TSG-SA Meeting #18 ***SP-020810***
New Orleans, Louisiana, December 2002

Title: **SIP 488 message vs SDP editing**
Source: **Orange**
Document for: **Discussion and Decision**
Agenda: 7.2.2 (SA2)

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1. Introduction

Following the SA#17 decision on the IETF LS, there have been intensive discussions especially in CN1 and SA2 on the SDP editing issue for the last quarter. Mainly, two approaches were discussed:

- SDP modification by CSCF (current solution in 3GPP specifications)
- Use of SIP 488 UNACCEPTABLE HERE message

The first option is also referred to as "option A" in the Liaison statement from CN to SA on Interoperability Issues and SIP in IMS (SP 020800). The second option is referred to as "option B" in this liaison.

During last CN1/SA2 joint meeting in Bangkok, some companies (among them Ericsson, dynamicsoft) have drafted two CRs (stage 2 and stage 3) based on the 488 error message solution. The CR on TS 23.228 was not approved by SA2 and it was decided to attached it to a LS forwarded by SA2 to SA#18 (SP-020766). The Stage 3 CR was presented in CN plenary for approval conditionally to the approval of the stage 2 by SA.

These CRs suggest to use the SIP 488 error message sent back to the UE when the requested media parameters are not allowed for this IMS session attempt. This rejection shall contain sufficient information for the originating UE to re-attempt session initiation with allowed media parameters.

2. Important requirements and concerns from an operator point of view

Both solutions (SDP editing and 488 message) address the 3GPP requirements regarding Policy Control and Subscription Control.

Following all the technical discussions that took place in SA2 and CN1, Orange does not object to the 488 solution in general but thinks that, in addition to those already mentioned in the CN LS, some aspects of this procedure must be further analysed and clarified in order to be accepted.

Session set up delay – How to minimise the number of 488 messages in a Session?

Orange believes that 3GPP should consider any solution that would allow minimising the number of attempts necessary to establish a session.

At least two solutions can be considered:

- either CSCF nodes indicate as SDP parameters of a 488 message a subset of the SDP parameters of the received INVITE,
- or on reception of the whole set of allowed parameters according to local policy (and subscription at S-CSCF) the UE has to consider only SDP parameters contained in the INVITE message it sent previously and received in the 488 message in order to build a new INVITE.

In any case, the number of attempts should be limited to a number of times that is reasonable from the user point of view.

It could be also good to clearly state in the 488 message the reasons of rejection and the identity of the entity/network that rejected the session.

Risk of having no suitable set of parameter among involved networks:

Orange believe that, for each application, default parameters and codecs should be identified and their support made mandatory to all the entities (CSCF and UE).

So far, default codecs and transport parameters are specified in TS 26.235 & TS 26.236 but TS 26.235 applies to UEs only and TS 26.236 does not give a clear guidance as for the minimum bandwith that must be supported for each application.

Reduce complexity of the UE

In the case CSCF send the whole set of allowed parameters in the 488 message, it makes CSCF implementation less complicated but it brings more complexity to the terminal.

More UE testing will be necessary and faulty UEs handling is more difficult than correcting the behaviour of a network entity. This is a major concern for an operator and Orange would like this issue to be further discussed.

Behaviour of a fixed SIP UA receiving a 488 error message

The behaviour of a fixed SIP user agent receiving a 488 message is not standardized by IETF (nor by 3GPP), this could be a potential source of problems that has to be further studied.

Security threat : network policy & user subscription information can be revealed to any UE

There may be a security threat in the case a CSCF returns all the allowed parameters in a 488 message. This message could be used by malicious UEs to get access to network policy of any network operator and subscription information (it is indeed very easy to send an INVITE with at minimum one parameter not allowed to get a 488 message back).
This could be used by a third party to get access to users subscriptions to send them information or commercial offers.

3. Conclusion and proposed way forward

Based on the above arguments, Orange proposes that:

- TSG SA agrees that policy and subscription control is based on a 488 error message mechanism and informs IETF accordingly if this solution has major support.
- TSG SA rejects the stage 2 CR on TS 23.228 and asks SA2 to review this CR in order to verify that the implementation of the 488 message fulfils the requirements and satisfies the concerns listed in the present contribution.
- Depending on the CR on stage 2 once agreed by SA2 and given the above concerns, the other relevant WGs (CN1, SA3, SA4) should write or review the corresponding CRs on the specifications under their responsibility.