

Source: LM Ericsson
Title: Design objective of the IP Multimedia Subsystem Release 5, a comparison of views.
Document for: Information
Agenda Item: 5

Based on TD SP 00-xxx (source BT and Siemens), this contribution attempts to add further clarity in the differences between the different approaches by focusing on the (in our opinion) most relevant differences. This contribution is presented to TSG-SA to provide further information about the different approaches..

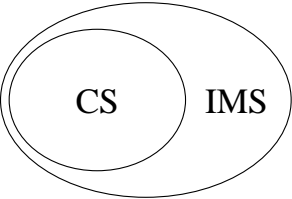
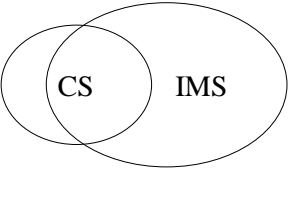
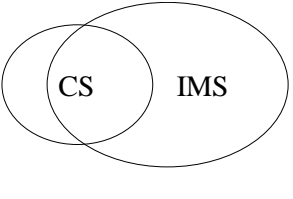
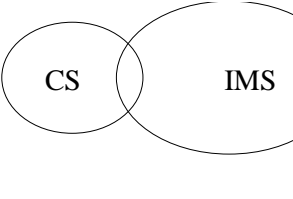
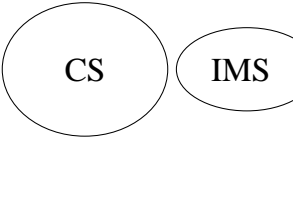
Solutions B and C below are basically the same except for the usage of CAMEL control in IMS (which is provided in solution B). Solutions C and D differ with respect to the prioritizations of the services provided to the user (although the long term goal is essentially the same):

The short term goal of solution D is to provide new services to the subscribers, creating new revenue streams for the operator. The existing CS domain is retained to provide voice only services (so called classic CS services). Note that solution D provides basic interconnect between IMS and PSTN. In the medium term, a reimplementation of some existing supplementary services could be done if required by the market conditions, but then based on the service paradigm of IMS.

In contrast, the short term goal of solution C is to redesign some existing supplementary services to enable an operator to deploy a stand-alone IMS and offer classic CS services. The medium term goal of solution C is to provide new services, creating new revenue streams for the operator.

Solutions A and E have not been elaborated in detail, since those solutions seem to lack support of 3GPP.

	Solution A	Solution B	Solution C	Solution D	Solution E
1. 3GPP Release 5 IMS design	IMS is a substitute for the CS-domain	Of highest priority is the design of IMS to provide a replacement of the	Of highest priority is the design of IMS to provide a replacement of the	Of highest priority is the design of IMS to provide new services, creating new revenue	IMS only provides new services

<p>priorities</p>		<p>CS Telephony service (voice only), using CAMEL as a service control mechanism for some of the services.</p> <p>Of lower priority is the design of IMS to provide new services, creating new revenue streams.</p>	<p>CS Telephony service (voice only).</p> <p>Of lower priority is the design of IMS to provide new services, creating new revenue streams.</p>	<p>streams.</p> <p>Of lower priority is the design of IMS to provide interworking with GSTN.</p>	
<p>1 bis. Long Term Vision (beyond Release 5).</p>	<p>All services provided to the user via IMS.</p>	<p>Same as C.</p>	<p>All services provided to the user via IMS, but some services are based on the existing CS service paradigm.</p>	<p>All services provided to the user via IMS and based on the new service paradigm of IMS and thus not limited by historical requirements..</p>	<p>Unknown.</p>
<p>2. Diagram of service relationships</p>					
<p>3. How much of CS functionality is developed in IMS?</p> <p>Change to: Which service</p>	<p>New service control mechanisms based on IETF approaches developed for all services provided by IMS.</p>	<p>Same as C, except that CAMEL is used to copy some existing CS services (to be defined) to IMS.</p> <p>New service control</p>	<p>New service control mechanisms based on IETF approaches developed for all services provided by IMS.</p>	<p>New service control mechanisms based on IETF approaches developed for all services provided by IMS.</p>	<p>New service control mechanisms based on IETF approaches developed for all services provided by IMS.</p>

control mechanisms are used for IMS?		mechanisms based on IETF approaches developed for other services provided by IMS.			
4. Which domain provides services to the user?	IMS only.	Same as C.	Mainly IMS. If the operator provides the CS domain, the full CS service set available can be offered.	IMS for new services (including basic interconnect to GSTN). CS domain provided to offer the full CS service set to the user.	IMS for new services. A user always needs to use CS to obtain voice services.
5. To where can CSCF create connections? Note: Technical issue not considered relevant for SA.					
6. Investment for current operator in CS and IMS technology	Initial investment in IM and PS equipment required to migrate all current classic CS voice traffic to IMS and to copy CS services to IMS. Phased additional investments in IM	Same as C, except that additional investment required in CAMEL control for IMS.	Initial investment in IM and PS equipment required to migrate some current classic CS voice traffic to IMS and to redevelop CS services to IMS. Phased additional investments in IM	Phased investments in IM equipment for new services creating new revenues. No investment in CS technology required (provided CS domain already deployed).	Phased additional investments in IM equipment for new services creating new revenues. No investment in CS technology required (provided CS domain already deployed).

	equipment for new services creating new revenues. No investment in CS technology required (provided CS domain already deployed).		equipment for new services creating new revenues. No investment in CS technology required (provided CS domain already deployed).		already deployed).
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<p>7. Greenfield investment requirements</p>	<p>Investment in MSC Server required if operator wishes to support roaming CS subscribers.</p> <p>Initial investment in IM and PS equipment required to provide classic CS 'voice only' traffic over IMS.</p> <p>Phased additional investments in IM equipment for new services creating additional revenues.</p>	<p>Same as C, except that additional investment required in CAMEL control for IMS.</p>	<p>Investment in MSC Server required if operator wishes to support roaming CS subscribers.</p> <p>Initial investment in IM and PS equipment required to provide classic CS 'voice only' traffic over IMS and to copy CS services to IMS.</p> <p>Phased additional investments in IM equipment for new services creating additional revenues.</p>	<p>Investment in MSC Server required to provide 'voice only' traffic, which also gives the operator the possibility to support roaming CS subscribers.</p> <p>Phased additional investments in IM and PS equipment for new services creating additional revenues.</p>	<p>Investment in MSC Server required to provide 'voice only' traffic, which also gives the operator the possibility to support roaming CS subscribers.</p> <p>Phased additional investments in IM and PS equipment for new services creating additional revenues.</p>
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8. Standards generation to support CSCF to PSTN etc.	Full interworking, all existing CS supplementary services and ISDN backward signalling cases are standardized and reimplemented for IMS.	Same as C.	Significant interworking, some CS supplementary services (yet to be defined) and ISDN backward signalling cases are standardized and reimplemented for IMS.	Limited interworking (only providing basic speech connection), few ISDN backward signalling cases are standardized.	No interworking.
9. Standards generation to support IP Multimedia services? Note: Not relevant since same for all approaches.					
10. Standards generation to maintain CS technology?	None	None	None	None	None
11. Cross domain supplementary service support, e.g. Multiparty?	Possible if required.	Possible if required.	Possible if required.	Possible if required.	Not possible.

12. Standards focus for IMS	Provide total solution, total backward compatibility, plus new multimedia service capability.	Same as C, except additional standards development to introduce CAMEL control in IMS.	Provide voice (including CS/GSTN interworking) and some CS services (yet to be defined), plus new multimedia service capability.	Provide new multimedia service capability including some limited CS/GSTN interworking..	Provide new multimedia service capability only
13. Transition approaches for operator Note: Transition is not the goal, new values and new revenues is the goal.					
14. Transition experience for end-user					
16. Emergency call capability required in IMS in short to medium term?	Yes	Yes	Yes	No, existing emergency call capability used.	No, existing emergency call capability used.