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Title: Issues Using the Q-Series for Supplementary Services in H.323

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1. Introduction

One of the most significant open issues remaining in H.323/H.225.0 concerns the manner in which supplementary services should be provided as part of the H.323 services. A brief history of this issue is required. In Yokosuka a decision was taken (and confirmed in Geneva) to procede with using Q.931 for call signaling in H.323 on the grounds that:

a)Its use would ensure full compatibility with the public ISDN

b)It was well defined and known to work, especially in terms of call state, while a new system might have subtle flaws

c)any new system would obviously provide very similiar or identical messages to Q.931

d)historical precedent existed for its use on the LAN in IEEE 802.9a and H.322.

e)many implementations are available

f)compatibility with Q.2931

Difficulties with its use included:

a)The necessity of a reliable signaling channel.

b)Concern over possibly unecessary fields and inappropriate timers

c)General concern over its complexity

d)Need to attach additional information to Q.931 addresses concerning transport addresses.

Issues (a) and (b) have been substantially resolved in the current drafts via a call model and set of rules that allows the gatekeeper considerable control over whether and how the reliable channel is kept open, while still supporting Q.931, and via the use of ASN.1 attachments in Q.931 user-to-user information elements. Hopefully all needed text related to (b) will be added at Ispwich, and this will remove concern (c).

One area where Q.931 seemed inadequate was that of supplementatary services and ad hoc conferencing, and the delegates at the Nov SG15 meeting agreed on a lan-specialized non-Q.931 set of procedures for ad hoc conference setup. This was based, in part, on a lack of knowledge of the current status of supplemenatary services in the Q-series on the part of those present, including myself.

Immediately after the meeting the advanced status of the Q.95x series for conferencing, call transfer, etc. was brought to our attention, as well as the considerable amount of work done by the QSIG forum based on the Q-series work.

2. Issues

In general, we are bound to follow agreements reached at the November determination meeting, but if we agree that a change is needed, it is certainly possible to make various changes.

The identified proposed needs seem to be for:

a)ad hoc conferencing, including both an "invitation" feature and the ability to join a running conference.

b)the ability for an operator to transfer and incoming call from a gateway to a terminal.

If we continue with our current direction, the following issues arise:

1. Duplication of procedures with Q.954
2. Possible interworking problems between Q.954 ad hoc conferencing on the ISDN side and H.323 ad hoc conferencing on the LAN side.
3. Possible confusion if some manufacturers provide Q.954 ad hoc conferencing and H.323 ad hoc conferencing on the LAN side.
4. Are we undertaking to duplicate the entire set of Q.95x recommendations, and most of the QSIG work as well? Will we create another new method of call transfer, or turn to the Q-series for this? How will we add additional features in the future?
5. If we do use Q.95x for some features, and special methods for others, what kind of problems will arise?

If we switch to using Q.95x for all supplemenatary services, the following issues arise:

1. Will Q.954 provide adequate operation on the LAN side, or will important capabilities be missing?
2. Are the Q.954 services simply not appropriate for LAN operation?

It seems important that we:

1. respect current agreements
2. avoid duplication of work
3. provide a consistent approach to supplementary services
4. have a clear idea of how we will evolve H.323 in the future
5. be compatible with the public ISDN supplementary services

This is a significant challenge.