Technical Specification Group Services and System Aspects
Meeting #10, Bangkok, Thailand, 11-14 December 2000

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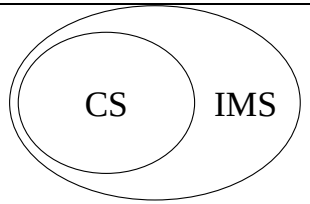
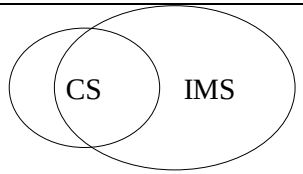
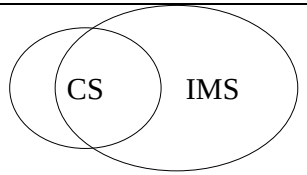
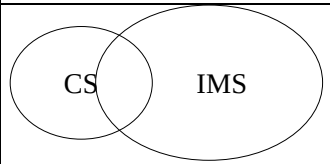
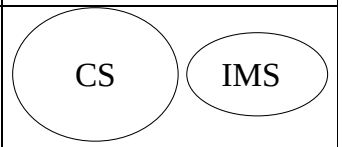
Source: **BT**
Title: **Design objectives of the IP Multimedia Subsystem Release 5, A comparison of views**

Document for: **Discussion**

Agenda Item: **5**

BT has discussed with a number of other companies the initial output from the 3GPP TSG SA Workshop on IM Vision and Scenarios, held October 2000 in Oxford. In discussions with these other companies, BT has attempted in the following table to further develop the ideas presented at the end of that Workshop, to clarify the differences between views of different participants in the standards process. The table is presented to TSG-SA to provide information about the different views in order that TSG-SA can take appropriate decisions about where the focus should be for standards development effort in Release 5.

The table does not discuss the issue of providing handover between IMS and CS domains. It is believed that this issue is a separate one and is best dealt with after the decision is taken on which of the solutions outlined below is most favoured.

	Solution A	Solution B	Solution C	Solution D	Solution E
1. 3GPP Release 5 **IMS design priorities**	**IMS is a substitute for the CS-domain**	**Early Deployment of IMS-only subscriptions with CS style service control**	**Early Deployment of IMS-only subscriptions without CS style service control**	**Early Deployment of Combined IMS/CS subscriptions**	**IMS only provides new services**
2. Diagram of service relationships					
3. How much of CS functionality is developed in IMS?	All	Mass market services with similar (not identical) look and feel, service control for IMS developed based on: • CS service control mechanisms (e.g. CAMEL) for backwards compatibility and • Based on "Internet" technology (e.g. SIP) for new services (especially those that are not appropriate for CS Domain).	Mass market services with similar (not identical) look and feel, service control for IMS developed based on "Internet" technology	Mass market services with similar (not identical) look and feel but cannot call from IMS to CS or from IMS to PSTN (CS is used for this instead)	None

4. Which domain supports the user?	A user can receive services only from IMS. Then, the user is restricted to services that are standardised in the R5 time frame and implemented by the operator. Also if IMS is designed for all services, provisioning of services such as classical telephony via the IMS or by deploying CS are operators choices.	A user can receive services only from IMS, but in this case the user will be restricted to the services that are standardised in the R5 time frame and implemented by the operator. If instead the operator chooses to offer also CS then the full CS service set available can be offered in addition to new IMS services.	A user can receive services only from IMS, but in this case the user will be restricted to the services that are standardised in the R5 time frame and implemented by the operator. If instead the operator chooses to offer also CS then the full CS service set available can be offered in addition to new IMS services.	A user needs to use CS to obtain classic telephony voice services when calling outside IMS domain.	A user always needs to use CS to obtain voice services.
5. To where can CSCF create connections?	A user can call from CSCF to • PSTN or • CS or • another user normally obtaining services via CSCF who happens to be roaming in CS. Terminating calls arrive at the same call handling entity irrespective of whether E.164 numbering or SIP addressing is used.	A user can call from CSCF to • PSTN or • CS or • another user normally obtaining services via CSCF who happens to be roaming in CS. Terminating calls arrive at the same call handling entity irrespective of whether E.164 numbering or SIP addressing is used.	A user can call from CSCF to • PSTN or • CS or • another user normally obtaining services via CSCF who happens to be roaming in CS. Terminating calls arrive at the same call handling entity irrespective of whether E.164 numbering or SIP addressing is used.	In order to call anyone on a PSTN or CS network whether they use IM at home or not, it is required to use 04.08 based call control through MSC or MSC server. Terminating calls arrive at the CS system if E.164 numbering is used, or at the IMS if SIP addressing is used.	In order to call anyone on a PSTN or CS network whether they use IM at home or not, it is required to use 04.08 based call control through MSC or MSC server. Terminating calls arrive at the CS system if E.164 numbering is used, or at the IMS if SIP addressing is used.

6. Investment for current operator in CS and IMS technology	No investment in CS technology required, although this precludes the possibility to receive R99, R4 terminals roaming into the network. Investment in IM equipment to support high volume low margin traffic and to support new applications where more and more users learn to appreciate the new possibilities.	Investment in MSC (or MSC server) is restricted to supporting CS-only terminals and users slow to migrate (note: speed of migration can be determined by the operator in understanding relevant market conditions). Investment in IM equipment to support high volume low margin traffic. Phased investment in IMS equipment ,start of with users quickly migrating. And build up the NW while more and more users learn to appreciate the new possibilities…	Investment in MSC (or MSC server) is restricted to supporting CS-only terminals and users slow to migrate, plus services based on CS service control not available in IMS (note: speed of migration can be determined by the operator in understanding relevant market conditions). Investment in IM equipment to support high volume low margin traffic.. Phased investment in IMS equipment ,start of with users quickly migrating. And build up the NW while more and more users learn to appreciate the new possibilities…	Investment in MSC (or MSC server) continues for the medium term to support high volume low margin traffic. Phased investment in IMS equipment ,start of with users quickly migrating. And build up the NW for new applications while more and more users learn to appreciate the new possibilities…	Investment in MSC (or MSC server) continues for the medium term to support high volume low margin traffic. Build up the NW for new applications while more and more users learn to appreciate the new possibilities…

7. Greenfield investment requirements	No investment in CS required for greenfield except for support of roaming CS-based users (if this is desired). Investment in IM equipment to support high volume low margin traffic and to support new applications where more and more users learn to appreciate the new possibilities.	No investment in CS required for greenfield except for support of roaming CS-based users (if this is desired). Investment required in CS style service control Investment in IM equipment to support high volume low margin traffic and to support new applications where more and more users learn to appreciate the new possibilities.	No investment in CS required for greenfield except for support of roaming CS-based users (if this is desired). Investment in IM equipment to support high volume low margin traffic and to support new applications where more and more users learn to appreciate the new possibilities.	Investment in CS (MSC or MSC server) to support all classic telephony services required for greenfield. And build up the NW for new applications while more and more users learn to appreciate the new possibilities…	Investment in CS (MSC or MSC server) to support all classic telephony services required for greenfield And build up the NW for new applications while more and more users learn to appreciate the new possibilities…
8. Standards generation to support CSCF to PSTN etc.?	Investment in standards generation to support CSCF control of MGW towards CS and PSTN	Investment in standards generation to support CSCF control of MGW towards CS and PSTN	Investment in standards generation to support CSCF control of MGW towards CS and PSTN	No investment in standards generation to support CSCF control of MGW towards CS and PSTN	No investment in standards generation to support CSCF control of MGW towards CS and PSTN
9. Standards generation to support IP multimedia services	Investment in standards generation to support multimedia services on IMS	Investment in standards generation to support multimedia services on IMS	Investment in standards generation to support multimedia services on IMS	Investment in standards generation to support multimedia services on IMS	Investment in standards generation to support multimedia services on IMS
10. Standards generation to maintain CS technology	Maintenance of MSC/MSC server capability on the basis of diminishing requirement	Maintenance of MSC/MSC server capability on the basis of diminishing requirement	Maintenance of MSC/MSC server capability on the basis of diminishing requirement, This depends on the speed of migration (cf. note row 6)	Maintenance of MSC/MSC server capability on the basis of ongoing increasing traffic volume requirement	Maintenance of MSC/MSC server capability on the basis of ongoing increasing traffic volume requirement

11. Cross domain supplementary service support e.g. Multiparty	Possible (separate discussion required on whether desirable)	Possible (separate discussion required on whether desirable)	Possible (separate discussion required on whether desirable)	Not possible	Not possible
12. Standards focus for IMS	Provide total solution, total backwards compatibility, plus new multimedia service capability	Provide voice (including CS/PSTN interworking) and mass-market CS services, CS service control, plus new multimedia service capability	Provide voice (including CS/PSTN interworking) and mass-market CS services, plus new multimedia service capability, but no CS service control	Provide new multimedia service capability including voice and mass-market CS-type services but excluding CS/PSTN interworking.	Provide new multimedia service capability only
13. Transition approaches for operator	Operator can encourage IMS-only users from day 1 (accepting that these users may need to use CS when roaming).	Operator can encourage IMS-only users from day 1. (accepting that these users may need to use CS when roaming)	Operator can encourage IMS-only users from day 1, except where required CS service control features are unavailable on IMS or where roaming to non-IMS networks.	Operator cannot encourage IMS-only users.	Operator cannot encourage IMS-only users.

14. Transition experience for user	User is unaware of transition to IMS	If offered, user can select CS or IMS during transition; there are three possibilities: 1. The user calls a PSTN/ISDN user with a PSTN/ISDN number and gets a classic telephony voice service, or 2. The user sets up a session, using a SIP address, towards an IMS user and gets an internet style multimedia service, or 3. The user sets up a session, using a SIP address, towards PSTN/ISDN user or an IMS user roaming in a CS only network, and gets an emulated classic telephony voice service	If offered, user can select CS or IMS during transition; there are three possibilities: 1. The user calls a PSTN/ISDN user with a PSTN/ISDN number and gets a classic telephony voice service, or 2. The user sets up a session, using a SIP address, towards an IMS user and gets an internet style multimedia service, or 3. The user sets up a session, using a SIP address, towards PSTN/ISDN user or an IMS user roaming in a CS only network, and gets an emulated classic telephony voice service	The user has two possibilities: 1. The user calls a PSTN/ISDN user with a PSTN/ISDN number and gets a classic telephony voice service, or 2. The user sets up a session, using a SIP address, towards an IMS user and gets an internet style multimedia service. In Case 3 the session may be attempted, but will be rejected, Automatic or manual fall-back to classic telephony voice service.	The user can only use CS for voice services.
16. Emergency call capability required in IMS in short to medium term?	Yes	Yes	Yes	Possibly Not	Possibly Not