Optimizing Service Creation and Deployment for different Service Providers' Scenarios

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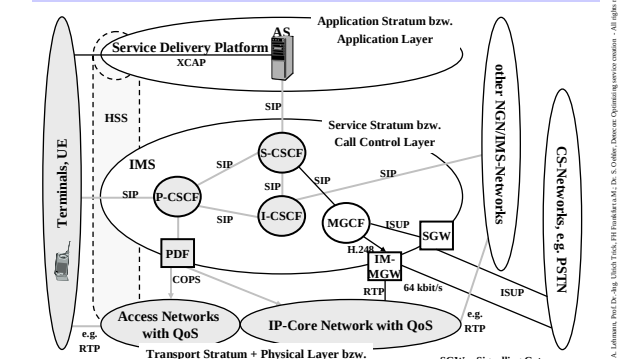
NGN/IMS-Architecture

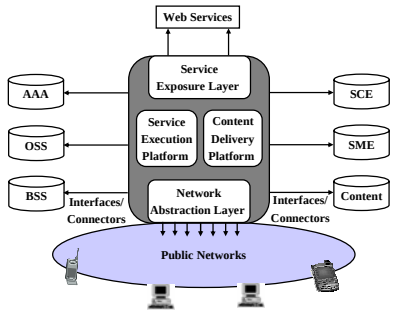


NGN = Next Generation Networks
CS = Circuit Switched

SGW = Signalling Gateway
PDF = Policy Decision Funtion
QoS = Quality of Service
IMS = IP Multimedia Subsystem

SDP (Service Delivery Platform)

Architecture:



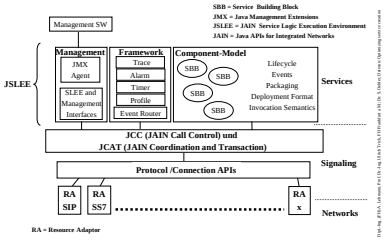
AAA = Authentication, Authorization and Accounting
OSS = Operational Support System
BSS = Business Support System

SCE = Service Creation Environment
SME = Service Management Environment

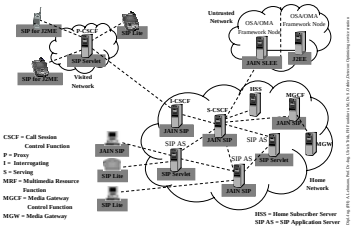
Overview of the technologies for service creation in NGN/IMS:

JAIN , Servlets, OSA(Open Service Architecture)/Parlay, Parlay X, OSE (Open Mobile Alliance Service Environment), Web Services, CGI (Common Gateway Interface), CPL (Call Processing Language)

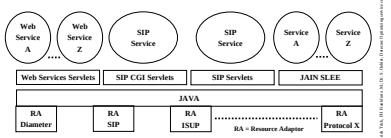
JAIN SLEE-Architecture



JAVA-Platforms and NGN/IMS



Combining different solutions



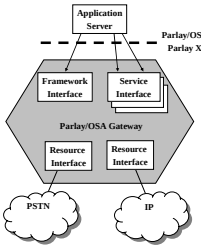
OSA/Parlay and Parlay X

Framework Interface:
Authentication, Discovery, Manageability

Service Interfaces:
Call Control, User Interaction, QoS, etc.

Transport Interface:
CORBA, WSDL (Web Services)

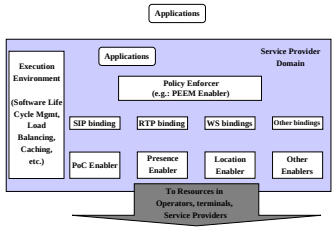
Resource Interfaces:
Interfaces between Parlay/OSA Gateway and netelements (not specified by the Parlay Group)



Comparison of todays' solutions

	Parlay	OSE	Web Services	SIP Servlets	JAIN SLEE	JAIN SIP	CGI	CPL
Portable (OS, Hardware)	yes	yes	yes	yes	yes	yes	belongs to used programming language	yes
Security	yes	yes	yes	mainly	yes	yes	no	yes
Scalability	good	good	good	good	good	good	good	poor
Expand-ability	very good	very good	very good	very good	very good	very good	very good	poor
Per-formance	high	high	low	very high	high	high	low	low
Number of software engineers	many excepting CORBA	language dependent	lots of	lots of (require SIP-Knowledge)	lots of	lots of (require SIP-Knowledge)	many (mainly Web-Programmer)	few
Costs per System	very high	high upto very high	medium	medium	high	medium	medium	low
Develop-ment effort	approx. 3 months	approx. 3 months	few weeks	few weeks	approx. 3 months	few weeks	few weeks	few days

OSE-Architecture

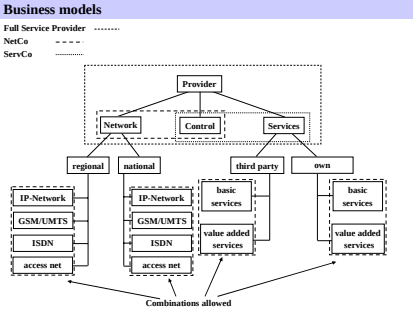


PEEM = Policy evaluation, Enforcement, and management
WS = Web Service

Solution scenarios' for different business models:

Full Service Provider, Communication Network Provider (NetCo), Communication Service Provider (ServCo)

Business models



Scenario example

provider	own network	access net	additional networks e.g. by other NetCo	national or regional	number of customers	number of services	complexity of services	key
Full Service Provider	IP	yes	non	regional	small	small	low	FSP_2
							high	FSP_3
					large	small	low	FSP_4
							high	FSP_5
						large	low	FSP_6
							high	FSP_7
				national	small	small	low	FSP_3
							high	FSP_4
					large	large	low	FSP_5
							high	FSP_6
						small	low	FSP_5
							high	FSP_6
						large	low	FSP_7

Scenario example

Key	OSA/Parlay	OMA OSE	JAIN SLEE	JAIN SIP	Web Services	SIP Servlets	SIP CGI	CPL	recommendations
FSP_1	very expensive and very extensive	very expensive and very extensive	very expensive and very extensive	good solution in combination with JAIN SLEE	good solution, good for complex services	good solution in combination with JAIN SLEE	good solution, excepting security and performance	good and secure solution for service creation by end users	JAIN SIP or SIP Servlets should be chosen for future options
FSP_2	very expensive and very extensive	very expensive and very extensive	good solution, support for many protocols	good solution in combination with JAIN SLEE	good solution, good for complex services	good solution in combination with JAIN SLEE	good solution, excepting security and performance	good and secure solution for service creation by end users	JAIN SIP or SIP Servlets should be chosen for future options CPL or Web Services are good add-ons
FSP_3	good solution, especially for third party access	good solution, especially for mobile network providers, but high costs	good solution, support for many protocols (e.g. ISC, ISUP, Megaco)	good solution in combination with JAIN SLEE	good solution, good for complex services	good solution in combination with JAIN SLEE	good solution, excepting security and performance	good and secure solution for service creation by end users	JAIN SLEE in combination with JAIN SIP or SIP Servlets is a good solution
FSP_4	good solution, especially for third party access	good solution, especially for mobile network providers	good solution, support for many protocols (e.g. ISC, ISUP, Megaco)	good solution in combination with JAIN SLEE	good solution, good for complex services	good solution in combination with JAIN SLEE	good solution, excepting security and performance	good and secure solution for service creation by end users	JAIN SLEE in combination with JAIN SIP or SIP Servlets is a good solution. For third Party Access OSA/Parlay or JAIN SPA are good solutions

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