ONE IDENTITY
by Quest

One Identity Safeguard for Privileged Sessions 6.0.10

Release Notes

26 May 2021, 10:10

These release notes provide information about the One Identity Safeguard for Privileged Sessions release. For the most recent documents and product information, see One Identity Safeguard for Privileged Sessions - Technical Documentation.

About this release

One Identity Safeguard for Privileged Sessions Version 6.0.10 is a long-term supported feature release with resolved issues.

For more information on the features and resolved issues, see:

- 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 between SPS 5.1 and 5.11

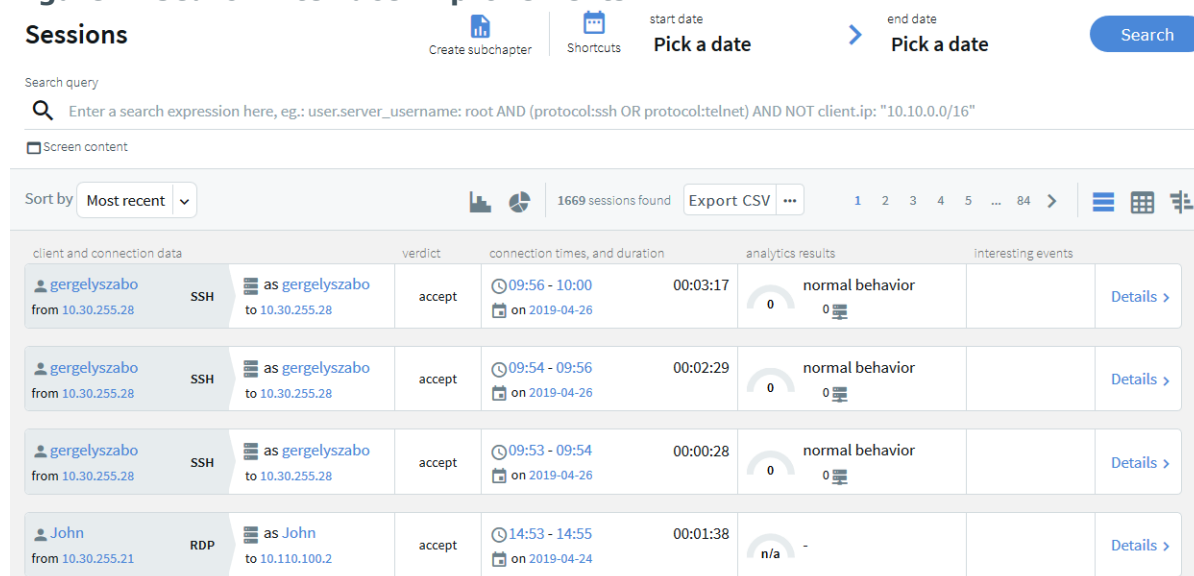The following sections describe the main new features introduced between SPS versions 5.1 and 5.11.

New features between SPS 5.1 and 5.11 - search

New Search interface

SPS's new search interface is built on a more modern technology stack and comes with a lean design and an easy-to-use interface. Our goal in overhauling the old search functionality was to better serve user needs and improve alignment with possible use cases. The result is a new search interface that offers ways to perform more complex searches in a more flexible way, often with improved speed.

Instead of simple tables, you can now display session information in a more visual view that allows you to get a faster overview about the important information of the sessions. For ongoing sessions, the Search interface is updated in real-time to always show the most up-to-date information. For more information on the new Search interface, see "Using the Search interface" in the Administration Guide.

Figure 1: Search interface improvements

Quick session analytics

The Search interface can now display an interactive visual overview of search results to quickly visualize their distribution along multiple attributes, such as client and target IP addresses, protocol, or usernames. It can be used to identify patterns in user behavior and drill down fast to the most relevant sessions.

For details, see "Searching audit trails: the One Identity Safeguard for Privileged Sessions (SPS) connection database" in the Administration Guide.

Figure 2: Search — Flow view
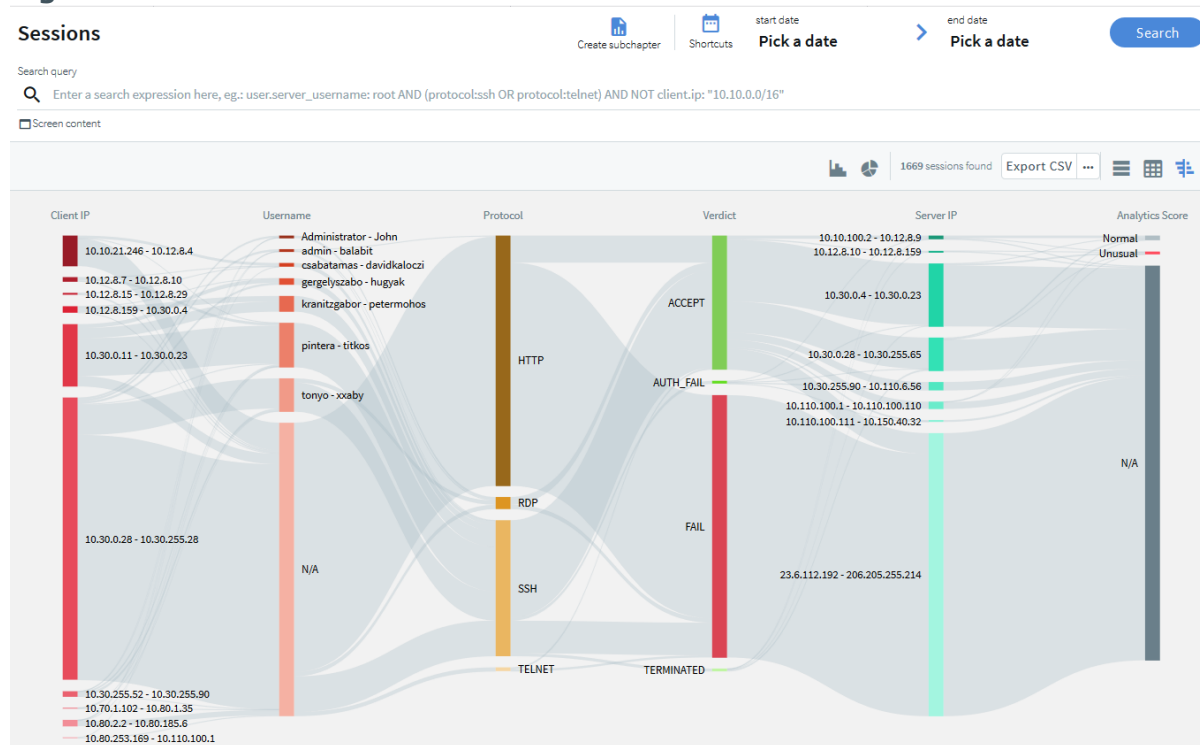
Quick statistics and timeline from search results

The Search interface can now display a timeline showing the search results. Also, you can quickly sort and visualize the distribution of the sessions based on their various metadata, for example, username, server address, and so on.

Figure 3: Search — Displaying statistics and timeline
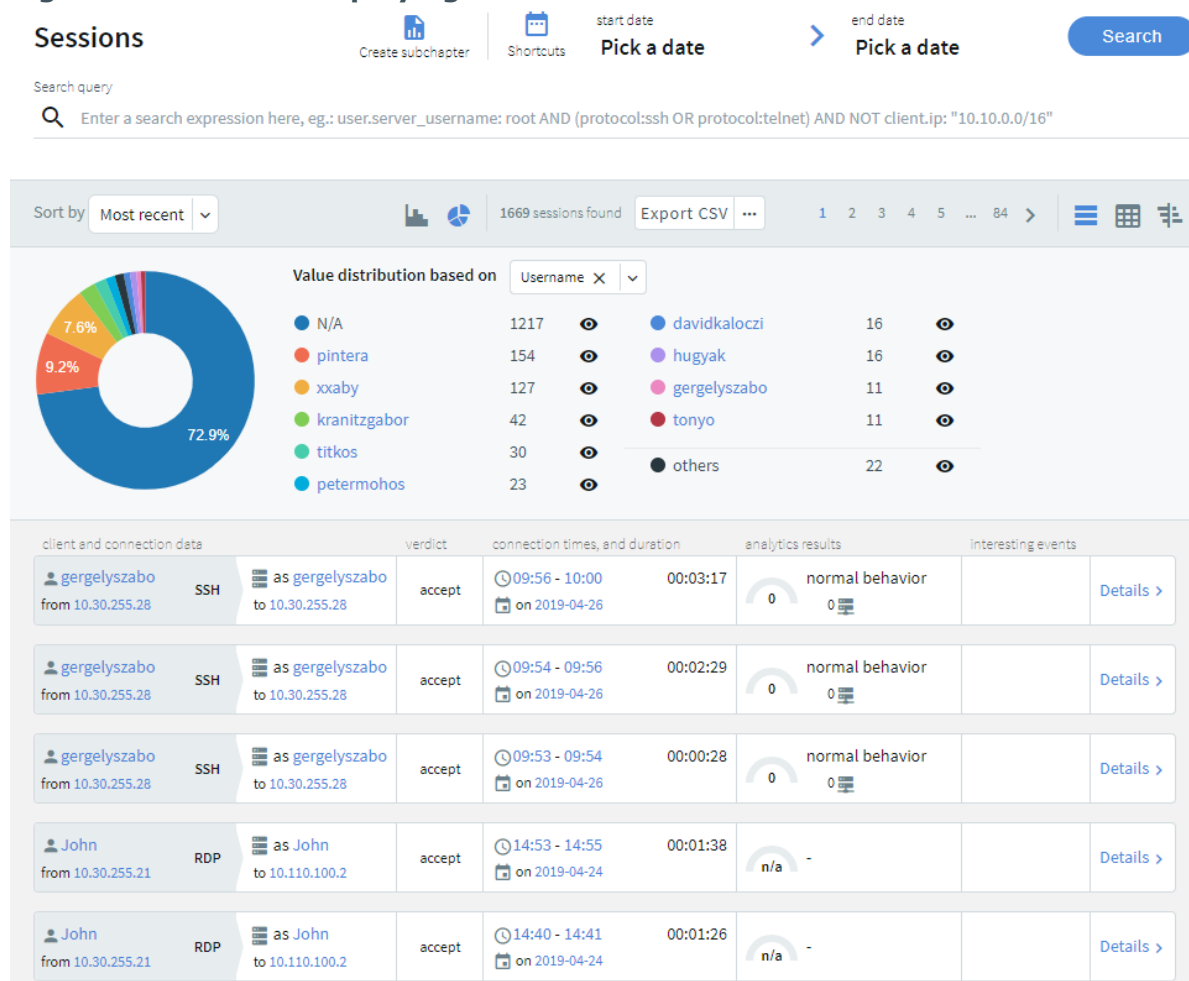
Screen content search improvements

- You can now combine content search queries arbitrarily with other search queries. As a result, flow view and quick statistics charts on the Search interface can handle content searches.

- Screen content search is now available in search clusters.

- Screen content hits are no longer limited to 3000 per query.

Search queries and statistics as custom report subchapters

It is now possible to turn any search query or statistics into a subchapter that can be included in reports. You can define reports about the monitored traffic in a more flexible and easy-to-use way than was possible before. Reporting subchapters can also include reports about specific content search queries (Reporting > Search subchapters). For details, see "Creating search-based report subchapters from scratch" in the Administration Guide.

New features between SPS 5.1 and 5.11 - clustering

Central configuration management

It is now possible to join multiple SPS nodes into a cluster, monitor their status, and update their configuration from a central location. Note that this feature is currently in an experimental status: consult your Support representative before enabling it.

For details, see "Managing Safeguard for Privileged Sessions (SPS) clusters" in the Administration Guide and "Manage Safeguard for Privileged Sessions clusters" in the REST API Reference Guide.

Improvements to central configuration management

Starting with version 5 F6, it became possible to join multiple SPS nodes into a cluster, monitor their status, and update their configuration from a central location. In this new version, this feature was improved in a number of ways:

- You can now promote a node to become the Central Management node and join additional nodes to the cluster using the web interface of One Identity Safeguard for Privileged Sessions. Previously, building a cluster was only possible through the REST API.

- When building a cluster, using the REST API, you can now query the join status of nodes to find out whether or not particular nodes have been joined to a cluster.

- When using a configuration synchronization plugin, it is now possible to enable the plugin through the web interface. Previously, this was also only possible through the REST API.

- SPS now also provides information about the status of configuration synchronization.

- When you want to create a backup or archive policy on SPS instances that are nodes in a cluster, you can choose to include the node ID in the path to the relevant directory name to prevent cluster nodes from backing up data to the same location, and so overwriting each other's data. For details, see "Data and configuration backups" in the Administration Guide and "Archiving or cleaning up the collected data" in the Administration Guide.

- When querying the status of all nodes or one particular node using the `/api/cluster/status` endpoint, the response now contains the hash of the latest downloaded configuration file (`downloaded_xml_hash`) that the nodes used for configuration synchronization.

Note that the cluster management feature is currently in an experimental status: consult your Support representative before enabling it.

For details, see "Assigning roles to nodes in your cluster" in the Administration Guide and "Manage Safeguard for Privileged Sessions clusters" in the REST API Reference Guide.

Central search across clusters

Starting with SPS version 5 F6, it became possible to join multiple SPS nodes into a cluster, monitor their status, and update their configuration from a central location. Starting with this version, when you have a cluster of nodes set up, you have the possibility to search all session data recorded by all nodes in the cluster on a single node. This is achieved by assigning roles to the individual nodes in your cluster: you can set up one of your SPS nodes to be the Search Master and the rest of the nodes to be Search Minions. Search Minions send session data that they record to the Search Master, and the Search Master acts as a central search node. Consult with the Support Team to learn more about network and capacity requirements.

For more information, see "Searching session data on a central node in a cluster" in the Administration Guide.

New features between SPS 5.1 and 5.11 - analytics

One Identity Safeguard for Privileged Analytics on SPS

You can now run One Identity Safeguard for Privileged Analytics directly on SPS, to get insight about your privileged users, prevent identity theft, and more. To enable One Identity Safeguard for Privileged Analytics and analyze the behavior of your users, SPS requires a special license. Also, depending on the number of your users and sessions, the performance and sizing of SPS must be considered. If you are interested in One Identity Safeguard for Privileged Analytics, contact your One Identity representative, or directly contact our Sales Team.

If you are using One Identity Safeguard for Privileged Analytics, you can configure your indexer policies to extract biometric data from the recorded sessions for keystroke and pointing-device analytics.

Figure 4: One Identity Safeguard for Privileged Analytics
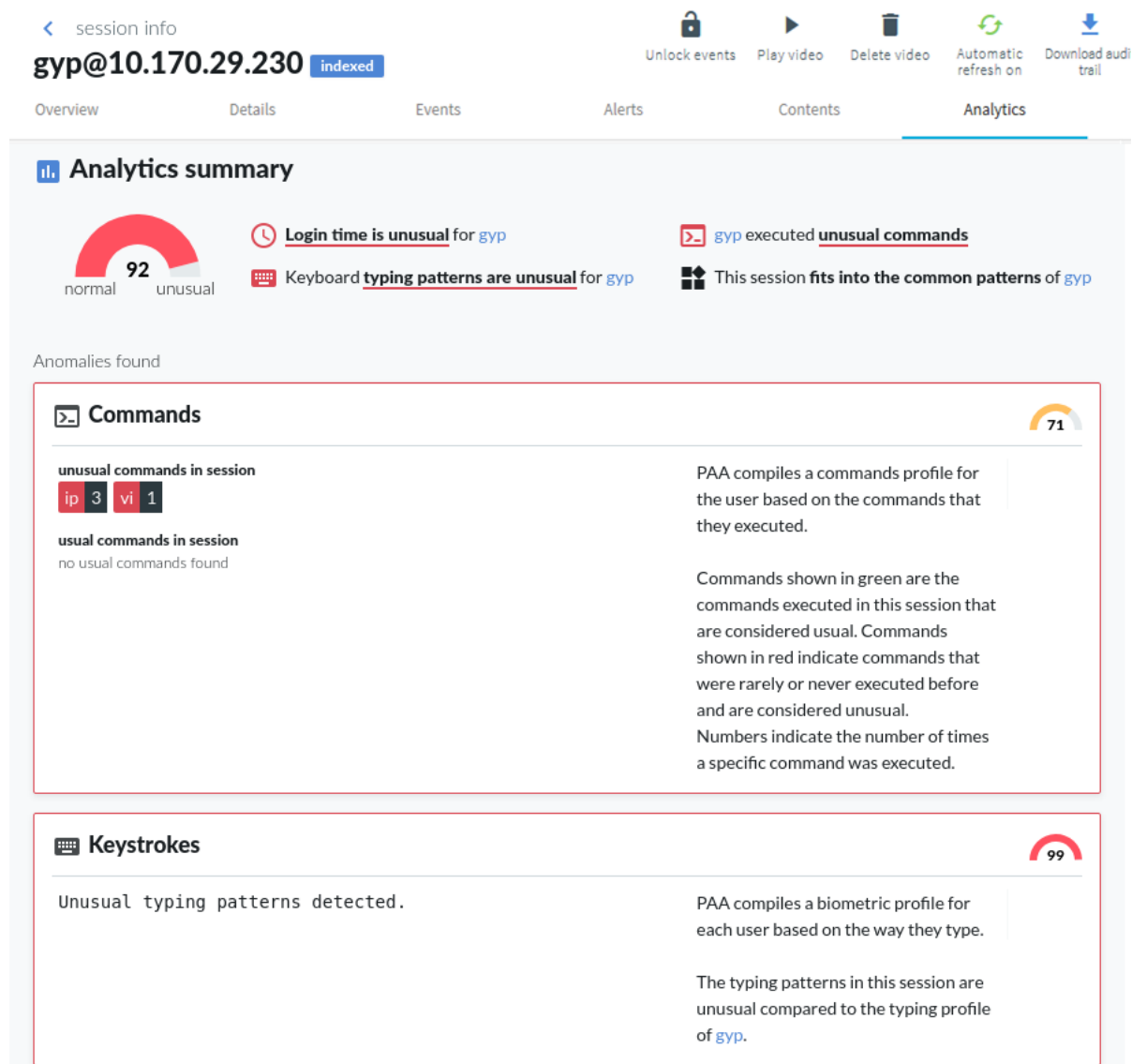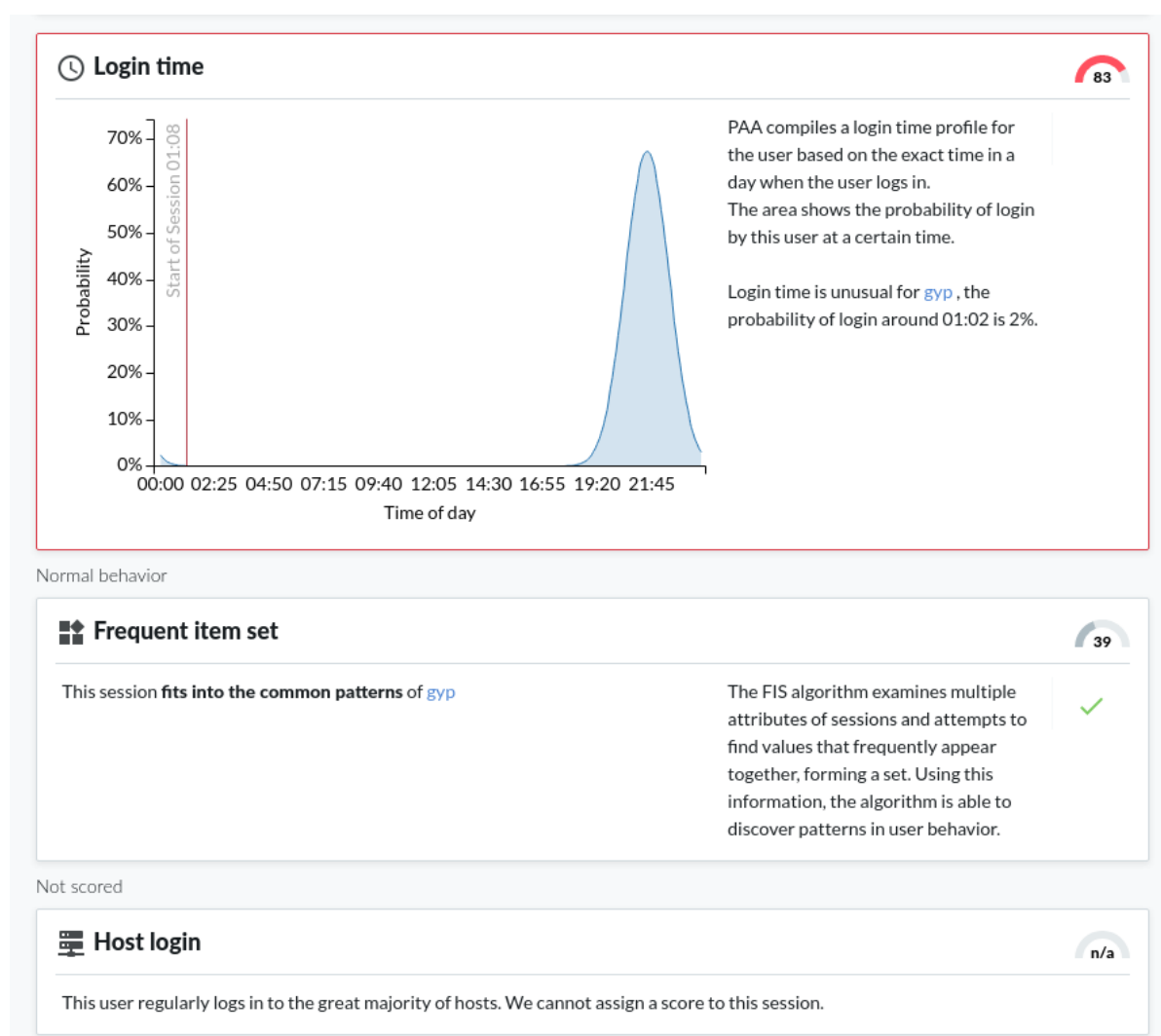
Detecting script usage with One Identity Safeguard for Privileged Analytics

Through enabling the Safeguard for Privileged Analytics module (licensed separately but can be enabled free for a 2-month trial), it is now possible to detect user accounts that show highly periodic and repetitive behavior that is likely the result of scripted activity.

For more information, see Safeguard for Privileged Analytics Configuration Guide.

Gapminder algorithm

The *gapminder algorithm* is able to detect scripted sessions based on the time gaps between the sessions that belong to a given account. When the time gaps between sessions have typical, repeating values, then that suggests unnatural periodic behavior.

Improvements to command algorithm

The command algorithm of One Identity Safeguard for Privileged Analytics has been improved significantly. Previously, the algorithm only analyzed users' activities separately for each user. Starting with this version, we also check if a command is issued frequently on the given server or globally by the majority of the users to improve the false positive rate.

New analytics algorithms

The window title algorithm analyzes window titles in graphical protocol sessions to uncover unusual user behavior. It identifies users based on what window titles they usually have on their screen. It is currently an experimental algorithm and is disabled by default.

The host login algorithm analyzes how likely it is for a user to log in to a given host. Peer groups are taken into consideration: when users log in to hosts that are unusual for them but frequently used by their peers, such sessions are scored low.

The frequent item set (FIS) algorithm examines multiple attributes of sessions and attempts to find values that frequently appear together, forming a set. Using this information, the algorithm is able to discover patterns in user behavior.

Fine-tune SPA configuration:

You can now configure which analytics algorithms to execute separately for every Connection Policy using **Analytics Policies**.

Self-evaluation of algorithms:

It is now possible to run a self-evaluation tool on all algorithms to get feedback about how well they perform in a given environment. Using the results of the evaluation, it is possible to fine-tune your algorithms where necessary.

For details, see Safeguard for Privileged Analytics Configuration Guide.

Free 2-month trial of One Identity Safeguard for Privileged Analytics available for all users

You can enable One Identity Safeguard for Privileged Analytics for free for 60 days on your SPS host to gain insight into what your users are doing, and how risky their actions are.

For more information, see Safeguard for Privileged Analytics Configuration Guide.

New features between SPS 5.1 and 5.11 - integration and plugins

Join to Starling

You can now join SPS to One Identity Starling. One Identity Starling helps to combine products from the One Identity line to create a secure and customizable cloud service. For details on One Identity Starling, see Starling - Technical Documentation.

For more information, see "Joining to One Identity Starling" in the Administration Guide.

SIEM forwarder

You can now forward the log messages and events related to what happens in the privileged sessions to an external SIEM, such as Splunk or Arcsight, or other third-party systems that enable you to search, analyze, and visualize the forwarded data. SPS can send these events as industry-standard RFC3164 syslog messages, with the data formatted either as JSON or in Common Event Format (CEF).

For more information, see "Using the universal SIEM forwarder" in the Administration Guide.

Enhancements to Credential Store plugin for One Identity Safeguard for Privileged Passwords

The Credential Store plugin for One Identity Safeguard for Privileged Passwords now supports connecting to a cluster of One Identity Safeguard servers. In addition, it is now possible to resolve the IP addresses of target servers to hostnames, and to expand domain names to full domain names when not provided in their FQDN form. For details, see How to connect One Identity Safeguard for Privileged Passwords with One Identity Safeguard for Privileged Sessions.

Integrate with One Identity Total Privileged Access Management (TPAM)

An official plugin is now available that allows using TPAM as an external credential store.

For more information, see DEPRECATED How to connect One Identity TPAM with One Identity Safeguard for Privileged Sessions.

- The Duo Multi-Factor Authentication plugin has been updated for Duo Client version 3.3.0.
- A new Credential Store plugin is available for Safeguard for Privileged Passwords.
- A new Log Adapter plugin is available for SSHD application logs.

Improved Splunk integration

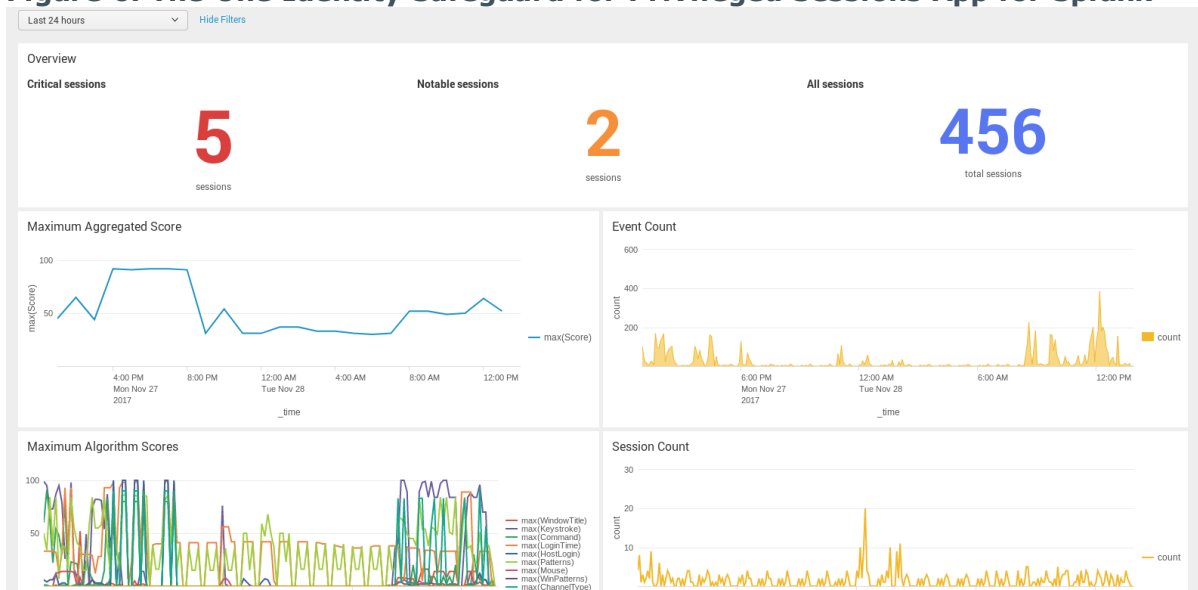Forwarding data from SPS to Splunk has been greatly simplified, now you can configure SPS on the web interface to do so. Also, the amount of data forwarded to Splunk has been

optimized. For details, "Using the Splunk forwarder" in the Administration Guide.

Figure 5: Basic Settings > Management > Splunk forwarder — Sending session data to Splunk

Figure 6: The One Identity Safeguard for Privileged Sessions App for Splunk

New Authentication and Authorization plugins

SPS acts as a central authentication gateway, enforcing strong authentication before users access sensitive IT assets. SPS can integrate with remote user directories to resolve the group memberships of users who access nonpublic information. Credentials for accessing information systems can be retrieved transparently from SPS's local credential store or a third-party password management system. This method protects the confidentiality of passwords as users can never access them. When used together with a multi-factor authentication provider, SPS directs all connections to the authentication tool, and upon successful authentication, it permits the user to access the information system.

SPS can interact with your third-party multi-factor authentication account and can automatically request strong multi-factor authentication for your privileged users who are accessing the servers and services protected by PSM. When used together with a third-party multi-factor authentication, SPS directs all connections to the tool, and upon successful authentication, it permits the user to access the information system.

The integration adds an additional security layer to the gateway authentication performed on SPS.

Multi-factor authentication plugins are available for the following products:

- *Duo*

  For an overview, see:

  For detailed tutorial and configuration instructions, see: Duo Multi-Factor Authentication - Tutorial

- *inWebo*

  For an overview, see:

  For detailed tutorial and configuration instructions, see: inWebo Multi-Factor Authentication - Tutorial

- *Okta*

  For an overview, see:

  For detailed tutorial and configuration instructions, see: Okta Multi-Factor Authentication - Tutorial

- *RSA*

  For an overview, see:

  For detailed tutorial and configuration instructions, see:

- *Starling*

  For an overview, see:

  For detailed tutorial and configuration instructions, see: Starling Two-Factor Authentication- Tutorial

- *YubiKey*

  For an overview, see:

For detailed tutorial and configuration instructions, see: YubiKey Multi-Factor Authentication - Tutorial

Other changes

- *Plugin configuration files in debug bundle:* When creating debug bundles for troubleshooting purposes (for details, see "Collecting logs and system information for error reporting" in the Administration Guide), SPS now includes the configuration files of any plugins installed. Note that depending on the plugin, these configuration files can contain sensitive information, such as passwords or API keys. In this case, edit the plugin-related files in the `plugins` directory of the debug bundle and delete the sensitive information.

New documents

- The Creating custom Authentication and Authorization plugins document is now publicly available. This document describes how to create custom Authentication and Authorization plugins.

- The Creating custom Credential Store plugins document is now publicly available. This document describes how to create custom Credential Store plugins.

- The documentation of the Safeguard for Privileged Sessions Plugin Software Development Kit (Plugin SDK) is now publicly available at https://oneidentity.github.io/safeguard-sessions-plugin-sdk/. The Plugin SDK provides base classes and services to enable rapid development of Python 3 plugins for the Safeguard for Privileged Sessions (SPS) product. SPS plugins released in the future will use this SDK.

New features between SPS 5.1 and 5.11 - indexing

Indexing sessions in near real-time

You now have the option to configure connection policies with near real-time indexing priority, meaning that you can start indexing sessions while they are still ongoing. This requires that you configure your indexers with the appropriate settings and capabilities. For details, see "Configuring the internal indexer" in the Administration Guide and "Configuring the external indexer" in the Administration Guide.

HSM support in external indexers

The external indexers now support using Hardware Security Modules to process encrypted audit trails. For details, see "Configuring a hardware security module (HSM) or smart card to integrate with external indexer" in the Administration Guide.

Lightweight indexing

One Identity Safeguard for Privileged Sessions is capable of analyzing the contents of the sessions it monitors to provide help analytics and speed up forensics investigations. This process is called indexing.

You can now select the depth of indexing: lightweight and full indexing.

Lightweight indexing is now enabled by default in case of a newly installed SPS or when you add new connection policies. If indexing was enabled for a connection policy it is converted to full indexing automatically during the upgrade.

Lightweight indexing is significantly faster than full indexing, but it extracts only the executed commands and the window titles that appear on the screen. It does not index any other screen content (for example, text that is displayed in a terminal or that appears in an RDP window).

For more information, see "Configuring the internal indexer" in the Administration Guide.

Performance improvements in indexing graphical sessions

To make the text displayed in graphical sessions (for example, RDP) SPS uses optical character recognition. The way this is done has been greatly optimized. Depending on the exact scenario and the contents of the session, this can significantly decrease the time required to index the audit trails.

Other changes

- When using a hardware security module (HSM) or smart card to integrate with an external indexer, the chroot is not used anymore, the solutions provided by RedHat/CentOS can be used. For more information, see "Configuring a hardware security module (HSM) or smart card to integrate with external indexer" in the Administration Guide.

- It is now possible to change the accuracy level of the Optical Character Recognition (OCR) analysis of graphical sessions. The accuracy level remains unchanged for existing indexer policies but the new default is the "balanced" setting that offers much improved performance with a minimal trade-off in accuracy.

  For details, see "Configuring the internal indexer" in the Administration Guide.

New features between SPS 5.1 and 5.11 - Safeguard Desktop Player

Safeguard Desktop Player replays audit trails of X11 sessions

The Safeguard Desktop Player application can now replay audit trails that contain graphical X11 sessions (the contents of the *X11 Forward* channel of the SSH protocol).

For further details, see "Replay X11 sessions" in the Safeguard Desktop Player User Guide.

Install the Safeguard Desktop Player application on Mac

It is now possible to install the Safeguard Desktop Player application on Mac.

For more information, see "Install Safeguard Desktop Player on Mac" in the Safeguard Desktop Player User Guide.

Follow active connections in Safeguard Desktop Player

It is now possible to follow active connections in semi-real time using Safeguard Desktop Player. In case you notice some user action that poses a security risk, you have the option to terminate the session you are monitoring. For detailed information, see "Replay audit files in follow mode" in the Safeguard Desktop Player User Guide

Audit trail encryption improvements

> ⚠️ **CAUTION:**
>
> **One Identity Safeguard for Privileged Sessions (SPS) 5 F4 and later versions use a new encryption algorithm to encrypt the recorded audit trails (AES128-GCM). This change has the following effects:**
>
> - **If you are using external indexers to index your audit trails, you must upgrade them to the latest version. Earlier versions will not be able to index encrypted audit trails recorded with SPS 5 F4 and later.**
>
> - **To replay an encrypted audit trail recorded with SPS 5 F4 or later, you can use the latest version of the Safeguard Desktop Player application, or the browser-based player of SPS. You cannot replay such audit trails using earlier versions of Safeguard Desktop Player, nor any version of the Audit Player application.**

You can now manually re-encrypt your audit trails with a new encryption key. This is useful if you want to share encrypted audit trails with third parties — the data remains encrypted, but you do not have to share your encryption keys. For details, see "Sharing an encrypted audit trail" in the Safeguard Desktop Player User Guide.

New features between SPS 5.1 and 5.11 - Protocols

Security settings of TLS sessions

You can now uniformly set the TLS security settings of HTTP, RDP, Telnet, and VNC connections, including the permitted ciphers and TLS versions on the **<Protocol> Control > Settings** pages.

To ensure the security of your sessions, SSL encryption is not supported anymore, only TLS 1.0 and later.

Using GSSAPI in SSH connections

You can now use an Authentication Policy with GSSAPI and a Usermapping Policy in SSH connections. When an SSH Connection Policy uses an Authentication Policy with GSSAPI, and a Usermapping Policy, then SPS stores the user principal as the **Gateway username**, and the username used on the target as the **Server username**.

Note that this change has the following side effect: when using an Authentication Policy with GSSAPI, earlier versions of SPS used the `client-username@REALM` username to authenticate on the target server. Starting with version 5.9.0, it uses the `client-username` as username. Configure your servers accordingly, or configure a Usermapping Policy for your SSH connections in SPS.

Session cookies in HTTP auditing

SPS can now distinguish the audited HTTP requests and responses based on the session cookies of web applications. For details, see "Creating and editing protocol-level HTTP settings" in the Administration Guide.

Authenticate HTTP/HTTPS connections on the SPS gateway

SPS now provides a way to authenticate non-transparent HTTP/HTTPS connections on SPS to local and external backends (LDAP, Microsoft Active Directory, RADIUS). The client must support proxy authentication.

For more information, see "Creating a new HTTP authentication policy" in the Administration Guide.

Credential store support for TN3270 protocol

SPS can now be configured to check out passwords from the built-in or external credential stores, such as One Identity Safeguard for Privileged Passwords, and play them in during a connection using the TN3270 protocol.

New features between SPS 5.1 and 5.11 - RDP

RDP improvements

You can now display a banner to your clients in RDP sessions. For example, this banner can inform the users that the connection is audited. For details, see "Creating and editing protocol-level RDP settings" in the Administration Guide.

Figure 7: Graphical banner in RDP

Your session is recorded using Balabit Privileged
Session Monitoring

OK
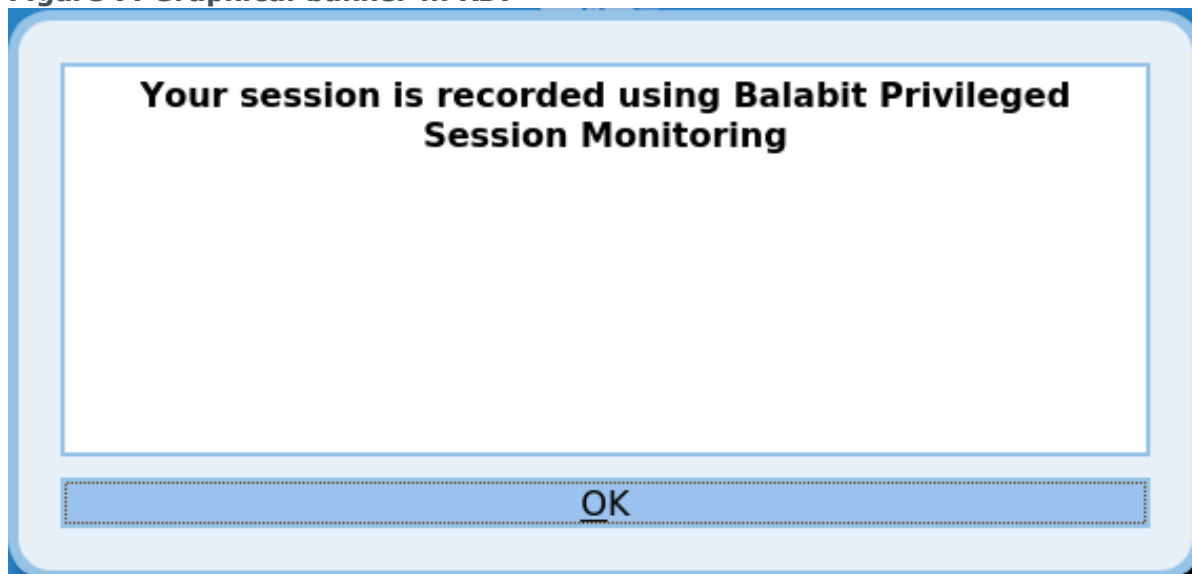
The Authentication and Authorization plugins now can request information interactively from the user in a graphical window, for example, a ticket ID, or a one-type password. To request a plugin that interoperates with your authentication or authorization system, contact our Support Team.

If the server requires Network Level Authentication and the **Allow me to save credentials** option is not selected in the RDP client, SPS now automatically displays a graphical prompt where the users can enter their usernames and passwords.

Figure 8: Server-side login in RDP

Login

Please provide your server-side credentials:

User name

Password

OK
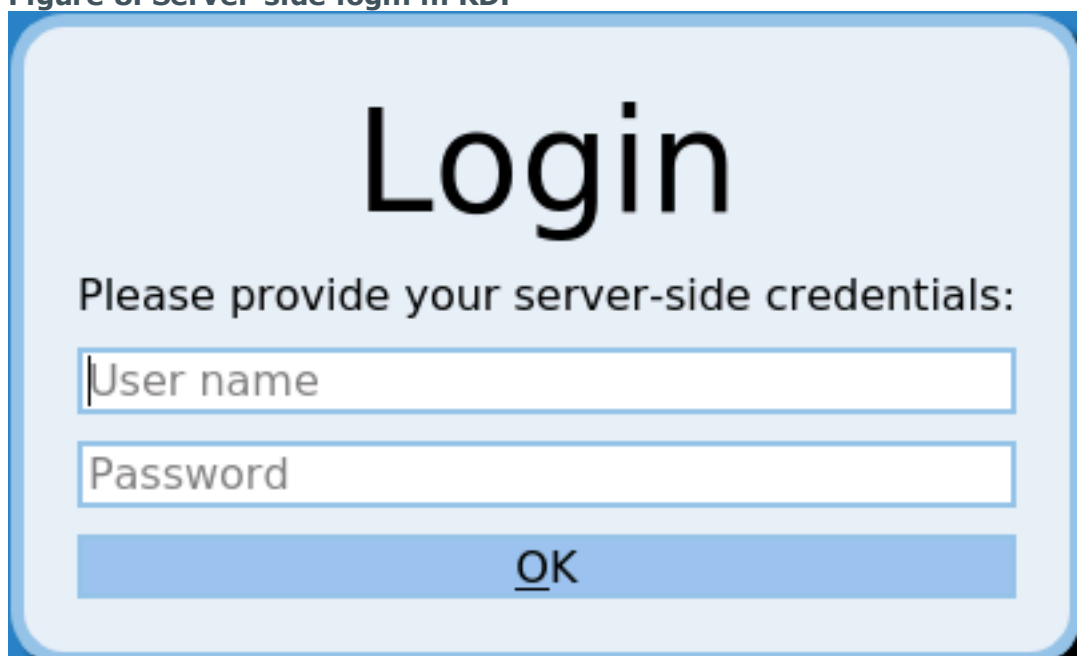
Interactive RDP improvements

When using inband destination selection, your users now do not have to encode any data in the username: SPS can display an interactive prompt in the RDP connection to request the address of the destination server, username, and other required information. For details, see "Inband destination selection in RDP connections" in the Administration Guide.

As a smaller improvement, SPS now supports using certificate chains in the signing CA used for RDP connections.

TLS-encryption for RDP connections

Enabling TLS-encryption in an RDP connection policy has been simplified. When the connection is encrypted, SPS has to show a certificate to the peer. You can define the type of certificate to show to the peers.

In case of compatibility issues, you also have the option to allow fallback to legacy RDP Security Layer (also known as: Standard RDP Security). However, it is not advised due to security reasons.

For more information, see "Enabling TLS-encryption for RDP connections" in the Administration Guide.

Windows 2019 Server support

SPS now supports Windows 2019 Server as a client and server in RDP sessions.

Certificate Revocation Lists (CRLs) in signing CAs

It is now possible to configure the CRL that you generated using your Certificate Authority (CA) in your Public Key Infrastructure (PKI) solution. This is the CRL information that will be shown to clients connecting to SPS. For more information, see "Signing certificates on-the-fly" in the Administration Guide.

New features between SPS 5.1 and 5.11 - web interface

Required minimum version of encrypted protocol

You can now configure the required minimum version of the default web listener.

The default setting is TLS 1.2. You can configure SPS to use TLS 1.0, but it is not advised, because there are known serious attacks against TLS (for details, see: https://tools.ietf.org/html/rfc7457).

For more information, see "Configuring user and administrator login addresses" in the Administration Guide.

Boot messages and upgrade logs displayed on web interface

In addition to displaying upgrade logs and boot messages on the local console, SPS now shows information about the upgrade and reboot processes on the web interface, too. The information displayed in the browser and on the console is the same. For details, see "Controlling One Identity Safeguard for Privileged Sessions (SPS): reboot, shutdown" in the Administration Guide and "Upgrade checklist" in the Administration Guide.

> ⓘ NOTE:
> This feature is enabled after the first boot to version 5 F2 or later. So during the upgrade from 5.0 to version 6.0, you will not be able to see any upgrade logs on the web interface.

Maximum Transmission Unit (MTU) for network interfaces

To support deployment in more complex networking environments, it is now possible to set the MTU for each network interface individually. For details, see "Network settings" in the Administration Guide and "Managing logical interfaces" in the Administration Guide.

Other changes

- When using X.509 certificates to authenticate on the SPS web interface, SPS can now extract the name of the user from the UserPrincipalName field of the certificate. For details, see "Authenticating users with X.509 certificates" in the Administration Guide.

- Command detection and window title detection in content policies have changed and they are case-insensitive as of SPS version 5.8.0. In earlier versions, both used to be case-sensitive. For more information, see "Creating a new content policy" in the Administration Guide.

- The **Indexing history** section on the **Indexer > Indexer status** page has been removed and it is now possible to search for indexing details. For more information about the indexing search filters that you can use, see "List of available search filters" in the Administration Guide.

- Alerts defined in Content Policies are now only sent out again if there is change in the matched screen contents to avoid flooding security administrators with alerts.

- The script used for exporting and importing the configuration of SPS through the console has changed, it is now: /opt/scb/bin/configbundle.py. As a result, the required commands have changed, too. For details, see "Exporting and importing the configuration of SPS using the console" in the Administration Guide.

- It is now possible to upload a certificate chain when configuring a remote syslog server to send system log messages to. This is handled both on the web interface and the REST API of SPS. For details, see "Configuring system logging" in the Administration Guide.

- It is now possible to specify the base DN of LDAP subtrees for users and for groups separately. Specifying a sufficiently narrow base for the LDAP subtrees can speed up

LDAP operations. For details, see "Managing One Identity Safeguard for Privileged Sessions (SPS) users from an LDAP database" in the Administration Guide and "Authenticating users to an LDAP server" in the Administration Guide.

- Backup policies can be configured to run more than once a day.

- You can now select which Server Message Block protocol version to use in the Archive and Backup policies if your server uses **SMB/CIFS**.

New features between SPS 5.1 and 5.11 - REST API

Sessions schema change in REST API

In order to better integrate SPS with One Identity Safeguard for Privileged Analytics, some architectural changes have been introduced. These changes have brought alterations for the sessions schema of the REST API. As a result, REST responses have changed in the case of the following endpoints:

- /api/audit/sessions

- /api/audit/sessions/<session-id>

- /api/audit/sessions/<session-id>/content

- /api/audit/sessions/<session-id>/alerts

- /api/audit/sessions/<session-id>/events

- **Search, download and index sessions section restructure**

  The Search, download and index sessions section has been restructured and updated in the SPS REST API.

  For more information, see "Search, download, and index sessions" in the REST API Reference Guide.

- **HTTP connection policies can now be configured through REST**

  The endpoint is now writable and allows create, update and delete.

  For more information, see "HTTP connections" in the REST API Reference Guide.

- **The user now has the same privileges on the web UI and REST API**

  For the user to have full access over the SPS REST API, they must have the **REST server** privilege. The user privileges on the web UI and REST API are now synchronized. For example, if the user has the **ICA Control / Connections** privilege then they can access this page on the web UI and also the /api/configuration/ica/connections endpoint on the REST API.

  For more information, see "Authenticate to the SPS REST API" in the REST API Reference Guide.

- **Changes to audit data access rules (ADAR) on REST**

The endpoint can only be queried and is not writable. It does not allow create, update, or delete.

For more information, see "Audit data access rules" in the REST API Reference Guide.

- When querying the `/api/info` endpoint, the response now contains the hash of the XML database (`config_hash`) running on a given SPS host.

  For details, see "Retrieve basic firmware and host information" in the REST API Reference Guide.

- It is now possible to change the settings for the RDP protocol using the `/api/configuration/rdp/settings_policies/` endpoint.

  For details, see "RDP settings policies" in the REST API Reference Guide.

- The `api/audit/sessions/stats` endpoint provides statistics about recorded sessions. For details, see "Session statistics" in the REST API Reference Guide.

- The `api/audit/sessions/histogram` endpoint provides a histogram about the recorded sessions. For details, see "Session histogram" in the REST API Reference Guide.

- You can now enable One Identity Safeguard for Privileged Analytics using the REST API. For details, see "Enable One Identity Safeguard for Privileged Analytics" in the REST API Reference Guide.

- The `api/configuration/policies/analytics` endpoint allows you to configure One Identity Safeguard for Privileged Analytics by adding and removing analytics policies. For details, see "Configure One Identity Safeguard for Privileged Analytics" in the REST API Reference Guide.

- You can now read and update the license of SPS. For details, see "Manage the SPS license" in the REST API Reference Guide.

- Changing the root and admin passwords of SPS has been documented. For details, see "Passwords stored on SPS" in the REST API Reference Guide.

- Configuring RDP connection policies using the REST API has been documented. For details, see "RDP connection policies" in the REST API Reference Guide.

- You can complete the Welcome Wizard using the API.

- You can now upload the SPS license file using the API.

- You can now change the password of local users, for example, the `admin`, and the `root` passwords.

- *New content endpoint:* A new endpoint, `/api/audit/sessions/<session-id>/content`, has been added, which enables you to search in the contents of individual connections. For details, see "Searching in connection content" in the REST API Reference Guide.

- *Filter events:* The filtering functionality previously only available under the `api/audit/sessions` endpoint is now added to the `api/audit/sessions/<session-id>/events` endpoint, too. This means that you can now search in the events of individual connections. For more information, see "Session events" in the REST API Reference Guide.

- Backup and archive policies can now be configured using the REST API.

- Health status information about the Central Management node and the cluster nodes is now available at the /api/cluster/status endpoint of the node.

- You can now download audit trails from SPS using the REST API. For details, see "Download audit trails" in the REST API Reference Guide.

Enhancements

The following is a list of enhancements implemented in SPS 6.0.10.

Table 1: General enhancements

Enhancement	Issue ID
Created PDF reports have been enhanced with the others label and others subsection, which indicate that more data is available but cannot be displayed in the report unless the search is further refined.	
The "Top X" predefined report subchapters now include the **others** label, which indicates that more data is available but cannot be displayed in the report unless the search is further refined.	

Deprecated features

The following is a list of features that are no longer supported starting with SPS 6.0.10.

- X.509 host certificates are not supported, the related options have been removed from the product. One Identity recommends using public keys instead.

- DSA keys are not supported, the related options have been removed from the product. One Identity recommends using RSA keys instead.

- The log ingestion feature of SPS has been removed from the product.

Deprecated features between SPS 5.1 and SPS 5.11

The following is a list of features that are no longer supported starting with SPS 6.0.10.

> ⚠ **CAUTION:**
>
> **Physical SPS appliances based on Pyramid hardware are not supported in 5 F1 and later releases. Do not upgrade to 5 F1 or later on a Pyramid-based hardware. The last supported release for this hardware is 5 LTS, which is a long-term supported release.**
>
> **If you have purchased SPS before August, 2014 and have not received a replacement hardware since then, you have Pyramid hardware, so do not upgrade to SPS 5 F1 or later. If you have purchased SPS after August 2014, you can upgrade to 5 F1.**
>
> **If you do not know the type of your hardware or when it was purchased, complete the following steps:**
>
> 1. **Login to SPS.**
> 2. **Navigate to Basic Settings > Troubleshooting > Create support bundle, click Create support bundle, and save the file.**
> 3. **Open a ticket at https://support.oneidentity.com/create-service-request/.**
> 4. **Upload the file you downloaded from SPS in Step 1.**
> 5. **We will check the type of your hardware and notify you.**

- Support for the Lieberman ERPM credential store has been deprecated, this feature will be removed from the upcoming One Identity Safeguard for Privileged Sessions (SPS) 6 LTS release. One Identity recommends to use Safeguard for Privileged Passwords instead. For details, contact our Sales Team.

- SSLv3 encryption is not supported in SPS version 5.10 and later. This has the following effects:

  - You cannot configure SPS if your browser does not support at least TLSv1.

  - If you are auditing HTTP, Telnet or VNC sessions that use TLS encryption, the client- and server applications must support at least TLSv1.

- Support for X.509 host certificates is deprecated. This feature will be removed from SPS version 6 LTS (6.0). One Identity recommends using public keys instead.

- Support for DSA keys is deprecated. This feature will be removed from SPS version 6 LTS (6.0). One Identity recommends using RSA keys instead.

Shorter than 1024-bit SSH keys

Following the upgrade, support for less than 1024-bit SSH keys is lost.

You can now use an Authentication Policy with GSSAPI and a Usermapping Policy in SSH connections. When an SSH Connection Policy uses an Authentication Policy with GSSAPI, and a Usermapping Policy, then SPS stores the user principal as the **Gateway username**, and the username used on the target as the **Server username**.

Note that this change has the following side effect: when using an Authentication Policy with GSSAPI, earlier versions of SPS used the client-username@REALM username to

authenticate on the target server. Starting with version 5.9.0, it uses the `client-username` as username. Configure your servers accordingly, or configure a Usermapping Policy for your SSH connections in SPS.

Minimum version of encryption protocol for the web UI

The **Basic Settings > Local Services > Required minimum version of encryption protocol** option has been removed. This option governed the encryption protocol required to access the SPS web interface.

Regardless of the TLS version you configured previously, SPS will uniformly use TLS version 1.2.

This change might have the effect that using old (likely unsupported) browsers, it will not be possible to access the web interface of SPS.

Deprecation of RPC API

The RPC API is deprecated as of SPS 5 F7 and will be removed in an upcoming feature release. One Identity recommends using the REST API instead.

Screen content search in sessions indexed by the old Audit Player

It is no longer possible to search for screen contents indexed by the old Audit Player on the new search UI and the REST interface. Searching in session metadata (such as IP addresses and usernames) and in extracted events (such as executed commands and window titles that appeared on the screen) remains possible.

As the old Audit Player was replaced and deprecated as an indexing tool during the 4.x versions, this should only affect very old sessions. Sessions that were processed by the new indexing service will work perfectly. If you wish to do screen content searches in historical sessions, contact our Support Team.

Resolved issues

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

Table 2: General resolved issues in release 6.0.10

Resolved Issue	Issue ID
RDP connection setup is unreliable with long user names Initiating Remote Desktop connections with user names longer than 128 characters were unreliable: the client either connected without issues or showed an error dialog right after trying to start the connection. Sessions initiated from Safeguard for Privileged Passwords use long user names and were affected.	PAM-14281

Resolved Issue	Issue ID
The issue with the Remote Desktop Protocol implementation has been fixed and the connection setup is reliable now with long user names as well.	
Downloading a certificate or key in DER format could provide an unparsable file for some certificates and keys When a certificate or key was downloaded from the Web interface in DER format and the resulting binary blob ended with bytes that could be interpreted as ASCII whitespace or NULL (0x00, 0x09, 0x0a, 0x0b, 0x0d, 0x20), then those bytes were truncated, resulting in an invalid file. This has been fixed.	PAM-14227
The missing host key for "scb-other" has been added to the configuration to prevent the administrator from having to manually verify host keys when navigating between HA nodes When the administrator attempted to log in to the HA pair from an SPS node, the host key verification was up to the administrator. This was caused by the missing key value for the "scb-other" hostname. However, it worked correctly when the IP addresses, or the "scb1", or the "scb2" hostnames were used specifically. This fix makes the login easier and more convenient by allowing to use the "scb-other" hostname, regardless of the current node allocation. The "scb-other" hostname can be used to SSH from any of the nodes because the related host key is already known by the origin SSH client.	PAM-13773
The fix prevents some unwanted exceptions to be present in the logs, previously, rarely caused by unavailable internal services during SNMP-related email sending Rarely, it can happen that the SNMP traps are sent before the whole system completely boots up. In these cases, if the system is configured to send SNMP traps in email, it could happen that the business logic attempted to connect to an internal service responsible for email sending before it was started and waiting for emails to deliver. The change prepares the sending part for these cases and ensures that email sending, even in these corner cases, is more reliable.	PAM-13541
SWAP monitoring could send false alarms through email and/or SNMP for appliances where no SWAP was configured for the appliance, mostly effecting virtual machine-based SPS appliances Due to an upstream bug, it happened rarely that the SNMP monitoring sent out false alarms each time the appliance was restarted or the monitoring-related configuration was changed. This only happened when the SWAP available on the system was 0 bytes (SWAP was disabled) and where that value was compared to the available amount. The upstream issue related to the comparison of these values and that caused the alert to be sent out also if these values were equal, and not only when the available SWAP was below the configured threshold.	PAM-13156
Possible RDP connection failure when a TLS certificate with an RSA key greater than 2048 bits is configured	PAM-12751

Resolved Issue	Issue ID
When "Use the same certificate for each connection" was configured for an RDP connection policy with TLS enabled, and the uploaded RSA private key was greater than 2048 bits, an error could occur in the licensing protocol, and cause the client to terminate the connection. This has been fixed, licensing no longer depends on the TLS certificate.	
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
Preventing OOM killer from force-stopping Elasticsearch in a low memory scenario It was necessary to prevent OOM killer from force-stopping Elasticsearch in a low memory scenario, because if Elasticsearch was force-stopped, it could cause translog corruption.	PAM-12510
Event processing error Some special mouse buttons were not handled correctly by the analytics pipeline, which has now been fixed.	PAM-12276
If the disk was full, the queuing system on SPS could not start If the disk was full, the queuing system on SPS could not start, and traffic could not go through it. This issue has been solved by having a safety margin on the disk, to prevent the disk from being fully written.	PAM-11253

System requirements

Before installing SPS 6.0.10, 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:

- Installation Guide
- Deployment from Azure Marketplace
- Deployment on Amazon Web Services

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 120MB 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

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

The following sections provide detailed information of SPS appliances.

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 6.0.10

⚠️ **CAUTION:**

Due to a change in the underlying database, the upgrade process removes all risk scores generated earlier by One Identity Safeguard for Privileged Analytics. Sessions initiated after the upgrade will be scored again.

For step-by-step instructions on upgrading to SPS 6.0.10, 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 LTS releases

This is a long-term-supported (LTS) release, which means that it will be supported at least for 3 years after the release date.

For a full description of long-term-supported and feature releases, open the SPS product page on the Support Portal and navigate to **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 6.0.10, 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 running a previous long-term-supported release.

If you have a physical appliance based on Pyramid hardware

Do NOT upgrade to SPS 6.0.10 if you are running SPS on Pyramid hardware:

> ⚠ **CAUTION:**
>
> **Physical SPS appliances based on Pyramid hardware are not supported in 5 F1 and later releases. Do not upgrade to 5 F1 or later on a Pyramid-based hardware. The last supported release for this hardware is 5 LTS, which is a long-term supported release.**
>
> **If you have purchased SPS before August, 2014 and have not received a replacement hardware since then, you have Pyramid hardware, so do not upgrade to SPS 5 F1 or later. If you have purchased SPS after August 2014, you can upgrade to 5 F1.**
>
> **If you do not know the type of your hardware or when it was purchased, complete the following steps:**
>
> 1. **Login to SPS.**
>
> 2. **Navigate to Basic Settings > Troubleshooting > Create support bundle, click Create support bundle, and save the file.**
>
> 3. **Open a ticket at https://support.oneidentity.com/create-service-request/.**
>
> 4. **Upload the file you downloaded from SPS in Step 1.**
>
> 5. **We will check the type of your hardware and notify you.**

Verify successful installation

Navigate to **Basic Settings > System > Version details** and verify that SPS is running version 6.0.10 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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