



Linux Base Pack PowerPack Release Notes

Version 104

Overview

Version 104 of the *Linux Base Pack PowerPack* includes scale improvements, new Dynamic Applications, and addresses a number of issues in the PowerPack.

- **Minimum Required Platform Version:** 8.12.2.4

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Before You Install or Upgrade

Ensure that you are running version 8.12.2.4 or later of SL1 before installing *Linux Base Pack* version 104.

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.

Installing or Upgrading the PowerPack

To install or upgrade this PowerPack, perform the following steps:

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 8.12.2.4 or later release.
3. Download the *Linux Base Pack* version 104 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 104.
5. Click the **[Install]** button. For details on installing PowerPacks, see the chapter on *Installing a PowerPack* in the **PowerPacks** manual.

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.

Features

Version 104 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
- 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

Enhancements and Issues Addressed

The following enhancements and addressed issues are included in version 104 of the *Linux Base Pack* PowerPack:

- The containerized service that allows SL1 to use multi-processing to collect data with SSH (released with 10.2.0) now includes hardened containers to improve security.
- The "Linux Base Pack EE" execution environment was added to the PowerPack.
- The "Linux: Inode Performance" Dynamic Application was added to the PowerPack.
- PEM key credentials are now read from the memory on the SSH Data Collector, increasing security.
- An alert was added to the "Linux: IC Filesystem Inventory" Dynamic Application to indicate that the ICDA Cache is empty.
- The port cache producer was added to the "Linux: ICDA Interface Cache" Dynamic Application.
- SSH logging was improved to provide more useful and relevant information to users while in debug mode.
- Internal Collection (IC) Dynamic Applications now have the **Collector Affinity** field set to *Assigned collector* by default.
- The "silo_ssh" library was updated to version 0.1.1.

- The "silo_ssh_requests" library was updated to version 0.1.1.
- The "silo-apps" library was updated to version 1.25.1.
- "ifconfig" commands have been deprecated in the PowerPack.
- Devices are now discovered with the **Dynamic Discovery** option disabled by default.
- The "Linux: Dynamic Applications Template" device template was updated to include only the "Linux: Configuration Discovery" Dynamic Application. This update reduces the time that a Linux device is classified as a Linux server.
- The "Linux: Include Not Used Dynamic Applications Template" device template has been removed from the PowerPack.
- The "Linux: IC Interface Inventory" and "Linux: IC Interface Performance" Dynamic Applications now collect data from ip instead of ifconfig.
- Support of NVMe disks was added to the PowerPack.
- Unicode characters are now converted to the closest ASCII value in IC Dynamic Applications.
- The following event policies were added to the PowerPack:
 - Linux SSH: Authentication Error
 - Linux SSH: Authentication Timeout
 - Linux SSH: Connection Error
- The "Linux: CPU Configuration" Dynamic Application was updated to present CPU information clearly.
- The following alerts, threshold objects, and event policies were added to the "Linux: System Load Performance" Dynamic Application:
 - Alerts and Event Policies:
 - Linux SSH: Load Average (1 min) has Exceeded Critical Threshold
 - Linux SSH: Load Average (1 min) has Exceeded Warning Threshold
 - Linux SSH: Load Average (5 min) has Exceeded Critical Threshold
 - Linux SSH: Load Average (5 min) has Exceeded Warning Threshold
 - Linux SSH: Load Average (15 min) has Exceeded Critical Threshold
 - Linux SSH: Load Average (15 min) has Exceeded Warning Threshold
 - Threshold Objects:
 - Load Average Exceeded Threshold Critical
 - Load Average Exceeded Threshold Warning
- The following alerts were added to the "Linux: ICDA Cache" Dynamic Application:
 - Linux SSH: System Uptime is Below Threshold
 - Linux SSH: System Uptime has Exceeded Threshold
- The "Linux SSH: Zombie Process Count has Exceeded Critical Threshold" and "Linux SSH: Zombie Process Count has Exceeded Warning Threshold" alerts and event policies were added to the "Linux: Zombie Process" Dynamic Application.

- The "Linux SSH: Password Expiration Date is Below Threshold" alert was added to the "Linux: Configuration Discovery" Dynamic Application.
- The "CPU Overall Usage %" presentation object in the "Linux: CPU Performance" Dynamic Application and the "Total Percentage Inodes Used" presentation object in the "Linux: Inode Performance" Dynamic Application were updated to address a division by zero error.
- The "Linux: IC Availability" Dynamic Application was removed from the PowerPack.
- The "Linux: System Configuration" Dynamic Application was updated to improve exception handling.
- The "Linux: IC Process" Dynamic Application was updated to address an issue in which the word "infinity", in processes, caused unhandled exceptions.
- The PowerPack was updated to address an issue to handle exceptions for devices by displaying exceptions as device log events without changing the device state.
- The "silo_ssh_request" library was updated to address an issue that caused early timeout errors when reading the stdout.
- Users can create a custom collection object for the "Linux: CPU Configuration" and "Linux: System Configuration" Dynamic Applications to address an issue causing collection errors.
- The memory size calculation was updated in *Linux Base Pack* Dynamic Applications to address an issue in which physical memory size was calculated incorrectly.
- An issue was addressed in which false alerts were appearing for file systems and processes.

Known Issues and Workarounds

The following known issues affect version 104 of the *Linux Base Pack* PowerPack:


- After upgrading to version 104 of the PowerPack, you may not continue to receive data from your interfaces due to the deprecation of `ifconfig` commands. In an upgrade from version 103 to version 104, 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).
- When using SL1 version 8.14.0 with version 104 of the *Linux Base Pack* PowerPack, classic discovery will fail. It is recommended that users upgrade to SL1 version 8.14.1 or later. Otherwise users must perform discovery using the "Linux: Dynamic Applications Template" device template.
- To avoid false alarms from internal collection, you must update your SL1 system to version 10.2.1.2 or 10.2.2 and update to version 104 of the *Linux Base Pack* PowerPack.
- 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 pgguid 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>
```

- SL1 version 10.2.0 includes a major Known Issue that can cause performance degradation and a potential outage for Data Collectors. The Concurrent SSH Collection feature in the PowerPack is enabled by default on 10.2.0 systems, both upgrades and new installations. The Concurrent SSH Collection feature generates temporary files for each connection attempt to the monitored devices. These temporary files can eventually use all the space in the /var directory of each Data Collector, which can cause performance degradation and a potential outage. To prevent performance degradation and a potential outage, customers on version 10.2.0 of SL1 should disable this feature. This feature will be disabled automatically SL1's upcoming version 10.2.1.

To disable concurrent SSH collection:

1. Log in to the Administration Portal.
2. Go to the Process Manager page (System > Settings > Processes).
3. Find the process "Data Collection: SSH Collector" and select its wrench icon ()
4. Set the **Operating State** to *Disabled*.
5. Save your change.
6. Wait 10 minutes for all collection processes to complete

CAUTION: : If you are monitoring a large number of Linux devices, for example, 100 devices or more, you must re-balance the Data Collectors after stopping Concurrent SSH Collector. For details, see the chapter on *Collector Groups and Load Balancing* in the **Systems Administration** manual.

- If you have a concurrent SSH Data Collector enabled, this may cause the Dynamic Applications in the PowerPack to stop collecting data. To address this issue, follow the steps at <https://support.sciencelogic.com/s/article/5887>.
- 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 104 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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