**3GPP TSG-SA5 Meeting #156 *S5-244178***

Maastricht, Netherlands, 18 Aug - 23 Aug 2024

**Source: Samsung, ZTE**

**Title: Historical CCL Data.**

**Document for: Approval**

**Agenda Item: 6.19.4**

# 1 Decision/action requested

***In this box give a very clear / short /concise statement of what is wanted.***

# 2 References

None

# 3 Rationale

This provides the solution for existing use case of CCL.

# 4 Detailed proposal

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| **First Change** |

## 5.3 Use case 3: CCL creation based on Historical CCL data.

### 5.3.1 Description

This use case describes the need of maintaining information about the CCLs that existed in the past. Those CCLs are called Historical CCLs

In an automation environment, before a consumer request to create a CCL it would like to know the data related with Historical CCLs that were available with the producer. This information will enable consumer to request for an optimal CCL. The information about historical CCL may include, scope of the CCL, configured goals/targets, controlled entity etc.

Further, Historical CCL information serves as a valuable data source for predictive analytics within the CCL system executed as Analytics step. It enables the system to move from a reactive mode, where it responds to current issues, to a proactive mode, where it anticipates and prevents problems based on historical trends and patterns. This proactive approach enhances network reliability, minimizes downtime, and improves the overall efficiency of network operations.

The existing CCL mechanism has no means to enable historical CCL information that can be used to predict potential network issues and take proactive measures to prevent them. The absence of historical CCL information can be a significant limitation in network automation.

The breach and feedback information is provided in clause 5.11.

### 5.3.2 Potential Requirements

REG-HIS-REQ: The 3GPP management system shall enable authorized MnS consumer to request for information (e.g., CCL identification, configured goals/targets and the related status, scope of the CCL, conflict information) related with Historical CCL.

5.3.3 Potential Solution

The solution involves introducing <<datatype>> (e.g HistoricalCCLInfo) to contain historical CCL information that can be queried by the consumer to understand the information related with previous CCL including the following.

* CCL Information:
	+ CCL Identification
	+ Initial Goals and Targets: It provides the initial goals/targets set provisioned for the CCL.
	+ Intermediate Goals and Targets: It provides the set if intermediate goals/targets set provisioned for the CCL.
	+ Last Goals and Targets: It provides the last goals/targets set provisioned for the CCL.
	+ CCL Scope: It indicates the scope of CCLe.g in terms of a location.
* Breach Information related with goal breach. There will be multiple instance of this datatype for each breach instance.
	+ Time of breach: The time at which the breach happened
	+ Breached Goals and Targets: The goal which got breached
	+ Action Taken: The action(s) that was taken to mitigate the breach. This will provide the list of operations performed, MOI effected and attributes set/modified.
* Feedback Information
	+ Satisfaction Score: It indicates whether the consumer is satisfied with the overall CCL execution. It will be Boolean attribute..

Editor’s Note: The attributes in CCL information and Breach Information should be aligned with the attributes of CCL in other CCL solutions

The following figure shows the procedural flow:



1. Producer instantiate and provision a CCL as defined in 3GPP TS 28.536
2. Consumer send DeleteMOI request for a CCL.
3. Producer sends a response
4. Producer either instantiate or modify the HistoricalCCLInfo MOI with the information related with CCL being deleted.
5. Consumer may decides to initiate a CCL. Before that it would like to understand the historical CCL information.
6. It send getMOIAttributes for HistoricalCCLInfo MOI to read the information captured.
7. Producer send a response
8. Consumer develops the learning based on the historical CCL information received.
9. Based on the learning the consumer send a createMOI request to create a new CCL. It enables the newly created CCL to move from a reactive mode to a proactive mode, where it anticipates and prevents problems based on historical trends and patterns. This proactive approach enhances network optimization, issue prevention and improves the overall efficiency of network operations.
10. Producer send a response.

Note: The above procedure flow is for illustration only. It assume that the proposed information is modelled as an IOC. The actual modelling of the information will be decided as part of normative work, that may change the procedure flow.

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| **Last Change** |