

StarlingX AppHub

Problem Description

StarlingX applications are defined in two categories, system application and non-system application (hereby called user application).

The system applications are created for containerized platform services and are built by the StarlingX build system. The system applications locate in independent repos in <https://opendev.org/starlingx> of which the names are ending in “-armada-app”. The user applications are used when the StarlingX users are willing to deploy their own services on StarlingX platform. The user applications could be generated by the user application generation tool <https://opendev.org/starlingx/tools/src/branch/master/app-gen-tool> without using the StarlingX build system.

When a user is trying to hands-on StarlingX at the application level, the intuitive approach is to apply a sample application to StarlingX application system. It could probably be a lightweight application such as a web server or a message queue server or a WordPress site. Current applications in StarlingX repo are all system applications which are not user friendly because of the build system barrier and armada specific manifest style.

Throughout the StarlingX repos, there is a lack of out-of-box reference applications to demonstrate the sample of StarlingX user applications and the ability of integrating 3rd party projects as well. To address this issue, an idea of establishing an application hub is proposed.

Proposed change

The proposal is to establish a StarlingX repo named AppHub for out-of-box reference application placement.

In the AppHub, 2 types of entity will be stored:

1. Release - packaged application tarball
An application tarball is the release of an app and is the direct input for StarlingX application system.
2. Source - App info w/ or w/o helm chart folder
The minimum app info is required in yaml format to indicate:
 - appName: the name of the application
 - namespace: default namespace for application deployment, could be overridden
 - version: app version
 - chart.name: the name of the helm charts
 - chart.path: the path of the helm charts, supports local folder, tarball on local disk or remotely, git repo

The repo folder structure is proposed as:

```
AppHub.git
|
|-- Application A (directory)
|   |
|   |-- release (directory)
|       |
|       |-- App_A_version.tgz
|       |
|       |-- source (directory)
|           |
|           |-- App_A_info.yaml
|
|-- Application B (directory)
|   |
|   |-- release (directory)
|       |
|       |-- App_B_version.tgz
|       |
|       |-- source (directory)
|           |
|           |-- App_B_info.yaml
|           |
|           |-- charts (directory)
```

Alternatives

From reference application perspective, there are no entities like armada application hub publicly hold in opensource world.

From content of the AppHub perspective, the alternative is making a standard armada app source which includes centos spec and armada manifest as the application source. This increases the complexity of building the application which involves the StarlingX build system if users are willing to rebuild the app themselves.

Data model impact

None. This story does not change any existing data models.

REST API impact

None. This story does not change any existing REST APIs.

Security impact

None. This story does not have security impact.

Other end user impact

The end users could either apply the release of the application from AppHub, or develop their own applications refer to the app source code and build them without StarlingX build system.

Performance Impact

None.

Other deployer impact

None.

Developer impact

None.

Upgrade impact

None.

Implementation

Assignee(s)

Primary assignee:

Mingyuan Qi

Repos Impacted

AppHub – the repo holding the application hub

Work Items

- Create the AppHub repo.
- Add reference/sample applications to the AppHub repo.

Dependencies

None.

Testing

Test the applications are running on StarlingX as expected.

Documentation Impact

A new page will be added to describe the apps in AppHub and the method of building a user application.

References

[0] <https://opendev.org/starlingx/tools/src/branch/master/app-gen-tool>

[1] <https://opendev.org/starlingx/?q=armada-app&tab=&sort=recentupdate>

History

Revisions

Release Name	Description
stx-5.0	Proposed