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# Linux Base Pack PowerPack Release Notes

Version 106

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## Overview

Version 106 of the *Linux Base Pack PowerPack* adds support for using the Kerberos GSS-API and Challenge/Keyboard-Interactive for authentication, and updates to Dynamic Applications and event policies.

- **Minimum Required SL1 Version:** 10.2.1.2

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## Before You Install or Upgrade

Ensure that you are running version 10.2.1.2 or later of SL1 before installing *Linux Base Pack* version 106.

**NOTE:** For details on upgrading SL1, see the appropriate [Release Notes](#).

**NOTE:** You should check the thresholds for zombie processes and load average. The load average is compared to the threshold based on the normalized data per CPU.

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## Installing or Upgrading the PowerPack

To install this PowerPack:

1. Familiarize yourself with the [Known Issues](#) for this release.
2. See the [Before You Install or Upgrade](#) section. If you have not done so already, upgrade your system to the 10.2.1.2 or later release.
3. Download the *Linux Base Pack* version 106 PowerPack from the Support Site to a local computer.
4. Go to the **PowerPack Manager** page (System > Manage > PowerPacks). Click the **[Actions]** menu and choose *Import PowerPack*. When prompted, import *Linux Base Pack* version 106.
5. Click the **[Install]** button. For details on installing PowerPacks, see the chapter on *Installing a PowerPack* in the **PowerPacks** manual.

**CAUTION:** If you are upgrading from version 102, 103, or 104 of the *Linux Base Pack* PowerPack, you must verify that some Dynamic Applications are disabled and removed, if they are still present in your SL1 environment. For more information on how to remove the Dynamic Applications, see the "Upgrading the PowerPack and Removing Dynamic Applications" section in the **Monitoring Linux Systems** manual.

Remove the following Dynamic Applications before upgrading from version 102, 103, 104, or 105 of the *Linux Base Pack* PowerPack:

- Linux: File System Performance
- Linux: IC Availability
- Linux: Interface Performance
- Linux: Network Configuration
- Linux: Performance Cache (Deprecated)
- Linux: TCP Services Configuration

**TIP:** By default, installing a new version of a PowerPack will overwrite all content in that PowerPack that has already been installed on the target system. You can use the **Enable Selective PowerPack Field Protection** setting in the **Behavior Settings** page (System > Settings > Behavior) to prevent the new version of the PowerPack from overwriting local changes for some commonly customized fields.

**NOTE:** If you are currently using the Dynamic Applications in this PowerPack to monitor devices, collection errors might occur for one or two polling cycles during the installation of a new version. To prevent collection errors during an upgrade, you can optionally disable collection for monitored devices before performing the following steps and re-enable collection after the upgrade.

For more information about using the PowerPack, see the **Monitoring Linux** manual.

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## Features

Version 106 of the *Linux Base Pack* PowerPack includes the following features:

- Dynamic Applications that discover and collect configuration and performance data for Linux systems
- Internal Collection Dynamic Applications that collect inventory and performance data for Linux systems
- Event Policies and corresponding alerts that are triggered when Linux systems meet certain status criteria

**NOTE:** Many of the Event Policies included in this PowerPack are disabled by default. You must manually enable the Event Policies that you want to use. To do so, go to the **Event Policy Editor** page (Registry > Events > Event Manager > create or edit) and change the **Operational State** to *Enabled*.

- Device Classes for each type of Linux system monitored
- A Run Book Action and an Automation policy to assign the proper device classes to Linux systems

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## Enhancements and Issues Addressed

The following enhancements and addressed issues are included in version 106 of the *Linux Base Pack* PowerPack:

- Support was added for using the Kerberos GSS-API to authenticate Linux servers via Active Directory.

**NOTE:** GSS-API authentication is not supported when the SSH container is enabled.

- Support was added for Challenge/Keyboard-Interactive authentication.

**NOTE:** Keyboard-Interactive authentication is not supported when the SSH container is enabled.

- Support for CoreOS was added to the PowerPack.

**NOTE:** Fedora CoreOS that has not been deployed with an SSH Key pair or Password Auth will not be able to connect through SSH. Red Hat OpenShift CoreOS deployed by ROSA CLI or OSD does not allow new SSH PEM Keys.

- Internal Collections Dynamic Applications in the PowerPack were updated to support 64-bit interfaces.
- The "Linux SSH: Password Expired" event policy was added to the PowerPack.
- The "Linux: Kerberos - Example" sample credential was added to the PowerPack.

**NOTE:** If you are discovering Kerberos with the "Linux Kerberos - Example" credential, it is not recommended to use special characters in the **Username** field of the credential.

- The following event policies were updated to address an issue in which incorrect matching criteria was causing them to no longer align correctly when alerts were generated in device logs:
  - Linux SSH: Authentication Error
  - Linux SSH: Authentication Timeout

- Linux SSH: Connection Error
- The "Process" collection object was moved from the "Linux: ICDA Cache" Dynamic Application to the "Linux: ICDA Interface Cache" Dynamic Application to produce more accurate results, and the "Processes CPU Usage" and "Processes Memory Usage" collection objects were removed from the "Linux: ICDA Cache" Dynamic Application. (Support Case: 00241220; JIRA ID: SOL-19083)
- The "Linux: Route Table Configuration" Dynamic Application was updated to use the recommended "IP Route" command in its collection objects instead of the deprecated "netstat" command.
- The "Linux: ICDA Interface Cache" Dynamic Application was updated to use the "ss -ltn" command in its collection objects instead of the deprecated "netstat -ltn" command.
- The "Linux: CPU Performance" Dynamic Application was updated to address an issue in which it was erroneously reporting 100% usage.
- The "Linux: Configuration Discovery" Dynamic Application was updated to address an issue in which Linux servers were not discovered and classified properly. (Support Case: 00254235; JIRA IDs: SOL-15204 and SOL-19277)
- Collection objects in the "Linux: ICDA Cache" and "Linux: ICDA Interface Cache" Dynamic Applications will now disable when they encounter connection or authentication errors. (Support Case: 00217094; JIRA ID: SOL-16846)
- An issue was addressed in the "Linux: Inode Performance" Dynamic Application in which some values were appearing as a string instead of an integer. (Support Case: 00239816; JIRA ID: SOL-18360)
- The "Linux: CPU Configuration" Dynamic Application was updated to address an issue in which exceptions appeared in logs when collection is correct. (Support Cases: 00256097, 00205278; JIRA ID: SOL-19084)
- An issue was addressed in the "Linux: Memory Performance" Dynamic Application in which the "Data Presentation" label was indicating kilobytes instead of kibibytes. (Support Case: 00243164; JIRA ID: SOL-18545)
- The "Linux: UDP Services Configuration" Dynamic Application was updated to address an issue in which a Linux command in the collection objects had been deprecated. The collection objects were updated to use the "ss -luan" command instead of the "netstat -lun" command.
- An issue was addressed in which authentication or commands that took longer than 10 seconds would cause data collection to timeout. (Support Case: 00243194; JIRA ID: SOL-18856)

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## Known Issues and Workarounds

The following known issues affect version 106 of the *Linux Base Pack PowerPack*:

- Version 22.04 of Ubuntu and earlier may have problems discovering devices with a PEM key. It is recommended that you use a password in this case.
- Parsing may fail with some commands if there are custom images on the device.
- In patch SL1 systems there is a platform issue in versions 8.14.0 and earlier in which the SSH credential can store corrupted information in the Password field which will affect data collection when the SSH Data Collector is enabled. To avoid this issue, resave the SSH credential with the PEM key.
- If you use the default timeout in the "Linux Example Credential" credential and continue to experience timeout and login errors on a limited number of servers, create a copy of the credential, and edit the timeout value to 10 seconds then align your new credential to the servers with login errors.

- After upgrading from version 103 to version 106 of the PowerPack, you may not continue to receive data from your interfaces due to the deprecation of ifconfig commands. The deprecation of ifconfig commands will also cause interfaces to be reordered, resulting in IC Interface Performance and IC Interface Inventory data not matching between versions. This issue will resolve during nightly discovery.
- In SL1 version 10.2.1.2, if you mistakenly align a Windows Server during discovery you will see many process exceptions. **NOTE:** This issue has been fixed in SL1 version 10.2.2.
- Monitoring interface packets is not supported yet. To avoid errors or unhandled exceptions while monitoring interface performance data with the "Linux: IC Interface Performance" Dynamic Application, do not enable the packets setting in the **Interface Properties** page (Registry > Networks > Interfaces > interface wrench icon).
- Modifying any of the IC Dynamic Applications will change the value of the **Collector Affinity** setting from *Assigned collector* to *Default*. If you make any changes to the configuration of these Dynamic Applications, run the following query on the **Database Tool** (System > Tools > DB Tool):
 

```
SELECT ppguid FROM master.powerpack WHERE name = "Linux Base Pack"
Save the result of ppguid as <LBP PPguid>
UPDATE master.dynamic_app SET cu_affinity="2" WHERE ppguid = <LBP PPguid>
```
- CSR 1000v Series Cisco routers discovered after version 102 of the PowerPack should not be aligned with Linux Base Pack Dynamic Applications. After upgrading to version 103, Linux Base Pack Dynamic Applications aligned to the Cisco routers should be removed and the device class should be updated to the expected device class of the router.
- If you have a device with more than one SSH credential aligned, only one credential will be used. The connection to that credential will be maintained until it is terminated by the target host or the network, which means that it will continue to use the old credential through that connection even when the credential has changed.
- An issue with the "Cisco: CSP 2100 CLI Alignment" Dynamic Application is causing Dynamic Application alignment to fail for versions 101 and 106 of the PowerPack when installed on SL1 versions 8.9.0 and greater. To work around this issue, disable the "Cisco: CSP 2100 CLI Alignment" Dynamic Application.
- To discover Linux devices, the PowerPack uses an API call to align Dynamic Applications from the PowerPack to the devices. The API call length can cause API queries to back up and time out when attempting to discover multiple devices. As a workaround, ScienceLogic recommends leveraging SQL queries to align these Dynamic Applications.
- A collection exception appears in the device log if a device's hostname is not properly set.

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