Technical Specification Group Services and System Aspects **TSGS#23(04)0003**
Meeting #23, Phoenix, USA, 15 - 18 March 2004

joint-API-group (Parlay, ETSI Project OSA, 3GPP TSG_CN WG5) **N5-040026**
Meeting #26, Atlanta, GA, USA, 16-20 February 2004 *CN5 Email approved on 9 Jan 2004*

Title: **LS on Clarifications concerning OSA High Availability discussion**
Response to: **N/A**
Release: **Release 6**
Work Item: **OSA3**

Source: **CN5**
To: **SA**
cc: **SA1**

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Attachments: None

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1. Overall Description:

This Liaison Statement intends to clarify a number of issues concerning the support for High Availability in the OSA Application Programming Interfaces, as a result of the discussions on CR SP-030703 at TSG SA#22, which are minuted as follows in the draft meeting report:

"No consensus could be reached in the meeting for either support or rejection of this CR so it was decided to send the issue to CN WG5 to determine the need for this functionality, or whether the functionality is already included in the specifications and feed back to TSG SA, copied to SA WG1 (via LS) to help towards a decision on this. The CR was therefore postponed."

Specifically, the LS will address the following questions:

- How is High Availability currently supported in the OSA APIs?
- What does it mean for a feature to be supported/not supported at API level?
- What does "Interoperability Issue" mean in OSA, for High Availability?

For each of these questions this LS will outline whether there exists consensus within CN5 on the issue or not.

How is High Availability currently supported in the OSA APIs?

High Availability can be defined as the capability for the network side of the OSA APIs to use an alternative application instance when the one being used fails (recall that for each OSA Service Capability Feature, there is an application side and a network side, i.e. methods that the SCS invokes on the OSA client application and vice versa). This feature does not ensure full performance (nothing can, e.g. the alternative instance can fail as well) but the currently specified solution does improve the support of High Availability in the OSA APIs.

The existing OSA APIs already allow for two alternative options for the support of this capability:

- A middleware based solution, as it is already done for other management OSA capabilities like load sharing. This solution relies on the underlying middleware to provide the back-up application instance in case of failure.
- A vendor specific solution, where each vendor, at each side of the OSA APIs, provides the means to offer a back-up instance in case the one being used fails.

The OSA requirement under discussion (in CR SP-030703) can be summarized as a proposal for an alternative solution that is visible at API level.

What does it mean for a feature to be supported/not supported at API level?

For this discussion the distinction between the different categories of OSA behaviour is useful. The Core function of OSA is to expose service capabilities residing in the network to third parties so they can build applications with them. Examples of such capabilities include the ability to route a call and the ability to retrieve a location etc. In addition to this set of "core" capabilities there is another category of function, category of function, that of Management. Examples of management behaviour include such performance related characteristics as transaction capability and maximum number of supported call control object. Load control is another example of a management function. Some of these management capabilities are not visible at the API level, in that there are no methods or parameters one can use to control this behaviour. Rather by designing a system using various architecture deployment options such as redundancy for failover scenarios and exploiting non-functional features of specific platforms and middleware systems, a network equipment vendor may opt to support such behaviour in any given implementation.

Specifically for the High Availability case, the two solutions already supported are not visible at API specification level. The requirement under discussion (in CR SP-030703) proposes an alternative solution visible at API level, where the OSA Framework (at the network side) is aware of the existence of an alternative application instance (at the Application side); thus interfaces and semantics would be defined for the OSA APIs to support this capability across the APIs. In other words, the Service Capability Feature at the network side is aware, through certain interfaces and semantics, of the fact whether the OSA Application implementation makes use of alternative instances or not in order to support High Availability.

A decision needs to be made whether High Availability should be supported at API level (visible at API level), or not. At present, *no* consensus exists within CN5 on this issue. There *is* however agreement on the following:

- interoperability (IOP) is a must for the OSA APIs; any solution that endangers interoperability is not acceptable.
- in standards there is a balance between what to specify and what not. Over-standardizing limits vendor differentiation and thus stifles the richness of technical solutions available for operators.

What does "Interoperability Issue" mean in OSA, for High Availability?

Any capability that is provided in a vendor dependent way may present a risk to interoperability, and thus needs to be thoroughly checked.

For the High Availability case, since it is a management feature, this risk is not present: each vendor may ensure high availability at their side of the APIs, which means that an alternative instance may be provided by means that are transparent to the other side of the APIs, but which provides a back-up instance anyway. The level of support and the specific means for which each vendor provides for such a management feature will determine their differentiation and thus competitiveness from the performance point of view, as it is currently done for other management features like load and fault management.

Summary

This LS intended to address some of the questions raised at TSG SA#22 with the discussion of CR (SP-030703). Within CN5 there have been, and continue to be, discussions on the support High Availability in OSA. There are two general opposing opinions, i.e. visible at API level versus not visible at API level. It is fair to state that no consensus exists at present in CN5 on this particular topic.

2. Actions:

No action required.

3. Date of Next CN5 Meetings:

TITLE	TYPE	DATES	LOCATION	CTRY
3GPPCN5#26	WG	16 - 20 Feb 2004	Atlanta	US

3GPPCN5#27	WG	3 - 7 May 2004	Miami	US
3GPPCN5#28	WG	16 - 20 Aug 2004	Sophia Antipolis	FR
3GPPCN5#29	WG	1 - 5 Nov 2004	Zurich	CH