**3GPP TSG-SA5 Meeting #142-e *S5-223264rev1***

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

**Source: Huawei**

**Title: Update text for editorial issues**

**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 use cases described as context of CICD pipeline for network operators. This contribution is to provide some editorial changes regarding the description in a couple of use cases.

# 3 Proposed changes

The start of the change

## 6.6 Environment Data Collection

### 6.6.1 Description

When conducting testing or in NF operation and maintenance, there may happen test failure, fault or other problems, the network operator will sustain to monitor network running status, collect network data, and use collected environment data to analyse and diagnose problems. The environment data can be obtained from fault supervision, performance management, NWDA, MDA and etc. To fulfil the automatic CICD chains, the network operator should filter the related data and may feedback them to the NF supplier according to analysis results or NF supplier’s requests. This function can interact with 3GPP other MnFs to get data.

### 6.6.2 Potential Requirements

**REQ-CICD\_EDC-FUN-1**: The 3GPP Management system should have the ability to collect test-related information.

**REQ-CICD\_EDC-FUN-2:** The 3GPP Management system should have the ability to provide test-related information to CICD related systems.

### 6.6.3 Possible Solutions

#### 6.6.3.1 Alternate 1

The 3GPP management system needs to collect and manage test-related data for supporting CICD automation, such as test status, test results. When the test fails, 3GPP management system can use the data to position problem and analyse root cause. After tests passed, the 3GPP management system will involve the NF as part of operational network and keep continuous monitoring and collecting performance data and fault data from fault supervision, performance management service.

It is recommended that 3GPP management system has a new MnS for the following responsibilities:

* Collecting test related data
* Providing the collected test data to the analysis management service (i.e. MDAS) for positioning problem and analysing root cause if needed.
* Obtaining logs, configurations, fault information, performance information and other information that are related to a specific NF from fault supervision, performance management service and etc.
* Providing data to external CICD related system when it requests the test data or other environment information.

## 6.7 Test orchestration

### 6.7.1 Description

After the NFs are delivered, network operator may process conduct multiple kinds of various tests (e.g., functional testing, performance testing and so on). The network operator may need to construct test tasks, determine the execution order of test cases, and allocate resources to support testing based on test types and requirements.

### 6.7.2 Potential Requirements

**REQ-CICD\_TO-FUN-1**: The 3GPP Management system should have the ability to provide network resource status and test related information to CICD related systems for assisting test orchestration.

### 6.7.3 Possible Solutions

#### 6.7.3.1 Alternate 1

An authorized entity (e.g. the CI-CD testing system) requests the 3GPP management system to provide network resource status and test related information. Using the provisioning management service, Performance assurance or other MnSs (in TS 28.532), the 3GPP management system provides the related information, for example, target entities (e.g. the NF under operational tests) and network resource status (e.g. traffic load) to CICD related systems. The CI-CD testing system can use this information to decide the preferred order of tests to the 3GPP management system for operational testing.

## 6.8 Simulated testing

### 6.8.1 Description

While system tests are expensive to perform, they do not represent the real operational network. Therefore, the gap between a system test and an operational network, especially in telecommunication network, maybe be a rather large one.

To overcome this the operator may perform system testing in a (partially) simulated environment of the live operational network or a recording of the operational network based on specific events that the operator may want to test against. A new version of the NF may replace the old NF in the simulated environment and help the operator simulate how the new NF would perform in the operational network.

### 6.8.2 Potential Requirements

**REQ-CICD-SE\_FUN-1:** The 3GPP management should provide to authorized consumer the capability to configure the level of details required to create a simulation of the operational network.

**REQ-CICD-SE\_FUN-2:** The 3GPP management system should be able to periodically provide to authorized consumers the information required to simulate the operational network.

**REQ-CICD-SE\_FUN-3:** The 3GPP management system should be able to record the information required to create a simulation of the operational network.

6.8.3 Possible solution

The 3GPP management system provides configurable parameters relating to network and managed entity state and other relevant data to help maintain the simulated environment which is as close as possible to the operational network. The entity responsible for maintaining the simulated network copy subscribes to the 3GPP management system to receive such changes in the 3GPP network.

In certain cases the operator or another authorized entity may configure events in the 3GPP network – for example failure of an NF – that result in the 3GPP management system saving relevant information, as configured by the authorized entity, to help recreate the network simulation at a later point in time.

In these simulation environment the old version of the NF can be replaced by the new NF version to conduct the simulated testing.

## 6.9 Test data analysis

### 6.9.1 Description

During the conduct of testing in operational environment, there will have related network operations data and other environment data along with test results. When test fails (e.g. a performance testing under a test slice), 3GPP system can use these data to primarily analyse where the problem is. If the analysis results show it is the problem of the NF, the network operator can send the improvement suggestions, problem description and relevant environment data to the NF supplier.

### 6.9.2 Potential Requirements

**REQ-CICD\_TDA-FUN-1**: The 3GPP Management system should have the ability to analyse test related data and provide analysis results.

### 6.9.3 Possible Solutions

#### 6.9.3.1 Alternate 1

The 3GPP management system analyses test-related data, this solution is required to define a new MDAS capability to do the test data analysis.

End of change