

Source: Siemens AG
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Title: “Erroneous Behaviour” in CAP CAMEL Phase2

Document for: Discussion/Decission

Agenda Item: 7.1

Introduction

During roll-out of CAMEL2 service at one of our customers an "abnormal" behaviour was detected during the IOT tests.

This contribution intends to raise the attention to this issue on a broader forum than CN2 and wants to pinpoint to the consequences if no measures would be taken.

The Behaviour in Question

The Problem description is copied from customer's Remark on IOT:

Any SCF that sends AoC-Parameters to an XXXxXXX receives a ReturnError with error-code SystemFailure in case the subscriber is not provided with the AoC supplementary service This return may lead to a subsequent Abort of the present dialog from the SCF side. To avoid this situation, the Siemens-Prepaid-Services for CUSTOMER was modified and the sending of SendChargingInformation-operation has been removed from the service script. But this is a **partial solution** only, because in case of international roaming of a Non-CUSTOMER-Prepaid-Subscriber it is most likely, that any call involving XXXxXXX SSF and SIEMENS-like-SCP may be aborted due to the presence of CSE generated e-parameters for subscribers not provided with the AoC-supplementary service.

The discussion in the IOT-team between XXXxXXX and Siemens did not give a final result. It is our duty to inform our customer.

In the following both sides have brought forward their reasoning why they believe their behaviour is conform to the standards. This section is not copied here.

Activities meanwhile / Status

The issue was discussed between Siemens and the customer and a consequentially a respective R'97 ff. CR was drafted, discussed in CN2 and put for email approval but finally was opposed by XXXxXXX.

An alternative set of CRs issued by XXXxXXX proposes to only add for R'97 a health warning and correct/clarify the situation for later releases.

None of both proposals is so far finally accepted.

Discussion

Note: Siemens is not the only vendor who implemented the functionality along the interpretation of independence from subscribed AoC-SS. With other manufacturers equipment no interworking problems are noted.

We see in the experienced behaviour of XXXxXXX an unnecessary linkage/dependency between CAMEL Functionality and classic GSM-supplementary services. Such linkages add unnecessary complexity and by this intrinsically added faultpotention.

This should be prevented as much as possible for sake of stability of the system especially for roaming cases.

The observed behaviour (ReturnError – System Failure) as experienced in this situation is in our view not appropriate respectively too strong / exaggerated.

In general such behaviour of an entity will hinder the international success of CAMEL.

In roaming situations a lot of different vendors equipment will be connected to each other and here some flexibility is requested to make best usage of peer entities information instead of aborting communication immediately if information is not presented/delivered 1000% as expected.

Why Rel97 CR?

The current situation shows that the CAMEL specification is not that high quality than it needs to be to prevent such severe deviating interpretation. Hence we strongly recommend to correct respectively clarify the behaviour even for CAMEL 2 respectively Release'97.

A health-warning would only acknowledge the existence of a not mended bug in this release.

If this situation is not clarified for R'97 and no solution is achieved then the usage of this AoC-feature needs be denied, ie CAP SendChargingInformation Operation can not be deployed – especially in case of roaming, ... where once upon a time CAMEL was especially designed for.

At least the **extinction of this feature/functionality from CAMEL2** needs to be clearly recognised and acknowledged by the operators.

CAMEL 3 situation

It is implicit that the situation in CAMEL3 (Rel 98/99) standard is currently identical to the status for CAMEL2.

For this it also has to be decided whether it is too late to correct/clarify something in the specs or whether for CAMEL3 this subfunctionality shall also not be deployed.

Conclusion / Proposal

1. CN2 shall undertake all endeavours to find a solution for this problem which does not limit the functionality of CAMEL2 neither in national nor in international/roaming case.
2. TSG_CN plenary shall either accept corrective/clarifying Release97 CRs or on the other hand clearly announce in 3GPP andGSM Association the extinction of this functionality from CAMEL Phase2.
3. For CAMEL Phase 3 the extinction of this functionality shall not be an accepted option.

General Guidelines:

- a) When designing and implementing protocols special care shall be taken to show flexibility and allow continuation of service as best as possible instead of exaggerated abort of communication.
- b) Services architecture and service design shall be specified as much as possible independent of each other to cater for less complexity which improves the overall robustness of the system.
- c) Since the system already started to become very complex, such "erroneous behaviour" will occur more and more. CN should be prepared to handle in future more of these issues.

The most high sophisticated / high end service will be of no benefit to none of us (subscriber/ operator/ manufacturer) if it turns out that the service can't be used because of some odd dependency to some other aspect in the system.