Maturity Review Certification of SmartNIC

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To be updated.

The maturity review process is shown in this page :BP Graduation Review Processes and Criteria

The SmartNIC is requesting a maturity review.

This page references the requirements in BP Graduation Review Processes and Criteria specifically the table cell for Incubation -> (Mature) on the second row from the bottom of the page.

On a successful graduation the BP HW/SW package is deemed to be Beta-Quality and the BP moves to the Mature stage.

The collective TSC vote as defined in Akraino Technical Community Document#4.4.1TSCDecisionMakingProcess will be based on all the following set of checks being met:

- **Validation lab check:**

The BP project contributors have deployed and validated the BP in at least 2 community member validation labs or a community member validation lab and LF CD lab with the exact HW and SW configuration for which the maturity review is being requested. All validation labs are required to connect with Akraino LF CI. Logs on the LF CI servers pushed from each validation lab's CD testing would be used to verify this check.

- **Release inclusion check:**

IEC Type 5 SmartNIC successfully participated in Akraino release R3, R4 and R5's incubation stage.

  - Release 3 Planning
  - Release 4 Planning
  - Release 5 Planning

- **SW quality/functional check**:

The SW quality will be assessed as reaching beta according to :

1. Passing the mandatory set of test cases for all deployed layers using the tools and test set for each layer as defined by the Akraino Validation Framework Validation feature project (Akraino Blueprint Validation Framework) (after TSC approval). This will define minimum mandatory set of test that must be passed for each layer included in BP, plus
2. Passing any additional test cases defined by the specific BP project as mandatory, plus
3. Achieving the minimum Security requirements as defined by the Security subcommittee Steps To Implement Security Scan Requirements

- **HW definition check**:

- PCIe Backplane with 9 PCIe slots
- One PCIe solt for SmartNIC
- The other 8 PCIe slots for Edge Computing Server

- **Upstream dependencies check:**

Upstream dependencies must be clearly defined

DPDK version 20.11

Open vSwitch 2.14.1

LINUX Kernel 5.4

SmartNIC BlueField 2

- **Documentation check:**

Documentation subcommittee to provide a recommendation on graduation, or if not with items requiring action/remedy.

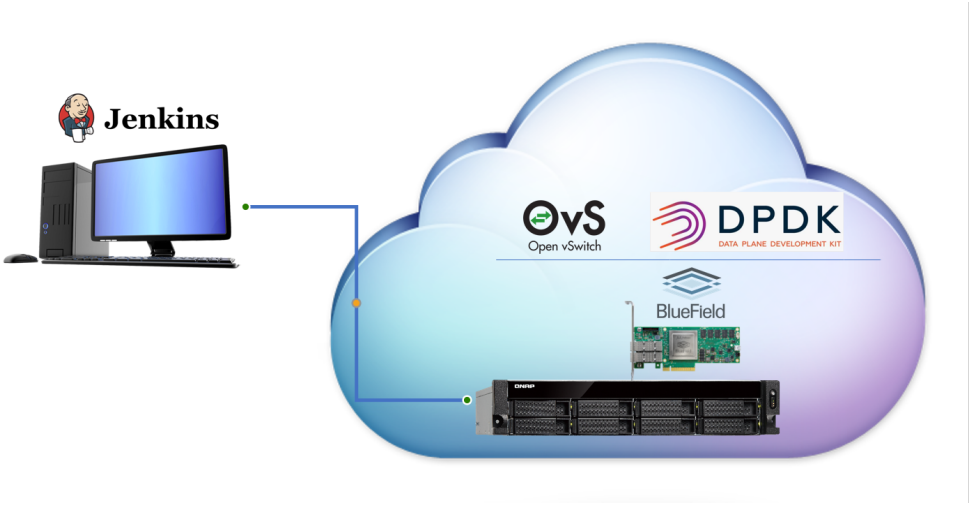
This check includes verification that any supported APIs are clearly documented

- **Community Health and Stability check:**

PTL should provide a summary of contributors and committers and companies and demonstrate growth - Project is active and contributes to Akraino: The project demonstrates increasing number of commits and/or number of contributions across recent releases. Contributions are commits that have been to an Akraino repository project or related upstream project. Commit examples can be patches to update the requirements document of a project, code addition to an Akraino or upstream project repository, new additional test cases and so forth. [maybe create a template, or use something like Bitergia to get some consistent metrics coming into this review].

The PTL should demonstrates stable output (code base, documents) within its history of releases in accordance with the release policy.

- Validation lab check
  - *https://nexus.akraino.org/content/sites/logs/bytedance/job/run-install-bluefield-fs/*
  - *https://nexus.akraino.org/content/sites/logs/bytedance/job/run-install-ovs-dpdk/*
  - *https://nexus.akraino.org/content/sites/logs/iec5_nv/*
  - Multiple Jenkins jobs exist for deploying SmartNic blueprint to multiple labs and for ovs-dpdk installation and various testing. The jobs listed below are the primary CD jobs. Additional job logs can be viewed on Nexus, but these listed here are the relevant ones for Akraino maturity review
- Release inclusion check
  - Release 3 Planning
  - was included in Akraino Release 3
  - Release 4 Planning
- SW quality/functional check
  - The function and performance of the OVS-DPDK SW offloaded to BlueField Smartnic is passing the maturity review verification in Nividia Mellanox and bytedance Labs.
  - SW had passed the lynis check and log uploaded.
- HW definition check (long chen update!)



Nvidia Mellanox validation lab Hardware topo diagram for R3

  - A reference platform is documented for the primary validation lab https://wiki.akraino.org/display/AK/Radio+Edge+Cloud+Validation+Lab
  - Additional hardware information for non-reference platforms (REC/TA targets broad hardware support) is available in the installation guide https://wiki.akraino.org/display/AK/REC+Installation+Guide#RECInstallationGuide-HardwareRequirements:
  - Support for ARM hardware is being actively developed but may not be complete in time for Akraino release 2 https://wiki.akraino.org/display/AK/Porting+REC+on+aarch64
- Upstream dependency check (Peng He update!)
  - The upstream dependencies are enumerated in non-machine-readable form on the wiki https://wiki.akraino.org/display/AK/REC+Architecture+Document#RECArchitectureDocument-ComponentsofRadioEdgeCloud and in machine readable form in the Gerrit repos as described in https://wiki.akraino.org/display/AK/Gerrit+Code+Repository+Overview
- Documentation check
  - Documentation was created for Akraino Release 3 and there are no documentation issues
- Community Health and Stability check
  - Meetings are held weekly and minutes are published with a list of attendees Meetings of IEC Type 5: SmartNIC for Integrated Edge Cloud (IEC) Blueprint Family
  - Meeting contents include welcoming new participants and providing an introduction to the projects as well as discussing ongoing progress
  - Contributions from Tencent, Ampere, Inwinstack, Arm, are working on adding ARM support to the previously x86-only code https://gerrit.akraino.org/r/#/q/topic:aarch64-support+(status:open+OR+status:merged)