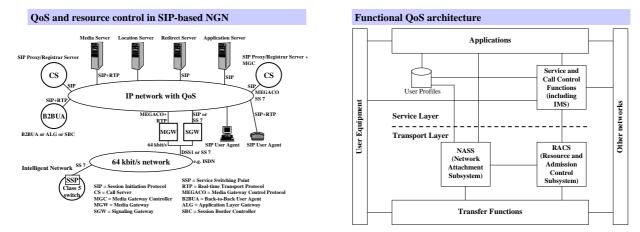
QoS in SIP-based NGN **introducing fundamental requirements and a new approach** 7th Wuerzburg Workshop on IP:

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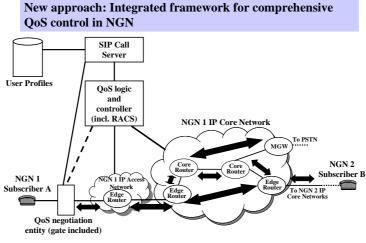
Deficiencies of NGNs' (Next Generation Networks) QoS (Quality of Service) architecture

 Lacks of scalability 	 Amount of QoS/resource control traffic is influenced by factors
	that are not efficiently controllable by NGN provider (such as
	average session duration)

Fundamental requirements to OoS management in SIP-based NGN

 Functions and mechanisms needed to provide trustworthy QoS for media sessions more efficiently/scalable 	 End-to-end QoS and resource control, including access and core networks, and inter-domain QoS negotiation 	
 Simple and resource saving resource control/management approaches, based on standardised protocols and architectures 	 Both, session-based multimedia services and non-session-based services (e.g., email and internet access) should be accessible within the same network. NGN's resource control has to be aware of a certain amount of traffic that is not session-based 	
 Independent of underlying transport/QoS technology (such as MPLS, ATM, VLAN) 		

Integrated framework for comprehensive QoS control



= Virtual data pipe

as MPLS, ATM)

Features of the integrated framework for comprehensive QoS control

 – QoS negotia 	ation entity	 – QoS logic 	 QoS logic and controller 	
* L	located at subscriber (CPE) or within provider's access	*	Algorithm-based ascertainment of the virtual data	
n	\rightarrow traffic can only enter IP network if		pipes	
a	pproved by QoS logic and controller	*	Observing IP network's topology and traffic \rightarrow IP	
* S	IP for session initiation and QoS negotiation with Call		network conditions, also for non-session-based traffic	
S	berver	*	Computes data provided by SIP Call Server →aware of	
* 6	Fate functionality for media streams		session-based traffic (SIP)	
– Virtual data pipes		*	Compiling traffic profiles (required for prediction of	
* R	Represent certain bandwidth and QoS conditions on a		bandwidth and QoS of data pipes)	
	ertain path within the IP network, shared by several	*	Assignment of media streams to existing virtual data	
n	nedia streams		pipes, modification of virtual data pipes if necessary	
* А	Active control not mandatory \rightarrow resources can be	*	Controls gate within QoS negotiation entity	
s	aved			
* II	ndependent of underlying transport technology (such			