**3GPP TSG-SA5 Meeting #142-e *S5-223263rev1***

**e-meeting, 4 - 12 April 2022**

**Source: Huawei**

**Title: Add description of deployment options**

**Document for: Approval**

**Agenda Item: 6.5.14.1**

# 1 Decision/action requested

This document is to request approval of the proposed text.

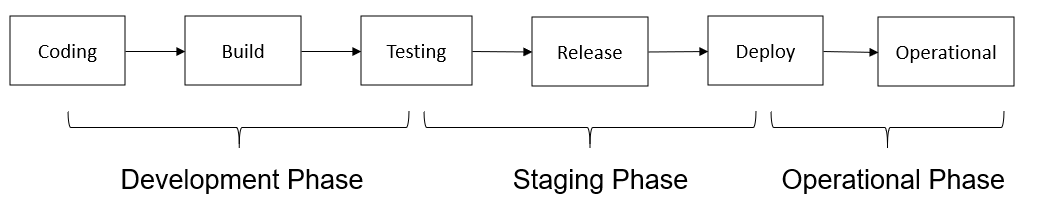
# 2 Rational

The current Draft TR 28.819 describes the concepts and steps in a chain. But, the multiple vendor relation and the deployment for this multiple vendor relation is not described in current Draft TR. This document is to propose some description of relation in multiple vendor relations in context of CICD.

# 3 Proposed changes

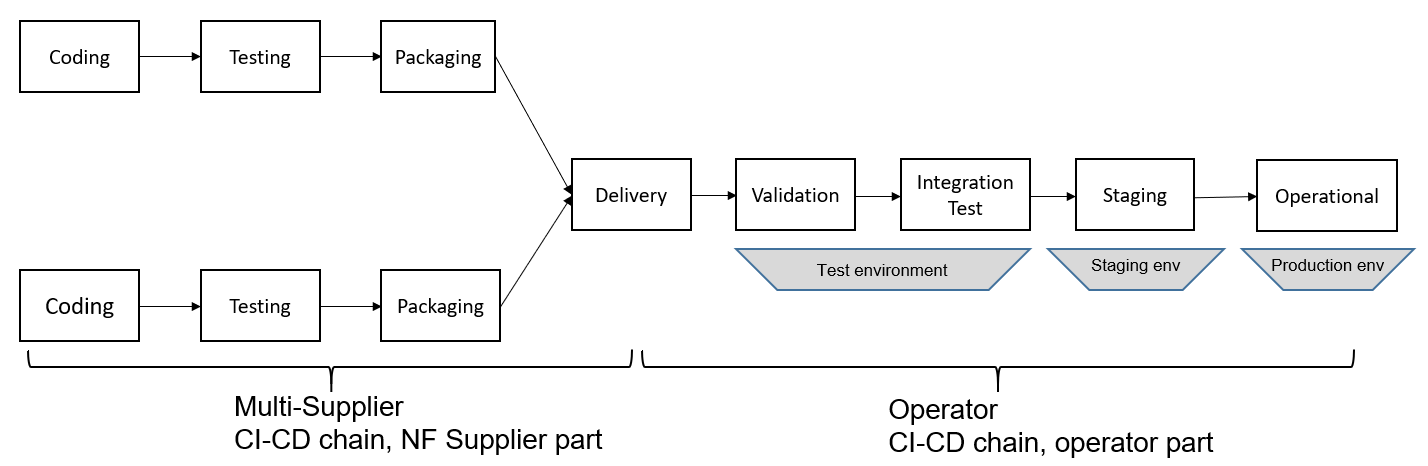
The start of the change

5.2 Single and Multiple NF Suppliers CI-CD



**Figure 5.2-1: Single supplier software CI-CD Chain**

A typical software CI-CD chain consists of several stages as shown in Figure 5.2-1: Development Phase, Staging Phase and Operational Phase. Starting from the Development Phase, the developers write the software of the NF, and the test code used to test the NF. When the software is finished and committed, the CI-CD tool will automatically trigger the building and testing. At the step of testing, the integrity of software artifacts is checked and the functional/non-functional acceptance testing are performed. At the staging phase, the software which passes all the tests will be release to the operational environment. At the Operational phase, the software is deployed in the production environment with the real traffic/user load. The software delivered in such typical CI-CD chain is usually provided by a single supplier.

****

**Figure 5.2-2: Multiple NF supplier to single operator**

In telco environments (see Figure 5.2-2), the coding, initial testing and package part of the CI-CD chain is typically at the vendor premises, and the validation, integration testing and deployment part is at the operator part. The CI-CD tools used in the operator part is responsible for fetching delivered artifacts, triggering tests, collecting test results and data, deploying software to staging/production environment, collecting operational data and sending feedback to the vendor.



**Figure 5.2-3: Vendor and Operator internal processes**

As shown in Figure 5.2-3, the vendor internal CI-CD process can be vender specific, which may include coding, testing, and packaging. As a deployment option, the vendor internal CI-CD process may additionally include deployment of new NF and the health status monitoring and rollback.

Additionally, an operator receives software artifacts (for 3GPP NFs) from multiple vendors. Then follows its own internal CI-CD processes (see Figure 5.2-3) as a part of the CI-CD chain before deploying the NF to an operational platform. The internal CI-CD processes including validation and testing phases are not in scope of this SID. However, there are scenarios in which the CI-CD process interacts with the 3GPP Management system, which are main focus of this report.

End of change