

Pivotal™

PRODUCT DOCUMENTATION

PCF Metrics®

Version 1.0

User's Guide

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PCF Metrics

The Pivotal Cloud Foundry (PCF) Metrics tile stores metrics data from applications running on PCF and graphically presents that data for operators and developers. PCF Metrics helps operators and developers better understand the health and performance of their apps by providing a near real-time view of the following data:

- Container metrics: CPU, memory, and disk percentages (updated every 30 seconds)
- Network metrics: requests per second, HTTP errors per second, and request latency (updated every second)
- App events: create, update, start, stop, and crash (updated as they happen)

Product Snapshot

Current PCF Metrics Details

Version: 1.0.18

Release Date: 11/15/2016

Compatible Ops Manager Version(s): >= 1.6.0

Compatible Elastic Runtime Version(s): >= 1.6.16

AWS support? Yes

vSphere support? Yes

OpenStack support? Unconfirmed

PCF Metrics User Guide

See the following topics for details about PCF Metrics:

- [Installing PCF Metrics](#)
- [Using PCF Metrics](#)
- [Release Notes and Known Issues](#)

Installing PCF Metrics

This topic describes how to install and configure Pivotal Cloud Foundry (PCF) metrics.

Prerequisites

Ensure that you have installed the [Elastic Runtime Tile](#).

Step 1: Add the PCF Metrics Tile to Ops Manager

1. Download the PCF Metrics file from [Pivotal Network](#).
2. Upload the PCF Metrics file to your Ops Manager installation.
3. Click **Add** next to the uploaded product description in the **Available Products** view to add PCF Metrics to your **Installation Dashboard**.

Step 2: Configure the PCF Metrics Tile

From the **Installation Dashboard**, click the **PCF Metrics** tile.

 **Note:** The tile is orange because it requires configuration.

Assign Availability Zones (AZs) and Networks.

1. Click **Assign AZs and Networks**.
2. Select an Availability Zone under **Place singleton jobs**.
Ops Manager runs Metrics jobs with a single instance in this Availability Zone.
3. Select one or more Availability Zones under **Balance other jobs**.
Ops Manager balances instances of Metrics jobs with more than one instance across the Availability Zones that you specify.
4. Use the drop-down menu to select a network.
5. Click **Save**.

Resource Config

1. Click **Resource Config**.
2. Review the resource configurations. By default, the settings match the instance types that are best suited for each job. If you expect a high level of use, you may need to increase the disk resources available to your instances.
3. Click **Save**.

Stemcell

1. Navigate to [Pivotal Network](#) and click **Stemcells**.
2. Download the appropriate stemcell version for your IaaS.

 **Note:** On AWS make sure to use a HVM stemcell if you are using the default instance sizes.

3. Click **Import Stemcell** and select the stemcell file you downloaded.

Step 3: Deploy PCF Metrics

Click **Apply Changes** to install the service. Review the [Using PCF Metrics](#) topic for more information on how to log in, use, and interpret data from PCF Metrics.

Using PCF Metrics

This topic describes how to log into, use, and interpret data from Pivotal Cloud Foundry® (PCF) Metrics.

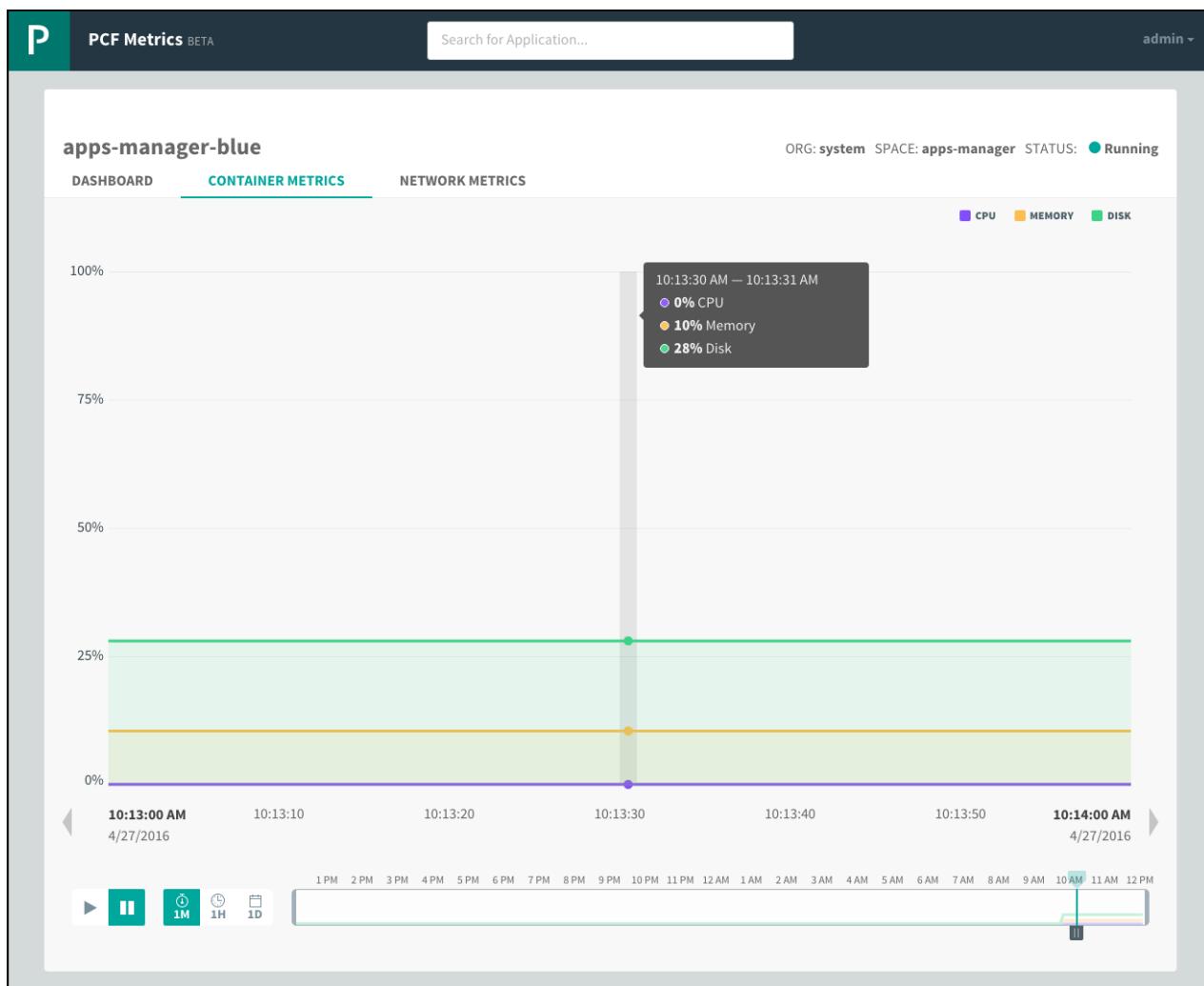
Log Into and Use PCF Metrics

1. In a browser, navigate to `metrics.YOUR-SYSTEM-DOMAIN` and log in with your User Account and Authentication (UAA) credentials.
2. PCF Metrics uses UAA to retrieve a list of apps that correspond to your user's org roles, space roles, and permissions. To view metrics information for an app, enter the name of the app in the search box and select it from the dropdown menu.

3. Select an app to display the **Dashboard** view. The **Dashboard** includes the following information:

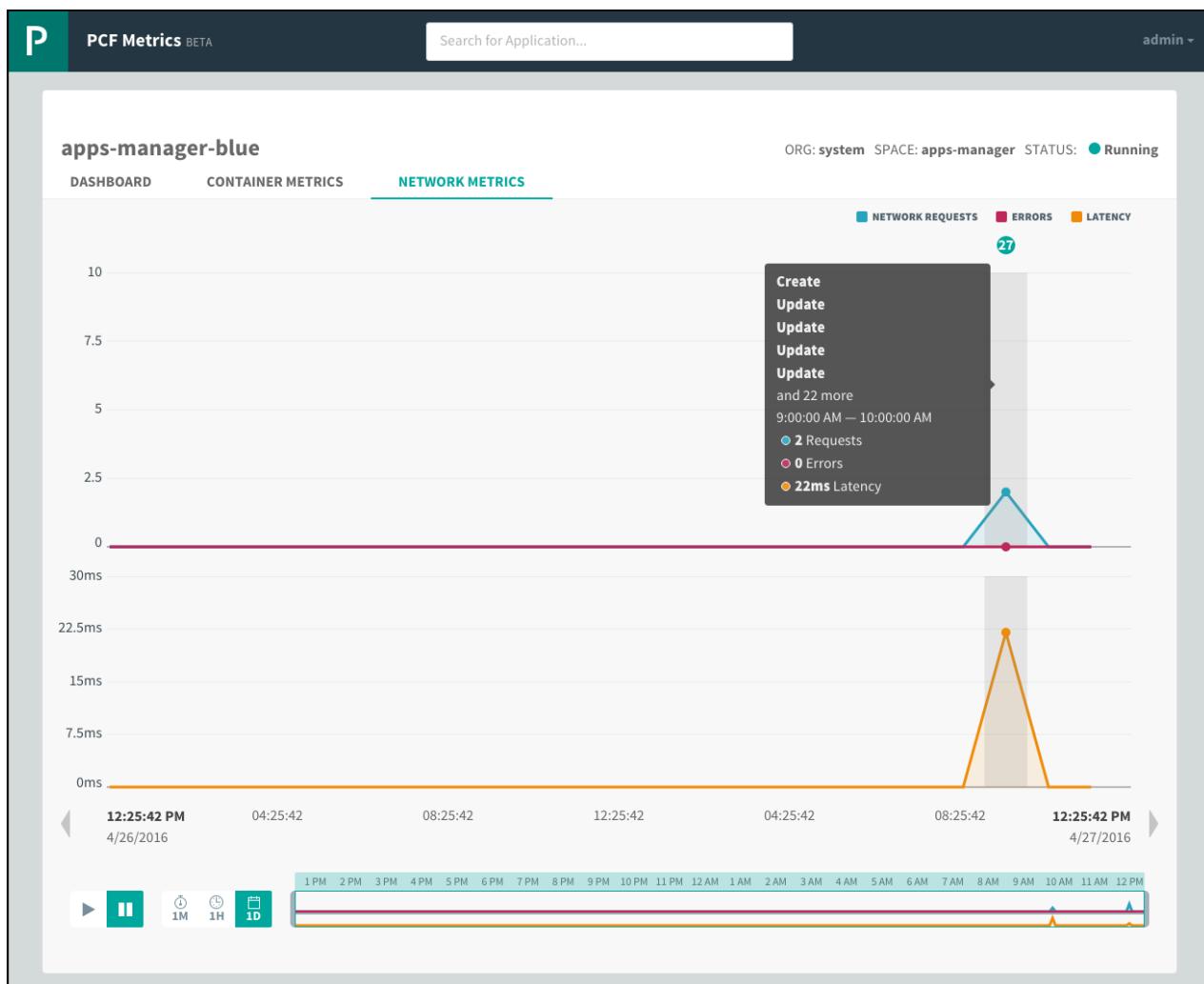
Configuration			Container Metrics			Network Metrics		
Instances	Memory Limit	Disk Limit	Container Metrics			Network Metrics		
1	1024 MB	1024 MB	CPU	0%		Requests	1	
http://console.oak-pcf.cf-app.com			Memory	10.5%		Errors	0	
			Disk	28%		Latency	9ms	

4. Click **Container Metrics** to display information on CPU, memory, and disk usage.



- Click the pause button to display a historical view of container metrics data. You can determine the scope of the historical view by clicking the one minute, one hour, or one day button. Hover to display the details for your selected time slice and click to zoom in on it. Use the left and right arrow keys to navigate adjacent time slices, and use the up arrow key to zoom out.

5. Click **Network Metrics** to display information on HTTP requests, errors, and latency.



- Click the play button to display an almost instantaneous view of network metrics data.
- Click the pause button to display a historical view of network metrics data. You can determine the scope of the historical view by clicking the one minute, one hour, or one day button. Hover to display the details for your selected time slice and click to zoom in on it. Use the left and right arrow keys to navigate adjacent time slices, and use the up arrow key to zoom out.

Note: You can toggle between the **Container Metrics** and **Network Metrics** view without leaving your selected time slice.

Interpret Metrics

PCF Metrics provides data on CPU usage, memory usage, disk usage, latency, HTTP errors, and HTTP requests. Refer to the following list for help with interpreting these metrics.

- A spike in CPU might point to a process that is computationally heavy. Scaling app instances can relieve the immediate pressure, but investigate the app to better understand and fix the root cause.
- A spike in memory might mean a resource leak in the code. Scaling app memory can also relieve the immediate pressure, but look for and resolve the underlying issue so that it does not occur again.
- A spike in disk might mean the app is writing logs to files instead of STDOUT, caching data to local disk, or serializing huge sessions to disk.
- A spike in latency means your users are waiting longer to use your app. Scaling app instances can spread that workload over more resources and result in faster response times.
- A spike in HTTP errors means one or more 4xx or 5xx errors have occurred. Check your app logs for more information.
- A spike in HTTP requests means more users are using your app. Scaling app instances can reduce the higher latency that may result.

PCF Metrics Release Notes and Known Issues

Version 1.0.24

Release Date: February 28, 2017

Notes

- PCF Metrics 1.0.24 - now with stemcell 3263.20

Known Issues

See the Known Issues section for the previous release.

Version 1.0.23

Release Date: January 18, 2017

Notes

- PCF Metrics 1.0.23 - now with stemcell 3263.17

Known Issues

See the Known Issues section for the previous release.

Version 1.0.20

Release Date: December 16, 2016

Notes

- PCF Metrics 1.0.20 - now with stemcell 3263.14

Known Issues

See the Known Issues section for the previous release.

Version 1.0.19

Release Date: December 8, 2016

Notes

- PCF Metrics 1.0.19 - now with stemcell 3263.12

Known Issues

See the Known Issues section for the previous release.

Version 1.0.18

Release Date: November 15, 2016

Notes

- PCF Metrics 1.0.18 - now with stemcell 3263.8

Known issues

- For applications that do not have any activity in the past 24 hours, meaning no app events or HTTP requests have been generated, users do not see any data in the UI. They must also refresh their browser after metrics are generated by the use of the app.
- When installing the PCF Metrics tile, the default Resource Config settings for each resource pool may be over-sized for POC/Beta purposes. Adjust them manually to fit your specific environment.
- All v1.0.x tiles - if the apps dropdown is grayed out
 - Because of an earlier CLI bug, some PCF metrics apps are missing system org guid during tile upgrade/uninstall process which crashes PCF Metrics UI and makes the apps dropdown inaccessible. This is fixed in the 1.1 Metrics tile. A work around for this to remove the user's access to system org using CLI.
- All v1.0.x tiles - if some apps are not accessible from the dropdown even though they are accessible in apps manager
 - If you have apps manager/console admin privilege, you may be able to see apps in apps manager without having space developer role privilege to the spaces in which those apps reside. Metrics however follows permissions directly from cloud controller so if you have cloud.controller.admin privilege, you can see all apps in all spaces in all orgs in PCF Metrics UI. If you have space developer privilege to certain spaces then you can only see the apps in those spaces in PCF Metrics UI.
- All v1.0.x tiles - SSO authentication is not supported. This feature is added in the 1.1 Metrics tile.

Version 1.0.17

Release Date: October 25, 2016

Notes

- PCF Metrics 1.0.17 - now with stemcell 3233.4

Known issues

- For applications that do not have any activity in the past 24 hours, meaning no app events or HTTP requests have been generated, users do not see any data in the UI. They must also refresh their browser after metrics are generated by the use of the app.
- When installing the PCF Metrics tile, the default Resource Config settings for each resource pool may be over-sized for POC/Beta purposes. Adjust them manually to fit your specific environment.
- All v1.0.x tiles - if the apps dropdown is grayed out
 - Because of an earlier CLI bug, some PCF metrics apps are missing system org guid during tile upgrade/uninstall process which crashes PCF Metrics UI and makes the apps dropdown inaccessible. This is fixed in the 1.1 Metrics tile. A work around for this to remove the user's access to system org using CLI.
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- All v1.0.x tiles - SSO authentication is not supported. This feature is added in the 1.1 Metrics tile.

Version 1.0.16

Release Date: October 12, 2016

Notes

- PCF Metrics 1.0.16 - now with stemcell 3233.2

Known issues

- For applications that do not have any activity in the past 24 hours, meaning no app events or HTTP requests have been generated, users do not see any data in the UI. They must also refresh their browser after metrics are generated by the use of the app.
- When installing the PCF Metrics tile, the default Resource Config settings for each resource pool may be over-sized for POC/Beta purposes. Adjust them manually to fit your specific environment.
- All v1.0.x tiles - if the apps dropdown is grayed out
 - Because of an earlier CLI bug, some PCF metrics apps are missing system org guid during tile upgrade/uninstall process which crashes PCF Metrics UI and makes the apps dropdown inaccessible. This is fixed in the 1.1 Metrics tile. A work around for this to remove the user's access to system org using CLI.
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- All v1.0.x tiles - SSO authentication is not supported. This feature is added in the 1.1 Metrics tile.

Version 1.0.15

Release Date: October 4, 2016

Notes

- PCF Metrics 1.0.15 - now with stemcell 3233.1

Known issues

- For applications that do not have any activity in the past 24 hours, meaning no app events or HTTP requests have been generated, users do not see any data in the UI. They must also refresh their browser after metrics are generated by the use of the app.
- When installing the PCF Metrics tile, the default Resource Config settings for each resource pool may be over-sized for POC/Beta purposes. Adjust them manually to fit your specific environment.
- All v1.0.x tiles - if the apps dropdown is grayed out
 - Because of an earlier CLI bug, some PCF metrics apps are missing system org guid during tile upgrade/uninstall process which crashes PCF Metrics UI and makes the apps dropdown inaccessible. This is fixed in the 1.1 Metrics tile. A work around for this to remove the user's access to system org using CLI.
- All v1.0.x tiles - if some apps are not accessible from the dropdown even though they are accessible in apps manager
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- All v1.0.x tiles - SSO authentication is not supported. This feature is added in the 1.1 Metrics tile.

Version 1.0.14

Release Date: September 28, 2016

Notes

- PCF Metrics 1.0.14 - now with stemcell 3232.21

Known issues

- For applications that do not have any activity in the past 24 hours, meaning no app events or HTTP requests have been generated, users do not see any data in the UI. They must also refresh their browser after metrics are generated by the use of the app.
- When installing the PCF Metrics tile, the default Resource Config settings for each resource pool may be over-sized for POC/Beta purposes. Adjust them manually to fit your specific environment.
- All v1.0.x tiles - if the apps dropdown is grayed out
 - Because of an earlier CLI bug, some PCF metrics apps are missing system org guid during tile upgrade/uninstall process which crashes PCF Metrics UI and makes the apps dropdown inaccessible. This is fixed in the 1.1 Metrics tile. A work around for this to remove the user's access to system org using CLI.
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- All v1.0.x tiles - SSO authentication is not supported. This feature is added in the 1.1 Metrics tile.

Version 1.0.13

Release Date: August 31, 2016

Notes

- PCF Metrics 1.0.13 - Release bumps required CLI to CLI v6.21.1 and configures CLI environment variable CF_DIAL_TIMEOUT to 30 seconds to reduce chance of CLI errors when network connection attempts include slow DNS resolution times

Known issues

- For applications that do not have any activity in the past 24 hours (which means no app events or http requests have been generated), users will not see any data in the UI. They will also need to refresh their browser after metrics are generated by the use of the app.
- While installing the PCF Metrics tile, the default Resource Config settings for each resource pool may be over-sized for POC/Beta purposes. You may adjust them manually to fit your environment.
- All v1.0.x tiles - if you see apps dropdown grayed out
 - Because of an earlier CLI bug, we have seen PCF metrics apps missing system org guid during tile upgrade/uninstall process which crashes PCF Metrics UI and makes the apps dropdown inaccessible. This is fixed in 1.1 Metrics tile. A work around for this to remove the user's access to system org using CLI.
- All v1.0.x tiles - if you don't see some apps in the dropdown even though they are accessible in apps manager

- If you have apps manager/console admin privilege, you may be able to see apps in apps manager without having space developer role privilege to the spaces in which those apps reside. Metrics however follows permissions directly from cloud controller so if you have cloud.controller.admin privilege, you can see all apps in all spaces in all orgs in PCF Metrics UI. If you have space developer privilege to certain spaces then you can only see the apps in those spaces in PCF Metrics UI.
- All v1.0.x tiles - SSO authentication is not supported. This feature is added in the 1.1 Metrics tile.

Version 1.0.11

Release Date: August 24, 2016

Notes

- PCF Metrics 1.0.11 - now with stemcell 3232.17

Known issues

- For applications that do not have any activity in the past 24 hours (which means no app events or http requests have been generated), users will not see any data in the UI. They will also need to refresh their browser after metrics are generated by the use of the app.
- While installing the PCF Metrics tile, the default Resource Config settings for each resource pool may be over-sized for POC/Beta purposes. You may adjust them manually to fit your environment.
- All v1.0.x tiles - if you see apps dropdown grayed out
 - Because of an earlier CLI bug, we have seen PCF metrics apps missing system org guid during tile upgrade/uninstall process which crashes PCF Metrics UI and makes the apps dropdown inaccessible. This is fixed in 1.1 Metrics tile. A work around for this to remove the user's access to system org using CLI.
- All v1.0.x tiles - if you don't see some apps in the dropdown even though they are accessible in apps manager
 - If you have apps manager/console admin privilege, you may be able to see apps in apps manager without having space developer role privilege to the spaces in which those apps reside. Metrics however follows permissions directly from cloud controller so if you have cloud.controller.admin privilege, you can see all apps in all spaces in all orgs in PCF Metrics UI. If you have space developer privilege to certain spaces then you can only see the apps in those spaces in PCF Metrics UI.
- All v1.0.x tiles - SSO authentication is not supported. This feature is added in the 1.1 Metrics tile.

Version 1.0.10

Release Date: July 15, 2016

Notes

- PCF Metrics 1.0.10 - BUG FIX: Corrects issue in 1.0.9 where the UI errand was not properly bumped to CLI v6.19, causing UI push to fail in some environments.

Known issues

- For applications that do not have any activity in the past 24 hours (which means no app events or http requests have been generated), users will not see any data in the UI. They will also need to refresh their browser after metrics are generated by the use of the app.
- While installing the PCF Metrics tile, the default Resource Config settings for each resource pool may be over-sized for POC/Beta purposes. You may adjust them manually to fit your environment.
- All v1.0.x tiles - if you see apps dropdown grayed out
 - Because of an earlier CLI bug, we have seen PCF metrics apps missing system org guid during tile upgrade/uninstall process which crashes PCF Metrics UI and makes the apps dropdown inaccessible. This is fixed in 1.1 Metrics tile. A work around for this to remove the user's access to system org using CLI.

- All v1.0.x tiles - if you don't see some apps in the dropdown even though they are accessible in apps manager
 - If you have apps manager/console admin privilege, you may be able to see apps in apps manager without having space developer role privilege to the spaces in which those apps reside. Metrics however follows permissions directly from cloud controller so if you have cloud.controller.admin privilege, you can see all apps in all spaces in all orgs in PCF Metrics UI. If you have space developer privilege to certain spaces then you can only see the apps in those spaces in PCF Metrics UI.
- All v1.0.x tiles - SSO authentication is not supported. This feature is added in the 1.1 Metrics tile.

Version 1.0.9

Release Date: July 1, 2016

Notes

- PCF Metrics 1.0.9 - now with stemcell 3232.12. Release also bumps required CLI to CLI v6.19.

Known issues

- **BUG IDENTIFIED:** An errand was missed when requiring the CLI v6.19 bump, leaving the UI push errand still on v6.18.1. This bug has caused the UI push to fail in some environments. Metrics v1.0.10 corrects.
- For applications that do not have any activity in the past 24 hours (which means no app events or http requests have been generated), users will not see any data in the UI. They will also need to refresh their browser after metrics are generated by the use of the app.
- While installing the PCF Metrics tile, the default Resource Config settings for each resource pool may be over-sized for POC/Beta purposes. You may adjust them manually to fit your environment.

Version 1.0.8

Release Date: June 23, 2016

Notes

- This release fixes a route issue in prior versions of PCF Metrics v1.0 where you could receive a "404 Not Found: Requested route does not exist in PCF Metrics" error.

Known issues

- For applications that do not have any activity in the past 24 hours (which means no app events or http requests have been generated), users will not see any data in the UI. They will also need to refresh their browser after metrics are generated by the use of the app.
- While installing the PCF Metrics tile, the default Resource Config settings for each resource pool may be over-sized for POC/Beta purposes. You may adjust them manually to fit your environment.
- No direct upgrade path. Operators can delete the installed tile and install the new tile. This does result in downtime and data loss.

Version 1.0.4

Notes

- Update to use Stemcell 3146.11
- Change list of apps available to a user and prevent overload of Cloud Controller API
- The route for the PCF Metrics application is registered as `metrics.<system-domain>` in this v1.0.4 release. The application can be accessed at
`https://metrics.<system-domain>`

- The install will create a small deployment suitable for hundreds of apps. This is not configured for thousands of apps.

Known Issues

- Route mappings for `metrics.<system_domain>` and `metrics.<system_domain>/v2` may be overwritten or incorrectly mapped during redeployments.
- For applications that do not have any activity in the past 24 hours (which means no app events or http requests have been generated), users will not see any data in the UI. They will also need to refresh their browser after metrics are generated by the use of the app.
- While installing the PCF Metrics tile, the default Resource Config settings for each resource pool may be over-sized for POC/Beta purposes. You may adjust them manually to fit your environment.
- No direct upgrade path. Operators can delete the installed tile and install the new tile. This does result in downtime and data loss.

Version 1.0.3

Known issues

- Not all applications metrics are accessible to admin users.
- For applications that do not have any activity in the past 24 hours (which means no app events or http requests have been generated), users will not see any data in the UI. They will also need to refresh their browser after metrics are generated by the use of the app.
- While installing the PCF Metrics tile, the default Resource Config settings for each resource pool may be over-sized for POC/Beta purposes. You may adjust them manually to fit your environment.

Notes

- Updated to use stemcell 3146.5
- This beta requires Elastic Runtime v1.6.16 or greater.
- The route for the PCF Metrics application is registered as `metrics.<system-domain>` in this v1.0.3 release. The application can be accessed at <https://metrics.<system-domain>>
- The install will create a small deployment suitable for hundreds of apps. This is not configured for thousands of apps.