.0.1 to v17.5.2.1. A bug in the original package from Microsoft requires that the component be repaired after upgrade; this is handled automatically by the PROXY installer.

- If the Master requests the Host suppress the local keyboard and mouse, or manage visual effects, whether those things happen or not are controlled by whether the Host supports those features, and the Host settings. If the requested function is not done, the button or menu item in the Master should change to reflect that state. Previously, not all Master platforms handled this correctly; specifically, Master for Macintosh and Master for iOS now correctly show the proper state, and Host for Macintosh correctly reports that it cannot perform these functions.

- Host and Master for Macintosh are now notarized by Apple; this provides an assurance when installing in newer versions of macOS. Host for Macintosh now preflights screen capture and input control access, which guides the user to provide the necessary access in system Preferences.

PROXY v10.2 Hotfix #3 (Jan 2020)

Major changes in this release:

- The PROXY Identity Manager has been updated to be compatible with Google Chrome version 80, which changes the handling of some cookies. This update is ***required*** in order to ensure that PROXY integration with Azure Active Directory works correctly; it's ***strongly recommended*** in all cases. See the blog post https://web.dev/samesite-cookies-explained/ for more information about this change in Chrome.

- Host and Master installers no longer default to installing the optional "Remote Printing Support" component. If Remote Printing support is desired, this optional component should be selected during an interactive installation of Host or Master or enabled via the MSIEXEC command line option "INSTALLLEVEL=100" (this works the same for both Host and Master installers). Note well this only changes the default for new installations; upgrades will update the Remote Printing component if it was previously installed, or leave it uninstalled if it was not installed.

- Gateway Server issue that could cause the Web Console "Activity" views to be inaccurate is resolved. The issue only occurred if, while the Gateway Server is operating, the SQL Server database becomes unavailable, and then becomes available again. In this case, updates to the "active" objects (connections, host activity, recording activity, etc.) could have been lost, resulting in "stuck" activity items. Note that these were always cleaned up when Gateway Server restarts, so there's no persistent errors, but the Activity views were not perfectly reliable when this issue occurred.

PROXY v10.2 Hotfix #2 (Sep 2019)

Major changes in this release:

- OpenSSL has been updated from the v1.0.2 series to the v1.1.1 series. This release includes OpenSSL v1.1.1c, and restricts the default ciphers used to be higher quality/more secure than previous PROXY versions, while maintaining backward compatibility with all PROXY versions that supported TLS v1.2. Additionally, TLSv1.3 is now supported in the Host and Master for Windows, Gateway Server, and ClickOnce Connection Window for Windows. Further support for TLSv1.3 will depend on operating system support in Windows (for Web Console, via IIS) and on Macintosh and iOS. Elliptic Curve Cryptography (ECC) certificates are also now supported by the Gateway Server and Gateway Server Certificate Manager.

- Deployment Tool "Export Settings to JSON File" functionality has not been working since v10.0 HF#1 and is fixed in this release. Additionally, the Deployment Tool was not registered as an MMC snapin correctly, so that it did not appear in the "Add/Remove SnapIn…" list.

- Several installed Master issues are addressed in this release, including:
  - Installed Master v10 connecting to GWS v9 as a master-category user now works correctly
  - Master inactivity prompt no longer appears if Master Control Panel window does not have focus; this keeps that popup from interrupting ongoing work in a Connection Window.
  - Master Gateway Groups dropdown list now sorts items correctly even if user does not have access to top-level group(s).

- Gateway Server has a number of reliability and "edge case" processing fixes, primarily around Host status update processing. While the issues addressed generally only occur in unusual or uncommon situations, customers with installations involving either a large number of Hosts, or relatively large numbers of Host reverse connections, or that use Host for Macintosh, are advised to upgrade to this release to ensure the most reliable operations.

PROXY v10.2 Hotfix #1 (Jun 2019)

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.

PROXY v10.2 Release (May 2019)

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).

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.

PROXY v10.1 Hotfix #2 (Mar 2019)

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 in 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.

PROXY v10.1 Hotfix #1 (Dec 2018)

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.

PROXY v10.1 Release (Nov 2018)

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).

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.

PROXY v10.0 Hotfix #3 (Aug 2018)

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.

PROXY v10.0 Hotfix #2 (Jun 2018)

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 Server Products 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".

PROXY v10.0 Hotfix #1 (Apr 2018)

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.

PROXY v10.0 Release (Oct 2017)

New Features in v10.1

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 Host 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.

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/v110/wc/)
- PROXY Pro Host Guide
  (https://products.proxynetworks.com/docs/proxy/v110/host/)
- PROXY Pro Master Guide
  (https://products.proxynetworks.com/docs/proxy/v110/master/)
- PROXY Pro Deployment Tool Guide
  (https://products.proxynetworks.com/docs/proxy/v110/pdt/)