

One Identity Safeguard for Privileged Sessions 6.8.1

Release Notes

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These release notes provide information about the One Identity Safeguard for Privileged Sessions 6.8.1 release.

About this release

One Identity Safeguard for Privileged Sessions Version 6.8.1 is a release with new features and resolved issues. For details, see:

- [New features](#)
- [Resolved issues](#)

NOTE:

For a full list of key features in One Identity Safeguard for Privileged Sessions, see [Administration Guide](#).

About the Safeguard product line

The One Identity Safeguard Appliance is built specifically for use only with the Safeguard privileged management software, which is pre-installed and ready for immediate use. The appliance is hardened to ensure the system is secured at the hardware, operating system and software levels. The hardened appliance approach protects the privileged management software from attacks while simplifying deployment and ongoing management -- and shortening the timeframe to value.

Safeguard privileged management software suite

Safeguard privileged management software is used to control, monitor, and govern privileged user accounts and activities to identify possible malicious activities, detect entitlement risks, and provide tamper proof evidence. The Safeguard products also aid incident investigation, forensics work, and compliance efforts.

The Safeguard products' unique strengths are:

- One-stop solution for all privileged access management needs
- Easy to deploy and integrate
- Unparalleled depth of recording
- Comprehensive risk analysis of entitlements and activities
- Thorough Governance for privileged account

The suite includes the following modules:

- **One Identity Safeguard for Privileged Passwords** automates, controls and secures the process of granting privileged credentials with role-based access management and automated workflows. Deployed on a hardened appliance, Safeguard for Privileged Passwords eliminates concerns about secured access to the solution itself, which helps to speed integration with your systems and IT strategies. Plus, its user-centered design means a small learning curve and the ability to manage passwords from anywhere and using nearly any device. The result is a solution that secures your enterprise and enables your privileged users with a new level of freedom and functionality.
- **One Identity Safeguard for Privileged Sessions** is part of One Identity's Privileged Access Management portfolio. Addressing large enterprise needs, Safeguard for Privileged Sessions is a privileged session management solution, which provides industry-leading access control, as well as session monitoring and recording to prevent privileged account misuse, facilitate compliance, and accelerate forensics investigations.

Safeguard for Privileged Sessions is a quickly deployable enterprise appliance, completely independent from clients and servers - integrating seamlessly into existing networks. It captures the activity data necessary for user profiling and enables full user session drill-down for forensics investigations.

- **One Identity Safeguard for Privileged Analytics** integrates data from Safeguard for Privileged Sessions to use as the basis of privileged user behavior analysis. Safeguard for Privileged Analytics uses machine learning algorithms to scrutinize behavioral characteristics and generates user behavior profiles for each individual privileged user. Safeguard for Privileged Analytics compares actual user activity to user profiles in real time and profiles are continually adjusted using machine learning. Safeguard for Privileged Analytics detects anomalies and ranks them based on risk so you can prioritize and take appropriate action - and ultimately prevent data breaches.

New features

New features in Safeguard for Privileged Sessions (SPS) version 6.8.1:

Integrating ServiceNow with SPS

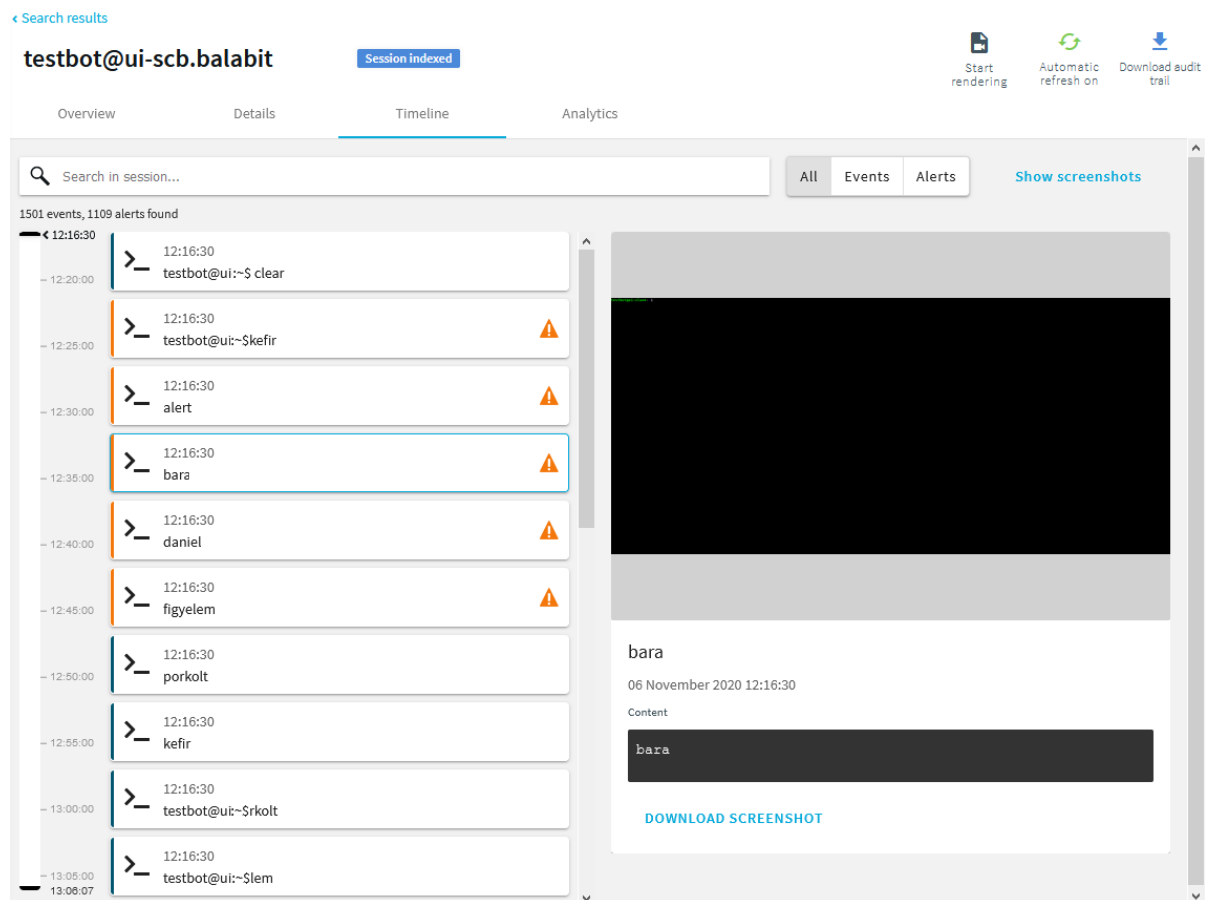
SPS integrates with ServiceNow by enabling ticket ID request and validation during authentication and authorization on target servers.

The integration adds an additional security layer to the gateway authentication performed on SPS by verifying that the user has a valid reason to access the server. SPS prompts the user for a valid ServiceNow ticket ID, and upon successful authorization, it permits the user to access the information system. For more information, see [ServiceNow - Tutorial](#).

Timeline tab

From the Search interface, for data recorded by SPS, you can view session events and alerts on a timeline, and search in the contents of the audit trail. The **Timeline** tab replaces the now deprecated **Events**, **Alerts**, and **Contents** tabs.

Figure 1: Timeline tab



Creating and downloading reports redesign

The user interface for creating and downloading reports, including report chapters and subchapters, have been redesigned. The new reporting workflow simplifies the process of creating and downloading reports, and it provides a better user experience.

Figure 2: Reporting > Create & Manage Reports — Configuring custom reports

Create and Manage Reports

Create reports about the status of the appliance, the recorded traffic, or user activities. To configure a report, create a chapter and assign any of the existing subchapters to it. After you create a report, you can [download](#) the report or send it as an email attachment. You can also schedule the reports to run daily, weekly or monthly.

Report Configurations [View & edit subchapters](#) Commit changes (0)

Built-in reports

PCI-DSS			▼
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Custom reports

Weekly report	3 chapter	Created daily, weekly	▼
test	1 chapter	No schedule had been set up	▼

Trust stores

You can use trust stores that store the certificate chains of trusted certificate authorities (CA) to verify the certificates in TLS connections. You can add and edit custom trust stores in the newly created **Basic Settings > Trust Stores** page.

⚠ CAUTION: Upgrading to SPS 6.8 changes authenticating the users of the web interface with X.509 client certificates: certificates are validated against a trust store instead of a trusted CA list. During the upgrade, the trusted CA list formerly used for authentication is copied to a trust store that has revocation check disabled by default.

If you enabled revocation check for your trusted CA list and added the URLs of certificate revocation lists (CRL) before or you would like to enable revocation check, you have to edit the settings of the trust store manually. Navigate to **Basic Settings > Trust Stores**, select revocation check type Leaf or Full for the trust store and make sure you add a CRL URL for each root and intermediate CA.

For more information about trust stores and how to configure them, see ["Verifying certificates with Certificate Authorities using trust stores" in the Administration Guide](#).

Cluster Management redesign

The **Cluster Management** window of the SPS user interface has been reworked to provide better visual differentiation between the procedures of creating a new cluster and joining to an existing cluster. The changes affect the user interface only, and have no impact on the functionality of the cluster management feature.

Default Network Level Authentication (NLA) settings

Starting from 6.8.0, the default protocol-level settings for RDP connections have changed and NLA is now enabled by default in the RDP setting policies.

Due to this change:

- The default RDP setting is now **default_nla**, where NLA is enabled.
- The RDP setting, which was previously called default has been renamed to **legacy_default**.
- RDP 4-style authentication is now cleared by default.

NOTE: If you are upgrading from an SPS version earlier than 6.8.0, and you have an existing RDP setting named **legacy_default** or **default_nla**, you must rename it before upgrade.

Other improvements

- SPS now checks if the random generator creates the same byte sequence.
- If there is a gateway authentication or authorization failure due to an **AA plugin**, the reason of the failure is displayed in the **Details** tab of the Search interface.
- SPS now supports usernames both in user principal name (UPN) and down-level logon name formats for RDP and RDG connections (such as username@domain and DOMAIN\username).
- If you have One Identity Safeguard for Privileged Analytics (SPA) activated, now it automatically runs an algorithm evaluator tool every day to evaluate how well the machine learning algorithms for analytics are working on the current dataset residing on the SPS deployment. For more information, [contact our Support Team](#).
- The **Pointing device biometrics** and **Typing biometrics** options in Content Policies have been deprecated. You can still use these options in Indexer Policies.
- The list of supported key exchange (KEX) algorithms for SSH have been updated with the supported Elliptic-curve Diffie–Hellman (ECDH) algorithms.

Deprecated features

The Splunk forwarder is deprecated

The Splunk forwarder is deprecated as of Safeguard for Privileged Sessions (SPS) 6.7 and will be removed in an upcoming release. One Identity recommends using the universal SIEM forwarder instead.

Arguments of Authentication and Authorization and Credential Store plugins that begin with target_ have been deprecated

These arguments were deprecated because the target_host or target_server arguments either contained a hostname or an IP address.

Now, new arguments have been added to the Authentication and Authorization and Credential Store plugins to replace deprecated arguments. The new argument names explicitly define the values they contain. That is, a server_ip argument will always contain an IP address, and a server_hostname argument will always contain a hostname.

The deprecated arguments are the following:

Authentication and Authorization plugin: `get_password_list` and `get_private_key_list` input arguments:

- `target_username`
- `target_host`
- `target_port`
- `target_domain`

Credential Store plugin: `authorize` method:

- `target_server`
- `target_port`
- `target_username`

Resolved issues

The following is a list of issues addressed in this release.

Table 1: General resolved issues in release 6.8.0

Resolved Issue	Issue ID
<p>SPS now supports certificate chains with keys other than RSA/DSA.</p> <p>When a certificate chain is uploaded (for example, as the web server certificate), SPS verifies that the entire certificate chain is valid. A certificate chain is considered valid if it does not include weak certificates and a trust relationship exists between them.</p> <p>Previously, certificate chain validation has worked only for certificates that had RSA and DSA public keys. Other chains have been rejected with a No such digest method error message. This issue is now fixed so that every certificate chain that can be verified by OpenSSL 1.1.1 is now accepted.</p>	PAM-13154
<p>Fixed memory leak during HTTP WebSocket connections.</p> <p>Previously, memory leak could occur during audit-enabled HTTP WebSocket connections under certain conditions. This issue is now fixed.</p>	PAM-13086
<p>Fixed screenshot preview reload issues on the Events tab of the Search interface with the introduction of the new Timeline tab.</p> <p>Previously, recorded screenshots sometimes unexpectedly reloaded on the Search > Events tab. This issue has been fixed following the introduction of the new Timeline tab, superseding the former Events, Alerts and Contents tabs.</p>	PAM-13079
<p>Fixed an issue resulting in the Search > Details tab showing an invalid</p>	PAM-

Resolved Issue	Issue ID
<p>indexing status for certain sessions.</p> <p>Previously, when configuring a connection policy without indexing, the Search > Details tab could show an invalid indexing status for some sessions of the connection (namely, showing the Auditing not enabled message instead of Session indexing not required in the Indexing status field). This issue is now fixed to ensure that the Indexing status field always shows the correct monitoring information for each session.</p>	13040
<p>Fixed a potential Permission denied error on the Sessions > Details > Analytics tab.</p> <p>Previously, if you have tried opening the Analytics tab of a session in Sessions > Details with a user that belonged to a user group with a specific set of permissions, you could receive a Permission denied error, preventing you to check the contents of the Analytics tab. This issue has been fixed so that the Analytics tab appears only if your user has the proper permissions to access it.</p>	PAM-13014
<p>Fixed an issue where the user interface sometimes remained interactable while a commit was in progress.</p> <p>In certain cases, it could happen that the SPS UI remained interactable while a configuration change commit was in progress. This has been fixed by adding an overlay to the UI that prevents navigation while the commit is in progress.</p>	PAM-12786
<p>The password of the admin user can now be changed over the REST API when using an LDAP user database.</p> <p>Previously, when an LDAP user database was configured, you could not change the password of the admin user via the REST API. This has been fixed by having the admin user always authenticated locally, so you can always change its password using an LDAP user database.</p> <p>NOTE: Changing the password of normal users is still not supported in such cases.</p>	PAM-12706
<p>Improved application proxy and message queuing data collection.</p> <p>The data collection process related to the internal application proxy and the message queuing subsystem has been improved to provide a deeper insight for SPS product experts for troubleshooting. The collected data is available in the generated support bundle.</p>	PAM-12686
<p>Added rollback feature to firmware update process.</p> <p>To make the firmware update process more fault-tolerant, the procedure has been enhanced with a rollback feature. The rollback feature restores the original firmware, if the firmware update procedure fails on any node of a High Availability SPS cluster.</p>	PAM-12681
<p>Fixed an issue where the Unsaved changes popup dialog prevented</p>	PAM-

Resolved Issue	Issue ID
<p>automatic logout in case of an idle session.</p> <p>SPS has an automatic logout feature that closes the user login session if no user interaction is detected for 5 minutes. However, previously, if the Unsaved changes popup dialog remained open, it prevented the automatic logout popup dialog from appearing and then closing the idle session. This has been fixed so that idle sessions are now automatically logged out, even if the Unsaved changes popup dialog is also open.</p>	12588
<p>Fixed the aspect ratio of screenshots in the Search interface on Internet Explorer 11 browsers.</p> <p>Previously, the screenshots shown on the former Contents tab of the Search interface could appear with an incorrect aspect ratio when using Internet Explorer 11. This has been fixed so that captured screenshots now always appear with the correct aspect ratio on the new Timeline tab of the Search interface.</p>	PAM-12529
<p>Python tracebacks are now immediately printed to the log.</p> <p>Zorp processes print tracebacks into the log for certain error types that provide detailed information about the error. However, in some cases, these tracebacks have not been printed until the Zorp process was stopped.</p> <p>This issue is now fixed, so tracebacks are now logged immediately.</p>	PAM-12359
<p>Removed a harmless error message that could occur when executing large archiving jobs concurrently.</p> <p>When an archive job affected a large amount of data, it could occur that multiple archive processes worked on the same directory. In certain cases, when these processes handled the existence and creation of specific directories in parallel, a race condition could occur, resulting in a Failed to create archive directory error message when the processes attempted to create the directories the second time. This error message was then logged and (depending on the active configuration) could be sent out in an e-mail or as an SNMP alert.</p> <p>To solve this issue, One Identity increased the robustness of directory checking and creation in this release.</p>	PAM-12344
<p>Fixed the unnecessary horizontal scroll of the Basic System > Network page.</p> <p>Previously, the Basic System > Network page was always scrollable horizontally, even if the contents of the page were completely visible. This has been fixed so that horizontal scrolling is enabled only if the contents of the screen do not fit the size of the browser window.</p>	PAM-11709
<p>Linking a Safeguard for Privileged Passwords (SPP) node to SPS now redirects to the new SPS UI.</p>	PAM-11707

Resolved Issue	Issue ID
<p>Previously, when linking an SPP node to SPS via the Cluster management settings, the redirect URL loaded the old SPS UI once the SPP node sent the authentication information to SPS. This is now fixed, so once SPP has been linked to SPS, the current SPS UI loads.</p>	
<p>Fixed an internal error that could occur when opening the User Menu > Private Keystore tab after configuring a new passphrase.</p> <p>When you created a new passphrase in the User Menu > Private Keystore tab, it could occur that reopening the Private Keystore tab after logging out and logging in again resulted in a Passphrase Invalid error message. Reloading the last page or the main page then redirected to the old UI. This issue is now fixed with the redesign of the User Menu.</p>	PAM-11476
<p>Fixed the issue of clicking Go back on the Search interface clearing the configured search filters or opening the page you visited before the Search interface.</p> <p>When you checked session data on the Search interface with custom filters (such as a date range or a search expression) configured, it could occur that opening the details of a session with the Details button and then clicking the Go back button resulted either in the filter settings being reset, or opening the UI page that you visited before opening the Search interface. This issue has been fixed with the redesign of the Search interface, and the Go back button has also been renamed to Search results.</p>	PAM-11256
<p>Fixed interference between the Go back button of the SPS UI and the Back button of the web browser.</p> <p>When checking the details of the sessions listed in the Search > Details page, it could occur that clicking the Go back button on the Details page opened the Details page of the previously viewed session instead of going back to the Search interface. This scenario happened if you previously navigated from the Details page of the previous session back to the Search interface with the Back button of the web browser instead of the Go back button of the SPS UI. This issue has been fixed with the redesign of the Search interface, so that clicking the Back button of the browser no longer interferes with the Go back button of SPS (now known as Search results).</p>	PAM-10283
<p>Fixed the Generate video (now known as Start rendering) button missing from the Search > Details page for SSH connections with a Session exec channel type.</p> <p>Previously, when opening the Details page of an SSH session on the Search interface, the Generate video button has been missing for SSH sessions with a Session exec channel type. This has been now fixed, so that the button (now known as Start rendering) always appears for such channels if they have renderable content.</p>	PAM-10245
<p>Fixed an issue with the drop-down filter combo boxes on the Search interface</p>	PAM-

Resolved Issue	Issue ID
<p>being reset after clicking Go back on the Details page of a session.</p> <p>Previously, when setting up a Simplified Search via drop-down combo boxes, the configured combo boxes were reset to their default empty state after you clicked Go back on the Details page of a selected session. This has been fixed with the redesign of the Search interface, so opening the Details page of a session and then returning to the Search interface with the Search results button now longer resets the configured search filters.</p>	10212
<p>Fixed misleading search bar in the Details page of the Search interface.</p> <p>Previously, when checking the details of a session in the Search interface by clicking the Details button of a session, opening the Contents tab showed a content search bar, even if the session contained no searchable content (for example, because of lightweight indexing or the lack of any audit trails). This issue has been fixed during the redesign of the Search interface: now the new Search > Details > Timeline tab displays a No results found message if no searchable content is available for the selected session.</p>	PAM-9890
<p>Changing RDP domain membership settings over REST API did not persist.</p> <p>You can configure RDP domain membership over the REST API, except for actually joining the domain.</p> <p>When you changed RDP domain membership using the REST API, and you committed the changes, the configuration has been applied. However, it has not been persisted, which resulted in reverting to the previous RDP domain settings shortly thereafter, for example after committing changes on the web UI.</p> <p>This has been fixed, so that changing RDP domain membership settings on the REST API now properly persists.</p>	PAM-4827
<p> NOTE: Joining the domain using the REST API is still not supported.</p>	
<p>Fixed the IPv6 Add button of the Basic Settings > Network > Routing table setting not being visible in lower screen resolutions.</p> <p>Previously, when opening the SPS UI on screens using a resolution width of 1024 pixels (for example, 1024x768), the Add button of the IPv6 routing settings in Basic Settings > Network > Routing Table was not visible. The Routing Table interface has been modified to resolve this problem.</p>	PAM-4779
<p>Fixed text wrapping to make tables in PDF reports always fit the page.</p> <p>Previously, when generating PDF reports in Reporting > Create & Manage Reports, it could occur that the tables in the report PDF downloaded via Reporting > Download Reports did not fit the page and were truncated. This has been fixed by wrapping the text in the tables, ensuring that their content fits the page of the PDF document.</p>	PAM-3364

Table 2: General resolved issues in release 6.7.0

Resolved Issue	Issue ID
Title detection issue on Windows 10 with a high DPI scaling Title detection on Windows 10 with high DPI scaling of 100-200% DPI did not work properly. This has been fixed.	PAM-12613
Read-only privilege issue on the details page of the Search interface If users with read-only privileges accessed the details page on the Search interface, an unauthorized landing page was displayed. This has been fixed.	PAM-12605
Pipeline exceptions issue In case of an error, the pipeline restarted indefinitely. This has been fixed and now the pipeline will move to a failed state after 2 hours of trying. This way, the error will be visible, and can be addressed. Also, reloading the pipeline is now working properly.	PAM-12528
Result counter issue on the Search interface for a valid search with no result If there was a search on the Search interface with a valid search query but no result, the result counter was displayed. This has been fixed and now the result counter is not displayed.	PAM-12513
Click-to-search error for sessions with multiple interesting events If a session had more than one analytics interesting event, the click-to-search did not work. This has been fixed.	PAM-12509
OCR engine failure In some cases, the OCR process reached an internal memory limit, which caused it to crash. This has been fixed and the internal memory limit was raised to meet the requirements of the new OCR engine.	PAM-12434
Introduces a new feature to ease the information collection for troubleshooting purposes. A new directory (under /var/lib/support) has been created for files requested by support that will be automatically included by the support bundle. These files are kept only for a limited time (for a week after creation) to prevent them filling the disk up on a long run. The files bigger than 300MB are only listed in the bundle instead of having them to prevent to grow the bundles themselves over a manageable size.	PAM-12384
Could not download a .zatx file larger than 1GB. A .zatx file larger than 1GB could not be downloaded. This has been fixed.	PAM-12337
Event processing error Some special mouse buttons were not handled correctly by the analytics	PAM-12276

Resolved Issue	Issue ID
pipeline, which has now been fixed.	
<p>Fix screenshot generation process</p> <p>Sometimes the screenshot generation failed and did not load the picture. This has been corrected.</p>	PAM-12259
<p>Server host key modificaton made config lock</p> <p>Under SSH Control > Server Host Key menu item, when the user modified the keys, it caused unexpected configuration lock. This has been corrected.</p>	PAM-12213
<p>Content service error messages did not appear on SPS</p> <p>Due to a key mismatch in HTTP, responses received from content service (responsible for initiating content search), SPS did not receive error messages from the service. This left a void in the SPS message logs as brief reasons of service errors are not logged.</p> <p>This was not a big problem when SPS was in standalone configuration, but in search master-minion environments, where content service is serving requests from the minion node, the master node logs lacked information about the service error.</p> <p>This has now been fixed and the user will not have to go to the minion node for checking brief reasons of content search related errors.</p>	PAM-12179
<p>Having a mismatching host key stored on the appliance could make the host key configured in backup policies ignored.</p> <p>If the root user visited the backup host via SSH, it was prompted whether to have the offered host key stored or not. If the administrator selected to have it, that key was used later when performing backup (configured with Rsync over SSH), regardless the one configured on the WebUI.</p> <p>The fix ensures that the user provided host key will be compared to the one presented by the backup server.</p>	PAM-12173
<p>Dialogs did not disappear after timeout on the audit data access page</p> <p>After timeout, dialogs did not disappear on the audit data access page. This has been fixed.</p>	PAM-12150
<p>SPS installation on Azure vm made the firmware tainted</p> <p>The service walinuxagent, which is required to be run on azure instances, creates files at runtime and this made the firmware tainted. These files have been added to the tainted whitelist.</p>	PAM-12090
<p>Fixed timestamp conversion in report generation</p> <p>When the timezone of SPS was other than UTC, timestamps for recorded sessions got converted to local time twice accidentally.</p> <p>This has been fixed and the user should see the timestamps in connection</p>	PAM-12087

Resolved Issue	Issue ID
with recorded sessions in their local time in case local timezone is applied on the box.	
<p>Added missing acceptable special ACLs for session endpoints</p> <p>When a particular user was granted special ALL access rights on Users > Access Control > Appliance Access page, even though the ALL access right was granted, the user received a permission denied error when searching for sessions either on the Search page or using REST.</p> <p>The missing acceptable rights has been added and now the user is able to search sessions with special ALL ACL.</p>	PAM-12071
<p>Certificate chain upload might fail with cross-signed intermediates</p> <p>When uploading a certificate chain, if any of the intermediate CA-s in the chain was also a publicly trusted root, the upload failed with an error message. This has been corrected.</p>	PAM-12059
<p>All of the global notifications lower cap restriction has been removed.</p> <p>Previously, because of inconsistent error messages coming from the rest, all of the global notifications were transformed to lower cap. With this fix, all possible error messages had been checked. All of the messages now comes in acceptable style, so the lower cap css transformation had been removed.</p>	PAM-12053
<p>Version redundancy on the About page</p> <p>The About page had a Firmware version and a Version, which was redundant as it contained the same information. This has been fixed and the Version has been removed.</p>	PAM-12052
<p>RDP device redirection only works if the Sound channel is enabled</p> <p>Because of restrictions in Windows RDP servers device redirection only works if the "Sound" channel is enabled. A warning has been added that warns the user if device redirection is configured in the channel policies without having the "Sound" channel enabled.</p>	PAM-12051
<p>External links were not One Identity blue</p> <p>The external links on the Basic settings -> System -> License page are now One Identity blue.</p>	PAM-12023
<p>Fix firmware upgrade page reload</p> <p>After firmware upgrade, when the appliance reboots the single page application it should redirect to the login page and not reload it. This has been fixed.</p>	PAM-11926
<p>Fixed protocol binding in REST-based subchapter configurations</p> <p>In REST-based reporting subchapter configurations under the binding options, protocol was either missing or it's value was written in lower case.</p>	PAM-11708

Resolved Issue	Issue ID
<p>However, protocol values in ElasticSearch are stored in upper case form and when reporting queried our REST with protocol filter, due to the casing mismatch, no data were retrieved or not exactly the right data was being retrieved in some situations. This has been corrected.</p>	
<p>Dedicated hot spare disk monitoring added to the RAID status monitoring and send alert from them.</p>	PAM-11701
<p>Dedicated hot spare disk was not checked, because it was not part of the RAID array in term of the RAID controller, but it is a useful information to know the status of the dedicated hot spare disk. Now we check the status of the hot spare disk: send SNMP alert and show a RAID status warning about that.</p>	
<p>One character long events were not clickable Every one character (Cyrillic, Kanji, and so on) string is now clickable.</p>	PAM-11677
<p>Fixed unhandled invalid duration parameters Some of the invalid duration values were not handled on the Search page in the advanced search query filter. Consequently, the user received internal server error. This has been fixed and the user now will receive informative error messages about the correct values.</p>	PAM-11624
<p>Configuration of remote timestamping fails if policy is not set When configuring remote timestamping on the protocol Global Settings page and the policy OID was not set, committing the change failed with a generic error message. (When using the REST API, the error type was InvalidPropertyError.) This has been corrected.</p>	PAM-11401
<p>Audit trail location was not retrieved correctly. The exact location of an audit trail was not retrieved correctly in a cluster configuration. This has been fixed and now the audit trail location is retrieved correctly.</p>	PAM-11153
<p>Cleanup left metadata on search local machine in case there was a search master in the cluster. The bug has been fixed and all data will be deleted properly during a cleanup.</p>	PAM-11117
<p>Rename Balabit in email attachments In email attachments, Balabit Shell Control Box, which is the legacy product name, was still used. This has now been changed to One Identity Safeguard for Privileged Sessions.</p>	PAM-10911
<p>Fixed mapping of 0 value in pie chart When the Analytics score field was presented with a 0 value in the pie chart, the 'n/a' value was mapped in the report instead of 0 which is misleading. Now this problem is solved, so any field of a type 0 value is mapped to 0.</p>	PAM-10066

Resolved Issue	Issue ID
<p>On the about page section, the hardware chart is now updated periodically. Previously, because of a technical upgrade, if the values have not changed, the charts' values were not updated. With this fix, the chart values will be updated periodically.</p>	PAM-12358
<p>Source Network Address Translation not working</p> <p>A change introduced in version 6.5.0 inadvertently broke the SNAT feature for connections. It was partially fixed in version 6.6.0, but that fix did not work for certain source and target network combinations. The patch is now complete and the feature works properly again.</p>	PAM-12357
<p>The new system monitor displays the disk space accurately. Previously, the new system monitor displayed the used disk percentage inaccurately. This has been fixed and the correct value is now displayed.</p>	PAM-12329
<p>Window title detection fix for Windows 2012 R2.</p> <p>Window title detection did not find window titles when the DPI was slightly higher than the default one on Windows 2012.</p>	PAM-12328
<p>Linux desktop resizing issues with Citrix 1912 LTSR</p> <p>When using a Citrix Linux VDA with Citrix 1912 LTSR, the desktop could not be resized properly. This has been fixed.</p>	PAM-12255
<p>When an invalid search was entered after a successful search, the quick statistics chart data was not cleared.</p> <p>If an invalid search query is entered after a successful search, the quick statistics data now will be set back to it's original status, which means that it is now cleared.</p>	PAM-12235
<p>In Mozilla Firefox, the user could not copy the public key. This has been resolved by making the area read-only from disabled.</p>	PAM-12221
<p>The HTTP and MSSQL sessions were trying to load the screenshot.</p> <p>When trying to load non-existent screenshots, for example, for HTTP and MSSQL, which do not have screenshots, screenshots were trying to load. This has been corrected.</p>	PAM-12200
<p>Fixes a usability issue with the "Join to Starling" page on the web interface.</p> <p>After a successful join to Starling, the "Basic settings -> Join to Starling" page will no longer show the "If you press OK, all unsaved changes will be lost!" error message when navigating away from the page. The error message was shown by mistake, there are no changes to be saved further.</p>	PAM-12171
<p>"MSSQL" filter value was missing from the protocol list in query.</p> <p>When the user tried to search for the MSSQL protocol in a query, it was</p>	PAM-12158

Resolved Issue	Issue ID
missing from the list so it could not use the filter. The "MSSQL" filter value was added to the protocol list, and now it is available.	
Empty MenuInfo block appears instead of login screen Invalid browser cookies could be set that prevented the rendering of the normal SPS login page. This has been corrected.	PAM-11985
Wrong value in fields caused error in dynamic report generation Dynamic report generation could have run into an error if the query field tried to use an invalid value. It has been fixed.	PAM-11844
Browsers could not open several links on license and plugin page. It has been corrected and now the links are working.	PAM-11699
Fixed mapping of unknown IP addresses The customer was confused when a report was generated with "127.0.0.1" valid IP address but there was no connection with it. As this was set as default IP address, the unknown IP addresses were mapped with this value. Now this problem is solved, so unknown IP addresses are mapped to N/A both in REST and in reports.	PAM-11673
Fixed quoting content search queries for content service Content search query argument was not quoted in the URL when invoking our internal content service. This resulted in an internal error when the content query contained non-ASCII characters (for example, Cyrillic) while without quotation and encoding only ASCII was supported. This has been fixed and the user can now search for any kinds of characters.	PAM-11340
Minor PCI-DSS report content changes PCI-DSS report contained some misspellings, outdated links and old naming conventions that have been fixed.	PAM-11077
Unable to change network settings In rare cases the appliance could boot with incomplete network configuration. This caused a configuration commit failure, on basic/networking page. This issue has been fixed.	PAM-10498
Search URL paste issue with search options not updated. Previously, if you had a filtered search query, copied the URL, visited another tab or changed the search query, then you pasted the copied URL, the search and the basic search options were changed according to the copied URL parameters. This has been corrected.	PAM-10225

Resolved Issue	Issue ID
<p>Could not select all of the fields from csv export.</p> <p>The display field overflowed when too many fields were selected, and some fields could not be selected. It has been resolved by making the display area scrollable.</p>	PAM-8901
<p>MD5 certificates may break the configuration</p> <p>If a certificate chain was uploaded as a Server X.509 certificate, which contained a certificate that was signed using the MD5 algorithm, the web server was unable to start.</p> <p>Since the MD5 signing algorithm is not considered as safe, such certificate chains are now rejected at all places at configuration time. This means that client or server certificate chains configured for any purpose (eg. for connecting to LDAP or mail server or configuring a Signing CA or a Timestamping Authority) are not accepted if any of the certificates in the chain (except the root) is signed using MD5. It is not possible to upgrade to this version of SPS if the current configuration contains such certificates or certificate chains. The only exception to this is the indexer / encryption "certificate", which is essentially just a container of a public key, therefore all the X.509 details are ignored for such certificates.</p> <p>Note that the current error which blocks the upgrade contains unnecessary technical details on the UI (this is tracked as PAM-12447). The relevant error message is that the "md [is] too weak".</p>	PAM-7758

Table 3: General resolved issues in release 6.5.0

Resolved Issue	Issue ID
<p>SSH connections may not be denied when the server host key algorithm changes and the server host key check method is set to "Accept key for the first time".</p> <p>SPS can validate an SSH server by checking its host public key against a set of stored trusted public keys. When this host key check method was set to "Accept key for the first time" in "SSH Control > Connections > Server side host key settings > Plain host key check" and SPS already stored a trusted key in "SSH Control > Server Host Keys" of the type "ssh-rsa", and the server supported only the "ssh-ed25519" host key algorithm, then the connection succeeded, even though it should have been rejected.</p> <p>The cause of this error was that SPS and the server negotiated "ssh-ed25519" as the host key algorithm, but since no "ssh-ed25519" host key was stored in SPS yet, it proceeded to learn the new "ssh-ed25519" key. This could have been used by a rogue server impersonating a legitimate server, to trick SPS into accepting a connection by offering a host key algorithm that the legitimate server did not offer.</p> <p>This has been fixed, SPS now only offers those host key algorithms for which it already has a trusted key. It only offers all host key algorithms when no</p>	PAM-11685

Resolved Issue	Issue ID
trusted host key is stored yet for the target server.	
SSH connections may fail when server side host key check method is set to "Only accept trusted keys"	PAM-11531
<p>SPS can validate an SSH server by checking its host public key against a set of stored trusted public keys. When this host key check method was set to "Only accept trusted keys" in "SSH Control > Connections > Server side host key settings > Plain host key check" and SPS has already stored a correct trusted server host key in "SSH Control > Server Host Keys" of the type "ssh-rsa", and the server supported both the "ssh-ed25519" and the "ssh-rsa" host key algorithms, then the connection failed, even though it should have succeeded.</p> <p>The cause of the connection failure was that SPS and the server negotiated the "ssh-ed25519" host key algorithm, not "ssh-rsa", but no trusted "ssh-ed25519" host key was stored.</p> <p>This has been fixed, SPS now only offers to the server those host key algorithms that it already stores a trusted host key for. When the host key check method is set to "Accept key for the first time", and no host key is stored yet, all algorithms are offered. This allows learning a preferred host key.</p>	
View log files > Tail window remains open even after the administrator has logged out.	PAM-11510
<p>The browser window displaying the live machine logs (Basic Settings > Troubleshooting > View log files > Tail) did not stop displaying new log messages after an administrator has logged out of their session. This has been corrected. Note that the window displaying the past log messages remains open even after logging out of the session.</p>	
Missing timestamps in audit trails and "Error connecting TSA" messages in the logs.	PAM-11391
<p>A bug in ICA proxy caused missing timestamps in audit trails and "Error connecting TSA" messages in the logs. This has been fixed.</p>	
Change in the trusted host keys did not trigger configuration synchronization in the SPS cluster.	PAM-11390
<p>Adding or removing a trusted host key now triggers configuration synchronization in the SPS cluster.</p>	
From now on, Chrome on a newer version of macOS accepts the certificate generated by SPS.	PAM-11122
<p>The macOS has strictened its certificate policies, and the generated certificate of SPS was not compliant with it. On Chrome, one could not turn off the warnings about the invalid certificate, rendering users unable to configure SPS for the first time.</p>	

Resolved Issue	Issue ID
<p>During initial configuration (or later) one could upload a custom server certificate of course, but the browser did not allow the user to reach SPS to configure it.</p> <p>The newly generated cert has the following additional properties:</p> <ul style="list-style-type: none"> • validity is 800 days long; • extendedKeyUsage has been specified, <p>which makes it compliant with the recent Chrome+macOS combination.</p>	
<p>Invalid software RAID-related events generated during one-shot checking (affects only MBX T1 hardware)</p> <p>During the periodic checking of the software RAID array, DeviceDisappeared and NewDevice events were generated. These events were sent through SNMP or email, depending on the configuration. This has now been fixed and these events are no longer generated.</p>	PAM-10771
<p>Core files are generated for ICA sessions</p> <p>In certain situations after the client has closed an ICA session, SPS generated a core file. This has been corrected.</p>	PAM-10316
<p>A systemd service (proc-sys-fs-binfmt_misc.mount) failed to start at boot.</p> <p>The proc-sys-fs-binfmt_misc.mount unit failed to start at boot. This generated alerts for the customer which resulted in SNMP trap or email, depending on the configuration. The service now starts at boot.</p>	PAM-9935
<p>In case of high amount of information, paginated data storage solution was implemented, but not used by the indexer tool.</p> <p>To prevent overloading the database operations, data storage, for example, screen content storage during information collection from audit trail now works in an optimized way.</p>	PAM-11523
<p>When high amount of audit trails were stored on the disk, a process could cause performance issues during upgrade, HA takeover or boot.</p> <p>After this fix this process will run only once.</p>	PAM-11618
<p>Under the "Reporting > Search subchapters" page, it was possible to navigate away from the page without saving the changes to the configuration, without any notification.</p> <p>We have created a notification dialog and when the user has unsaved changes, we will notify them on page leave.</p>	PAM-11347

Table 4: General resolved issues in release 6.6.0

Resolved Issue	Issue ID
Private key generation is broken for local Credential Stores	PAM-

Resolved Issue	Issue ID
<p>After generating an RSA key for a local Credential Store, committing the change failed with the following error message: 'Connection failed. Server is inaccessible, shut down, or not servicing requests.'</p> <p>This has been corrected.</p>	12104
<p>SPS installation on Azure vm made the firmware tainted</p> <p>The service walinuxagent, which is required to be run on azure instances, creates files at runtime and this made the firmware tainted. These files have been added to the tainted whitelist.</p> <p>This has been corrected.</p>	PAM-12090
<p>Two active menu items at the same time</p> <p>When opening a menu item and then another menu item while the previous is loading, two menu items appear active at the same time.</p> <p>This has been corrected.</p>	PAM-12028
<p>Fixed content search in case session indexed state</p> <p>For sessions with full indexing policy and containing lots of screen content, the indexing process took so much time that the user was able to issue a content search either via REST or UI.</p> <p>As a result, internal server error was returned because in these scenarios the content file have not been written to disk and could not be opened for content search.</p> <p>This has been corrected.</p>	PAM-12022
<p>Save hashed PSK value in support bundle</p> <p>In order to diagnose clustering issues, it is important to verify that the cluster members share the same IPsec pre-shared keys, but this was impossible, because the values were masked out. Following this change, the generated PSK tokens of the configuration are replaced by their SHA256 hash value. This means that the comparison can be performed while the actual values still remain secret.</p>	PAM-11976
<p>Give user hints in case of service or minion unavailability during content search</p> <p>When trying to search content for a session that was recorded on minion node in cluster environment, in case the minion node was unavailable, content search failed with error and the user did not get any feedback about the underlying cause.</p> <p>User will now also receive information if the minion node is available but content service is not running.</p>	PAM-11961
<p>Audit Data Access menu element was not filtered with the right permission.</p>	PAM-11897

Resolved Issue	Issue ID
<p>The Audit Data Access menu was always visible to the user even if permission settings did not allow this.</p> <p>This has been corrected.</p>	
<p>When the user opens a session with an invalid sessionID the user has been redirected to the 404 Not found page.</p> <p>If an invalid session id was given, the search page did not open the details tab, instead the user was informed about the invalid sessionID parameter.</p> <p>This has been corrected.</p>	PAM-11859
<p>Wrong value in fields caused error in dynamic report generation</p> <p>Dynamic report generation could have run into an error if the query field tried to use an invalid value. It has been fixed.</p>	PAM-11844
<p>On the about page the system monitor charts now uses GB for displaying data and now include legends for additional info.</p> <p>Each system monitor chart now displays the current, total, used and free amount of relevant data. The legends and presentation use unified number and amount presentation (2 digits and GB).</p>	PAM-11836
<p>A session that have started and finished in a different day but did not last longer than 24 hours only the start date was present.</p> <p>If a session is not longer than 24 hours, but starts and ends on a different day, now both the start and end date is displayed on the search page.</p>	PAM-11806
<p>Errors not shown on Audit data access rules input fields</p> <p>Validation errors were not shown correctly on Audit data access rules input fields. This has been corrected.</p>	PAM-11785
<p>Under Appliance Access rename the AAA to Users & Access Control</p> <p>After the Users & Access Control menu item rename, the Appliance Access menu still displayed the old naming convention. This has been corrected.</p>	PAM-11774
<p>Text changes to clarify the pages goal.</p> <p>The Audit data access page contained typos. This has been corrected and the descriptions are now more clear.</p>	PAM-11773
<p>Update the menu names that have changed in the last release.</p> <p>The AAA menu has changed to Users & Access Control in the last release, however, only Users & Access was visible. This has been corrected and Users & Access Control is now displayed.</p>	PAM-11772
<p>Audit data access rules look editable when the user does not have permission</p> <p>Audit data access rules looked editable when the user had only read permission. However, this was only a visual bug and the server still checked</p>	PAM-11763

Resolved Issue	Issue ID
<p>permissions when the user wanted to edit rules.</p> <p>This has been corrected and we created a read-only view for the Audit data access rules manage page.</p>	
<p>Brackets were removed from around IPv6 addresses by the HTTP proxy in headers</p> <p>The HTTP proxy removed the brackets from around IPv6 addresses in relayed HTTP headers, eg. "Host: [2001:db8::]" became "Host: 2001:db8::1", which caused problems on the server side. This has been fixed and such headers are now relayed properly.</p>	PAM-11758
<p>Traceroute: switch to ICMP</p> <p>Traceroute utility traditionally defaults to UDP probe packets, but such packets are likely to be filtered out by firewalls, even between SPS cluster nodes. It is expected that ICMP probes are more tolerated on networks, thus Troubleshooting > Traceroute has been changed to use ICMP instead of UDP.</p>	PAM-11755
<p>Missing validation for RDP connections when NLA is enabled but TLS is not.</p> <p>When SPS was configured to use Network Level Authentication in an RDP connection, but Legacy RDP Security Layer was selected for that connection, then no connection could be established. A traceback was written to the system log.</p> <p>This has been fixed, SPS now validates that a connection for which NLA is enabled also has TLS Transport Security selected.</p>	PAM-11753
<p>AA plugin "authorize" hook receives wrong domain name if autologon suffix is in use</p> <p>The "authorize" hook of the AA plugin received the domain name with the autologon suffix left in place. This has been corrected.</p>	PAM-11748
<p>Starting up and shutting down logs are transferred from boot journal to core firmware logs</p> <p>There were many cases when logs have not been transferred from boot journal store to core firmware. In that case, the network-related issues were not transferred. This has been corrected. Starting up and shutting down logs are transferred from boot journal to core firmware logs. This makes the investigation easier, because all the logs are in one place and these logs are stored for longer time.</p>	PAM-11738
<p>Error messages appear in HTTP proxy logs when Authorization headers are not valid base64 encoded data</p> <p>Our HTTP proxy tried to decode the Authorization header and if it could not, it logged an error because there was an error with the encoding. These log messages could be misleading as such headers happen frequently, so they were disabled.</p>	PAM-11713

Resolved Issue	Issue ID
<p>Fixed the hardware charts under the About page</p> <p>Previously only the relative amount of memory was displayed on the About page > hardware charts. This has been corrected and the user can see the current, total, user and free values for each chart converted and displayed in GB.</p>	PAM-11705
<p>Restore the version number and the hostname to the header.</p> <p>In previous versions of SPS, the version number and host name were removed from the header. This has been corrected and the version and the host name are now displayed on the header.</p>	PAM-11704
<p>When an audit trail was missing from the SPS, all further archiving processes failed</p> <p>When an audit trail was missing from SPS, all further archiving processes failed. This has been corrected and the archiving will continue to the next audit trail file, and SPS records the error in the local database.</p>	PAM-11700
<p>The firmware manipulation via console (core-shell) with <code>firmwarectl</code> synchronizes the firmware to the HA pair node.</p> <p>The <code>firmwarectl</code> console tool, which can be called on the core-shell, did not synchronize the firmware to the other HA node which caused firmware version mismatch in case of a failover.</p> <p>From now <code>firmwarectl</code> synchronizes the firmware to the other HA node just like the Basic Settings > High Availability page on the web-ui does.</p>	PAM-11642
<p>The copyright end date always should present the shipped years.</p> <p>The copyright date showed the actual year instead of the shipped years. This has been corrected.</p>	PAM-11620
<p>Displaying the login page triggers General error (xcbError) SNMP or email alert</p> <p>When the login page was loaded in a browser, then a background request attempted to access a resource which mistakenly required an already authenticated user. If the General error (xcbError) alert was enabled on the Basic Settings / Alerting & Monitoring page, then this condition triggered sending SNMP or email alerts. This has been fixed.</p>	PAM-11597
<p>High memory consumption related to the <code>indexer-jobgenerator</code> service with sessions containing lots of channels</p> <p>The <code>jobgenerator</code> service now handles channel related messages which are not required to store in memory anymore.</p>	PAM-11513
<p>No warning is displayed when navigation away from a modified page without commit.</p> <p>Even when the "Warn when unsaved changes may be lost" option in the</p>	PAM-11307

Resolved Issue	Issue ID
<p>preferences was checked, no warning was displayed when navigating away from a modified page without commit. This has been corrected.</p>	
<p>Allow additional text in PEM files for ED25519 private keys</p> <p>RFC7468 requires parsers to tolerate additional data in PEM files, however, earlier versions of Safeguard for Privileged Sessions rejected ED25519 private keys with an error message. This has been corrected and additional data (such as certificates or lines of text) in the PEM files are ignored for both PKCS#8 and OpenSSH formatted keys.</p>	<p>PAM-11236</p>
<p>Multiple IPv4 addresses on the network interface which is assigned to clustering can break cluster node communication if other than the first one is used for clustering</p> <p>Assigning multiple IPv4 addresses to the network interface which is used for clustering, and using other than the first one for secure communication between the cluster nodes results in a non-working configuration. Configuration validation has been extended with checks which prevent saving such configuration.</p>	<p>PAM-11047</p>
<p>HA IP negotiation fails when more than two SPS hosts are accessible on the HA interface</p> <p>When more than two SPS instances are accessible through the HA interface, the third host cannot obtain a valid HA IP address as the other two addresses are already taken. As this is not a supported way of working, a warning message is now shown to the user on the console.</p>	<p>PAM-10916</p>
<p>Remove Go back button from Reporting page, because it cause inconsistency. The Go back button on the reporting page of the auditor portal navigated to the wrong place. This has been corrected.</p>	<p>PAM-10715</p>
<p>On the search UI the click to search and manual time selection was interfered.</p> <p>Previously you were able to select incorrect date ranges on the Search interface. This has been corrected.</p>	<p>PAM-10513</p>
<p>Some browsers did not show submenus correctly.</p> <p>Some browsers did not show submenus correctly. This has been corrected.</p>	<p>PAM-10430</p>
<p>Events with really long name could overlap with different areas on the search detail page.</p> <p>Events with really long name could overlap with different areas on the search detail page. This has been corrected and long names now break into multiple lines.</p>	<p>PAM-10328</p>
<p>On the HTTP session' detailed page the terminate button appeared, but it should not be.</p>	<p>PAM-10280</p>

Resolved Issue	Issue ID
On the HTTP session's detailed page, the terminate button has been removed due to technical limitations.	
On the search page, the errors of the search query and the timeline was not synchronized. When the search query was invalid, the timeline showed an error message. This has been corrected.	PAM-10269
The logout countdown timer is not refreshed The logout countdown did not show time correctly. This has been corrected.	PAM-10036
Quick statistics cannot shows the whole server hostname Quick statistics did not show longer domain names. This has been corrected and now if you move the cursor over the domain name, it shows the whole domain name.	PAM-9999
A session with too many events wasn't properly displayed on search. Sessions with more than 10.000 events produced strange UI behavior, and after the first 1000 pages, empty pages were displayed. This has been corrected and now the empty pages are not displayed.	PAM-9360
On the search page, the search bar did not get focus on load. This has been corrected and now the search bar gets the focus.	PAM-9179
New sessions notification bell sometimes appear with the wrong number New sessions notification bell, which tells how many new sessions come to list sometimes appear with the wrong number. This has been corrected and we cut down the chance of occurrence.	PAM-8235
Unnecessary expiration warnings for indexer decryption key certificates The decryption keys and the certificates that belong to them, used by the internal indexer to process encrypted audit trails, may still be needed in the configuration in order to access older audit data, long after the certificate itself is expired. Due to this, the expiration of these certificates will no longer trigger configuration validation warnings.	PAM-7653
Fix referenced subchapter delete Under the Search Subchapters menu, the subchapter delete functionality was not correct previously. This has been corrected.	PAM-5979
In IE11, the first row of the search result list had a time column with misaligned values. In IE11, the first row of the search result list had a time column with misaligned values. This has been corrected.	PAM-4613

Table 5: General resolved issues in release 6.5.0

Resolved Issue	Issue ID
<p>SSH connections may not be denied when the server host key algorithm changes and the server host key check method is set to "Accept key for the first time".</p> <p>SPS can validate an SSH server by checking its host public key against a set of stored trusted public keys. When this host key check method was set to "Accept key for the first time" in "SSH Control > Connections > Server side host key settings > Plain host key check" and SPS already stored a trusted key in "SSH Control > Server Host Keys" of the type "ssh-rsa", and the server supported only the "ssh-ed25519" host key algorithm, then the connection succeeded, even though it should have been rejected.</p> <p>The cause of this error was that SPS and the server negotiated "ssh-ed25519" as the host key algorithm, but since no "ssh-ed25519" host key was stored in SPS yet, it proceeded to learn the new "ssh-ed25519" key. This could have been used by a rogue server impersonating a legitimate server, to trick SPS into accepting a connection by offering a host key algorithm that the legitimate server did not offer.</p> <p>This has been fixed, SPS now only offers those host key algorithms for which it already has a trusted key. It only offers all host key algorithms when no trusted host key is stored yet for the target server.</p>	PAM-11685
<p>SSH connections may fail when server side host key check method is set to "Only accept trusted keys"</p> <p>SPS can validate an SSH server by checking its host public key against a set of stored trusted public keys. When this host key check method was set to "Only accept trusted keys" in "SSH Control > Connections > Server side host key settings > Plain host key check" and SPS has already stored a correct trusted server host key in "SSH Control > Server Host Keys" of the type "ssh-rsa", and the server supported both the "ssh-ed25519" and the "ssh-rsa" host key algorithms, then the connection failed, even though it should have succeeded.</p> <p>The cause of the connection failure was that SPS and the server negotiated the "ssh-ed25519" host key algorithm, not "ssh-rsa", but no trusted "ssh-ed25519" host key was stored.</p> <p>This has been fixed, SPS now only offers to the server those host key algorithms that it already stores a trusted host key for. When the host key check method is set to "Accept key for the first time", and no host key is stored yet, all algorithms are offered. This allows learning a preferred host key.</p>	PAM-11531
<p>View log files > Tail window remains open even after the administrator has logged out.</p> <p>The browser window displaying the live machine logs (Basic Settings ></p>	PAM-11510

Resolved Issue	Issue ID
<p>Troubleshooting > View log files > Tail) did not stop displaying new log messages after an administrator has logged out of their session. This has been corrected. Note that the window displaying the past log messages remains open even after logging out of the session.</p>	
<p>Missing timestamps in audit trails and "Error connecting TSA" messages in the logs.</p> <p>A bug in ICA proxy caused missing timestamps in audit trails and "Error connecting TSA" messages in the logs. This has been fixed.</p>	PAM-11391
<p>Change in the trusted host keys did not trigger configuration synchronization in the SPS cluster.</p> <p>Adding or removing a trusted host key now triggers configuration synchronization in the SPS cluster.</p>	PAM-11390
<p>From now on, Chrome on a newer version of macOS accepts the certificate generated by SPS.</p> <p>The macOS has stricthened its certificate policies, andthe generated certificate of SPS was not compliant with it. On Chrome, one could not turn off the warnings about the invalid certificate, rendering users unable to configure SPS for the first time.</p> <p>During initial configuration (or later) one could upload a custom server certificate of course, but the browser did not allow the user to reach SPS to configure it.</p> <p>The newly generated cert has the following additional properties:</p> <ul style="list-style-type: none"> • validity is 800 days long; • extendedKeyUsage has been specified, <p>which makes it compliant with the recent Chrome+macOS combination.</p>	PAM-11122
<p>Invalid software RAID-related events generated during one-shot checking (affects only MBX T1 hardware)</p> <p>During the periodic checking of the software RAID array, DeviceDisappeared and NewDevice events were generated. These events were sent through SNMP or email, depending on the configuration. This has now been fixed and these events are no longer generated.</p>	PAM-10771
<p>Core files are generated for ICA sessions</p> <p>In certain situations after the client has closed an ICA session, SPS generated a core file. This has been corrected.</p>	PAM-10316
<p>A systemd service (proc-sys-fs-binfmt_misc.mount) failed to start at boot.</p> <p>The proc-sys-fs-binfmt_misc.mount unit failed to start at boot. This generated alerts for the customer which resulted in SNMP trap or email,</p>	PAM-9935

Resolved Issue	Issue ID
depending on the configuration. The service now starts at boot.	
In case of high amount of information, paginated data storage solution was implemented, but not used by the indexer tool. To prevent overloading the database operations, data storage, for example, screen content storage during information collection from audit trail now works in an optimized way.	PAM-11523
When high amount of audit trails were stored on the disk, a process could cause performance issues during upgrade, HA takeover or boot. After this fix this process will run only once.	PAM-11618
Under the "Reporting > Search subchapters" page, it was possible to navigate away from the page without saving the changes to the configuration, without any notification. We have created a notification dialog and when the user has unsaved changes, we will notify them on page leave.	PAM-11347

Table 6: General resolved issues in release 6.4.0

Resolved Issue	Issue ID
Traceback in the logs after rejecting a four-eyes authorization request A traceback appeared in the logs after rejecting a four-eyes authorization request. This has been corrected, the event is now handled properly.	PAM-10881
Traceback appears in the logs if the LDAP server is down A traceback appeared in the logs if the LDAP server was unavailable and SPS tried to access this server. This has been corrected, the error is now properly handled.	PAM-11028
False data in archiving notice After deleting a Connection Policy that had recorded sessions and creating a new policy with the same name, the number of archived files in the archiving notice was invalid. This has been corrected. NOTE: It is not recommended to delete Connection Policies that were used in production systems, as this can prevent SPS from archiving the files and data related to these policies. We recommend disabling unneeded Connection Policies instead.	PAM-9615
After upgrading a High Availability cluster, the Basic Settings > High Availability page displayed the Boot firmware version of the Other node incorrectly After upgrading a High Availability cluster, the Basic Settings > High Availability page displayed the Boot firmware version of the Other node incorrectly, as if that node was still running the old firmware version. Despite	PAM-10413

Resolved Issue	Issue ID
<p>the information displayed on the web user interface, both nodes were running the new firmware version. This has been fixed.</p>	
<p>Timeout in RDGW sessions causes core files on SPS</p> <p>If a connection required for a Remote Desktop Gateway session could not be established within the expected timeout, the session failed and a core file appeared on SPS. This has been corrected, such timeout errors are now handled properly.</p>	<p>PAM-11123</p>
<p>Resizing the screen in ICA sessions to span multiple monitors did not work</p> <p>If the number of relayed monitor screens was changed during an ICA session the change was not relayed by SPS properly which made such changes impossible. The problem is now fixed and it is possible to change the number of monitors during the session.</p>	<p>PAM-10988</p>
<p>Sessions are terminated when using the credit-card detection and alerting features</p> <p>In certain cases when the credit-card detection and alerting features were used, SPS terminated the affected sessions even when the Terminate action was not selected. This has been corrected.</p>	<p>PAM-11134</p>
<p>RDP sessions shown as active even after client disconnects</p> <p>In certain cases, SPS reported RDP sessions as active even after the client has disconnected. This has been corrected.</p>	<p>PAM-11168</p>
<p>Client unexpectedly closes RemoteApp sessions</p> <p>In certain situations using RemoteApp connections, SPS sent an unneeded certificate to the client, causing the client to close the connection. This has been corrected, the unneeded certificate is not sent to the client.</p>	<p>PAM-11187</p>
<p>Overriding the global verbosity level in ICA connection policies had no effect</p> <p>In order to help troubleshooting, the global log verbosity level can be overridden in connection policies. This setting was ignored in ICA connections. This has been fixed, ICA connection policies now also allow setting a per-connection verbosity level.</p>	<p>PAM-11251</p>
<p>Configuration changes not taking effect</p> <p>In some cases, when the user modified system-related configuration settings of SPS, they did not take effect after committing the changes. This could happen for example when committing networking changes, and restarting the networking service was very slow. This has been corrected, such errors are now handled properly.</p>	<p>PAM-10336</p>
<p>Password reuse always allowed when changing the password over REST</p> <p>It is possible to configure SPS to prevent reusing previous passwords when changing the user password. This was not enforced when the password</p>	<p>PAM-11213</p>

Resolved Issue	Issue ID
<p>changed was performed through the REST API. It is now fixed and the restriction is enforced over the API, too.</p>	
<p>Remote Desktop Gateway authentication fails for Windows 2012 R2 clients Remote Desktop Gateway authentication failed for Windows 2012 R2 clients (Windows client version: Windows 2012 R2 , ver. 6.3.9600 Protocol 8.1). This has been corrected.</p>	PAM-9967
<p>IPv6 routing table is missing from the support bundle The IPv6 routing table was missing from the support bundle. This has been corrected.</p>	PAM-10354
<p>Improve the debug logging of Idapservice The debug log messages of the Idapservice process now include a unique id to simplify troubleshooting of request-response pairs.</p>	PAM-11135
<p>Failed screenshots in content subchapter reports Using external-indexer or near real time indexing lead to failed screenshots in content subchapter reports, indicated by the following error message in the logs: 'Cannot retrieve image for screencontent' This has been corrected, screenshots are now properly generated for the reports.</p>	PAM-10190
<p>Following trail downloaded from Active Connections generates multiple Audit trail download events on Search When following an .srs trail downloaded from Active Connections page through Desktop Player, it spammed the 'Audit trail downloads' section on Search > Details page of the connection in every second. This has been fixed, the 'Audit trail downloads' section displays now only once the event of download per trail download initiated from Active Connections page.</p>	PAM-10669
<p>Additional Metadata field may contain Gateway Password In certain cases, the "Additional Metadata" field contained the Gateway Password used in the session. This is the password that the user used to authenticate on the SPS gateway, and belongs to the Gateway Username of the user. The passwords used to authenticate on the target servers were not affected. For this error to occur, all of the following circumstances must have been met:</p> <ul style="list-style-type: none"> • the client used an SSH session to access remote servers • in a joined SPS-SPP scenario 	PAM-11073

- that used the SPS-initiated workflow
- where the Authentication Policy of the SSH Connection Policy used the "Password" Gateway Authentication Method
- and the version of the SPS appliance is 6.2.0 or 6.0.2.

The error has been corrected.

To find out whether this error has occurred in your environment, complete the following steps.

1. Login to your SPS appliance as a user who has access to the Search page.
2. On the Search page, enter the following search query:
recording.additional_metadata: gp=
3.
 - If there are no search results, the error did not occur in your environment. Upgrade to SPS version 6.3.0a or 6.0.3 to ensure that it does not occur in the future.
 - If there are search results, continue with the next step of this procedure.
4. Click the ... button on the right of the **Export CSV** button.
5. Add the Gateway Username and the Recording Connection Policy fields to the list of fields to export.
6. Check which Authentication Policies do the Connection Policies that appear in Recording Connection Policy fields use.
7. Navigate to **SSH Control > Authentication Policies**, and check which Authentication Backend do the affected Authentication Policies use.
8. Contact the users appearing in the Gateway Username field to change their password in the affected backends.

Deadlock in HTTP proxy

PAM-11016

In some rare cases the HTTP proxy could get in a deadlock and stop working. This has been fixed.

HA takeover issues after multi-step upgrades

PAM-11292

If a system was upgraded in multiple steps (eg. from 5.11 to 6.0 to 6.3) without an HA takeover between the upgrades, a range of problems occurred while detecting the version of the firmware on the master and slave nodes.

The problem has been fixed and these kinds of upgrades now work well.

Report generator service failure

PAM-10389

In some cases, the report generator service on the SPS appliance could fail

Resolved Issue	Issue ID
<p>due to a problem in the way the "Top 10 users" reports were generated. The problem has been fixed and reports are generated properly.</p>	
<p>Error messages not shown during Starling join</p> <p>When a join to the Starling platform was initiated, the error messages such as SSL certificate errors were not shown to the user, making troubleshooting difficult.</p> <p>These error messages are now shown on the UI.</p>	PAM-10969
<p>Dynamic Virtual Channels in RDP proxy are not handled properly</p> <p>Some of the Dynamic Virtual Channels in RDP proxy were allowed even if they were not enabled in a channel policy.</p> <p>Now it has been fixed and must be explicitly added to the "Permitted channels" under the Dynamic Virtual Channels channel policy.</p>	PAM-11319
<p>The built-in Cisco pattern set in telnet proxy does not work with Cisco Nexus 5000 devices</p> <p>Due to a different login prompt, the built-in Cisco pattern set did not extract the username properly in Cisco Nexus 5000 devices.</p> <p>This has been fixed.</p>	PAM-10908
<p>Wrong file transfer direction in RDP proxy</p> <p>File uploads (from the client machine to the remote server) were tagged with "download", and downloads (from the remote server to the client machine) with "upload".</p> <p>This has been corrected and tagged properly.</p>	PAM-10799

Table 7: General resolved issues in release 6.3.0

Resolved Issue	Issue ID
<p>Downloading audit trails fails on the Central Search node</p> <p>In a cluster environment, downloading from audit trails from the web interface failed on the Central Search node. This has been corrected.</p>	PAM-10971
<p>The Protocol field on the Search page contains invalid value</p> <p>In certain cases, the Protocol field contained the '-1' value instead of the name of the protocol. This has been corrected.</p>	PAM-10906
<p>The connections of an SPP access request on a joined SPS-SPP fail after upgradind to SPS 6.2</p> <p>The automatic upgrade of the SGAA/SGCredStore plugins caused a failure during the connections due to a plugin wrapper selection mistake. The plugin wrapper selection is fixed, connections now work as expected.</p>	PAM-10888

Resolved Issue	Issue ID
<p>'Analytics details are not available' warning appears on the UI</p> <p>In some cases, the 'Analytics details are not available' warning was displayed even though the analytics scores were available for the session.</p>	PAM-10886
<p>The Analytics tab of a session keeps loading infinitely</p> <p>Opening the Analytics tab of a session without the required privileges kept loading the page infinitely, instead of displaying a permission error. This has been corrected.</p>	PAM-10859
<p>If the session database is very large, opening new sessions is very slow</p> <p>In some cases, persisting indexer job status updates and command/title events made a big load on the database which caused big delays in opening new connections through SPS.</p> <p>The way of persisting indexer events to the database was optimized in a way that it should not add delay on new connections.</p>	PAM-10821
<p>Clicking on the chart in Flow view does not create the proper search query</p> <p>Click on the chart in the Flow view of the Search page created incorrect search queries. This has been corrected.</p>	PAM-10794
<p>Report queries are not updated</p> <p>In some cases, the queries of certain report subchapters were not updated, and therefore the reports contained outdated information. This has been corrected.</p>	PAM-10787
None	PAM-10787
<p>Error in handling compressed ICA traffic causes the server to terminate the session</p> <p>In some cases, SPS handled compressed ICA traffic incorrectly, causing the server to terminate the session. The following log message appeared in the system logs:</p> <p>'Compression PD: Unable to expand slab'</p> <p>This has been corrected, the traffic is now handled properly.</p>	PAM-10781
<p>Corrections to the on-screen instructions on checking plugin integrity</p> <p>The instructions on how to check the integrity of the plugins have been updated on the Basic Settings > Plugins page.</p>	PAM-10675
<p>None</p> <p>When selecting a session in the Search page, clicking the 'Analytics' tab for first time showed an unnecessary error message for a second, before the actual contents were loaded. This has been corrected.</p>	PAM-10671

Resolved Issue	Issue ID
Files copy-pasted in FreeRDP sessions cannot be exported Files copy-pasted in FreeRDP sessions were recorded in the audit trail, but exporting them failed. This has been corrected.	PAM-10668
Clicking the Back button on the Search page removes every filter Clicking the Back button of the browser on the Search page removed every filter, not only the last one. This has been corrected.	PAM-10636
After deleting a filter on the Search page you cannot re-add it After deleting a filter from the query on the Search page, clicking on the same filter to re-add the filter did not have any effect. This has been corrected.	PAM-10583
Duplicate header appears on the ICA Control > Channel Policies page While editing a new Channel Policy on the ICA Control > Channel Policies page, clicking on the Show details icon caused a new header and footer to appear. This has been corrected.	PAM-10575
The Edit option is displayed on the Search Subchapter page to users with only read rights On the Reporting > Search Subchapters page, the Edit and Create New Subchapter options were visible even if the user had only Read privileges to the page. This has been corrected.	PAM-10429
SDP cannot replay VNC sessions with TightSecurity SDP failed to replay audit trails that contained VNC over WebSocket sessions that had TightSecurity enabled. This has been corrected, now SDP can replay these sessions.	PAM-10279
Clicking values with special characters on the Search page are not escaped Clicking on values on the Search page added the value to the search query, but special characters were not escaped, resulting in incorrect search queries if the selected value contained Lucene-specific characters. This has been corrected.	PAM-10234
Misspelled OK buttons on the web interface Some OK buttons were spelled as 'Ok' on the web interface. These have been corrected.	PAM-10155
Inaccurate warning when upgrading external indexers When upgrading an external indexer, an inaccurate warning was displayed about removing the directory that contained the configuration files of the old version of the indexer. This has been corrected.	PAM-9707
Content search field does not handle the '<' character Typing the '<' character followed by other characters in the screen content	PAM-9264

Resolved Issue	Issue ID
search field caused the query to disappear. This has been corrected, such queries are now handled properly.	
OpenSSL encryption failure when changing the password of a permanent keystore In some rare cases, when changing the password of a permanent keystore on the web interface, encrypting the keys failed with the following error message: 'Fatal error: escapeshellarg(): Input string contains NULL bytes in /opt/scb/lib/OpenSSL.php on line 62' This has been corrected.	PAM-8345
If completing the Welcome Wizard using the REST API fails, the appliance becomes unreachable If completing the Welcome Wizard using the REST API failed, an internal error made the product unreachable: the IP address became 192.168.1.1 and the console access of the root user was disabled. From now on, the console access of the root user remains active, so it can be used to fix such situations.	PAM-7760
The 'Timestamping policy' field is displayed for Local policies On the <Protocol> > Global Options > Audit page, the 'Timestamping policy' field was displayed even when the timestamping policy was set to 'Local'. This has been corrected, now the field appears only if 'Remote' timestamping is selected.	PAM-426

Known issues

The following is a list of issues, including those attributed to third-party products, known to exist at the time of release.

Table 8: General known issues

Known Issue	Issue ID
If your SPS and SPP deployments are linked, you can only replay audit trails recorded for RDP sessions from SPS.	PAM-13870

System requirements

Before installing SPS 6.8.1, ensure that your system meets the following minimum hardware and software requirements.

The One Identity Safeguard for Privileged Sessions Appliance is built specifically for use only with the One Identity Safeguard for Privileged Sessions software that is already installed and ready for immediate use. It comes hardened to ensure the system is secure at the hardware, operating system, and software levels.

For the requirements about installing One Identity Safeguard for Privileged Sessions as a virtual appliance, see one of the following documents:

NOTE: When setting up a virtual environment, carefully consider the configuration aspects such as CPU, memory availability, I/O subsystem, and network infrastructure to ensure the virtual layer has the necessary resources available. Please consult [One Identity's Product Support Policies](#) for more information on environment virtualization.

- [Installation Guide](#)
- [Deployment from Azure Marketplace](#)
- [Deployment on Amazon Web Services](#)
- [Evaluation Guide](#)

Supported web browsers and operating systems

⚠ CAUTION:

Since the official [support of Internet Explorer 9 and 10 ended in January, 2016](#), they are not supported in One Identity Safeguard for Privileged Sessions (SPS) version 4 F3 and later.

⚠ CAUTION:

Even though the One Identity Safeguard for Privileged Sessions (SPS) web interface supports Internet Explorer and Microsoft Edge in general, to replay audit trails you need to use Internet Explorer 11, and install the [Google WebM Video for Microsoft Internet Explorer plugin](#). If you cannot install Internet Explorer 11 or another supported browser on your computer, use the the Safeguard Desktop Player application. For details, see "[Replaying audit trails in your browser](#)" in the [Administration Guide](#) and [Safeguard Desktop Player User Guide](#).

NOTE:

SPS displays a warning message if your browser is not supported or JavaScript is disabled.

NOTE:

The minimum recommended screen resolution for viewing One Identity Safeguard for Privileged Sessions's (SPS's) web interface is 1366 x 768 pixels on a 14-inch widescreen (standard 16:9 ratio) laptop screen. Screen sizes and screen resolutions that are equal to or are above these values will guarantee an optimal display of the web interface.

Supported browsers

The current version of Mozilla Firefox and Google Chrome, Microsoft Edge, and Microsoft Internet Explorer 11 or newer. The browser must support TLS-encrypted HTTPS connections, JavaScript, and cookies. Make sure that both JavaScript and cookies are enabled.

Supported operating systems

Windows 2008 Server, Windows 7, Windows 2012 Server, Windows 2012 R2 Server, Windows 8, Windows 8.1, Windows 10, Windows 2016, and Linux.

The SPS web interface can be accessed only using TLS-encryption and strong cipher algorithms.

Opening the web interface in multiple browser windows or tabs is not supported.

Safeguard Desktop Player system requirements

The Safeguard Desktop Player application supports the following platforms:

- **Microsoft Windows:**

64-bit version of Windows 7 or newer. Install the appropriate driver for your graphic card.

- **Linux:**

RHEL 6, CentOS 6, or newer. The Safeguard Desktop Player application will probably run on other distributions as well that have at least libc6 version 2.12 installed.

- **Mac:**

macOS High Sierra 10.13, or newer.

Installing the Safeguard Desktop Player application requires about 200MB disk space, and a temporarily used disk space to store the audit trails that are replayed. The size of the temporary files depends on the size of the replayed audit trails.

You can install the Safeguard Desktop Player application with user privileges.

Hardware specifications

One Identity Safeguard for Privileged Sessions appliances are built on high performance, energy efficient, and reliable hardware that are easily mounted into standard rack mounts.

Table 9: Hardware specifications

Product	Redundant PSU	Processor	Memory	Capacity	RAID	IPMI
SPS T-1	No	1x Intel Xeon X3430 2.40GHz	2 x 4 GB	2 x 1 TB	Software RAID	Yes
SPS T-4	Yes	1x Intel Xeon E3-1275 v2 3.50GHz	2 x 4 GB	4 x 2 TB	LSI MegaRAID SAS 9271-4i SGL	Yes
SPS T-10	Yes	2 x Intel Xeon E5-2630 v2 2.6GHz	8 x 4 GB	13 x 1 TB	LSI 2208 (1GB cache)	Yes
Safeguard Sessions Appliance 3000	Yes	1x Intel Xeon E3-1275 v6 3.80GHz	2 x 16 GB	4x2 TB NLSAS	LSI MegaRAID SAS 9361-4i Single	Yes
Safeguard Sessions Appliance 3500	Yes	2x Intel Xeon Silver 4110 2.1GHz	8 x 8 GB	9x2 TB NLSAS	1 x Broadcom MegaRAID SAS 9361-16i + LSI Avago CacheVault Power Module 02 (CVPM02) Kit	Yes

The Safeguard Sessions Appliance 3500 is equipped with a dual-port 10Gbit interface. This interface has SFP+ connectors (not RJ-45) labeled A and B, and can be found right of the Label 1 and 2 Ethernet interfaces. If you want faster communication, for example, in case of high data load, you can connect up to two 10Gbit network cards. These cards are not shipped with the original package and have to be purchased separately.

Product licensing

To enable a trial license

1. Visit the [Download Trials page](#), and navigate to **One Identity Safeguard for Privileged Sessions > Download Free trial**.
2. Complete the registration form, and click **Download Trial**.
3. You will receive the details on how to access your license key and the download the ISO files in email.

To enable a purchased commercial license

1. Navigate to [My Account > My License Assets](#) on the [support portal](#).
2. To access your license key, click **Retrieve Key** next to your product.
3. Once you have the license keys, navigate to [My Account > My Products](#) and click **Download** next to your product. The **Download Software** page is displayed.
4. Download the ISO image (install cdrom) of your product.

If you need help with accessing your license, navigate to the [Licensing Assistance](#) page, and follow the instructions on screen.

Upgrade and installation instructions

The One Identity Safeguard for Privileged Sessions appliance is built specifically for use only with the One Identity Safeguard for Privileged Sessions software that is already installed and ready for immediate use.

To upgrade to One Identity Safeguard for Privileged Sessions 6.8.1

For step-by-step instructions on upgrading to SPS 6.8.1, see [Upgrade Guide](#).

NOTE:

Due to legal reasons, installation packages of the external indexer application will be available only from the SPS web interface. After SPS versions 6.4 and 6.0.3 are released, the installation packages will be removed from our website.

About feature releases

This is a feature release, which means that it will be supported for 6 months after the release date or 2 months after the release of a succeeding feature release (whichever date is later). It also means that if you are running a previous feature release (such as versions 6.1), you have 2 months to upgrade to version 6.8.1 if you want to keep running on a supported release.

For a full description of long-term-supported and feature releases, open the [SPS product page on the Support Portal](#) and navigate to **Self Service Tools > Product Support > Product Life Cycle & Policies > Product Support Policies > Software Product Support Lifecycle Policy**.

If you have a physical appliance based on MBX hardware

One Identity recommends you to upgrade to SPS 6.8.1, if you are not running SPS on Pyramid hardware and any of the following is true:

NOTE:

If you do not know the type of your hardware, see [If you have a physical appliance based on Pyramid hardware](#).

- You wish to take advantage of any of the new features.
- You are running a previous feature release.
- You are OK with having to continuously upgrade to the latest feature release to remain supported.

We are releasing new feature releases approximately once every 2 months.

If you have a physical appliance based on Pyramid hardware

Do NOT upgrade to SPS6.8.1 if you are running SPS on Pyramid hardware:

Downgrading from a feature release

Do NOT downgrade from a feature release.



CAUTION:

Downgrading from a feature release is not supported. If you upgrade from an LTS release (for example, 4.0) to a feature release (4.1), you have to keep upgrading with each new feature release until the next LTS version (in this case, 5.0) is published.

Verify successful installation

Navigate to **Basic Settings > System > Version details** and verify that SPS is running version 6.8.1 of the firmware. If not, it means that the upgrade process did not complete properly and SPS performed a rollback to revert to the earlier firmware version. In this case, complete the following steps:

1. Navigate to **Basic Settings > Troubleshooting > Create support bundle** and click **Create support bundle**.
2. Save the resulting ZIP file.
3. [contact our Support Team](#) and send them the file. They will analyze its contents to determine why the upgrade was not completed and assist you in solving the problem.

More resources

To obtain more information, read the technical documentation or consult the community:

- [One Identity Safeguard for Privileged Sessions - Technical Documentation](#)
- [One Identity Community](#)

Globalization

This section contains information about installing and operating this product in non-English configurations, such as those needed by customers outside of North America. This section does not replace the materials about supported platforms and configurations found elsewhere in the product documentation.

This release is Unicode-enabled and supports any character set. In this release, all product components should be configured to use the same or compatible character encodings and should be installed to use the same locale and regional options. This release is targeted to support operations in the following regions: North America, Western Europe and Latin America, Central and Eastern Europe, Far-East Asia, Japan. It supports bidirectional writing (Arabic and Hebrew). The release supports Complex Script (Central Asia – India, Thailand).

This release has the following known capabilities or limitations: OCR is limited to Nuance supported languages. No support for RTL languages.

About us

One Identity solutions eliminate the complexities and time-consuming processes often required to govern identities, manage privileged accounts and control access. Our solutions enhance business agility while addressing your IAM challenges with on-premises, cloud and hybrid environments.

Contacting us

For sales and other inquiries, such as licensing, support, and renewals, visit <https://www.oneidentity.com/company/contact-us.aspx>.

Technical support resources

Technical support is available to One Identity customers with a valid maintenance contract and customers who have trial versions. You can access the Support Portal at <https://support.oneidentity.com/>.

The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. The Support Portal enables you to:

- Submit and manage a Service Request
- View Knowledge Base articles
- Sign up for product notifications
- Download software and technical documentation
- View how-to videos at www.YouTube.com/OneIdentity
- Engage in community discussions
- Chat with support engineers online
- View services to assist you with your product

Third-party contributions

This appendix includes the open source licenses and attributions applicable to One Identity Safeguard for Privileged Sessions.

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Version 2, June 1991

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Version 2, June 1991

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If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

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Legend

-  **WARNING: A WARNING icon highlights a potential risk of bodily injury or property damage, for which industry-standard safety precautions are advised. This icon is often associated with electrical hazards related to hardware.**

-  **CAUTION: A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.**