SCTP Smartswitch

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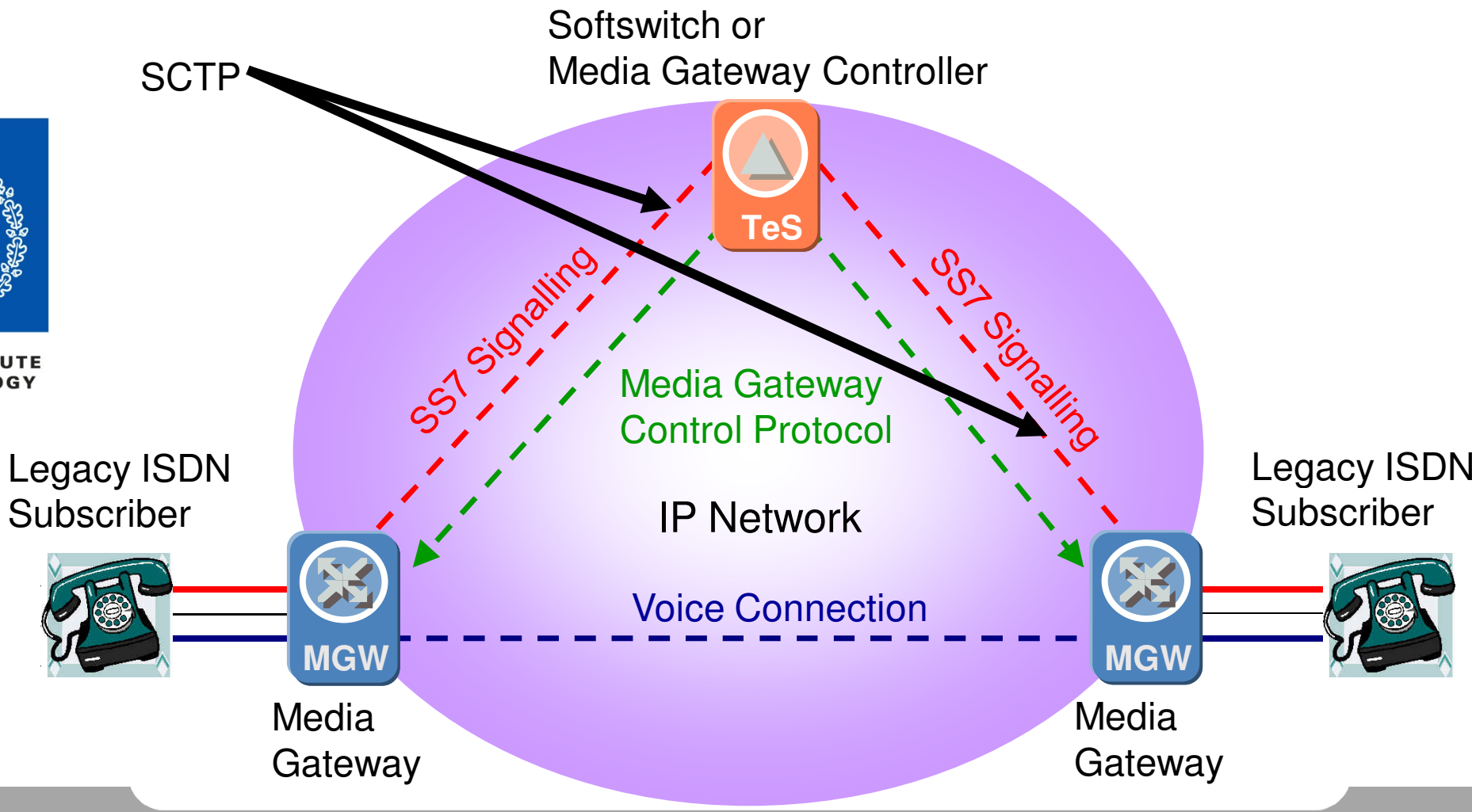
SCTP – Signaling Transport



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Telephony Signaling Requirements

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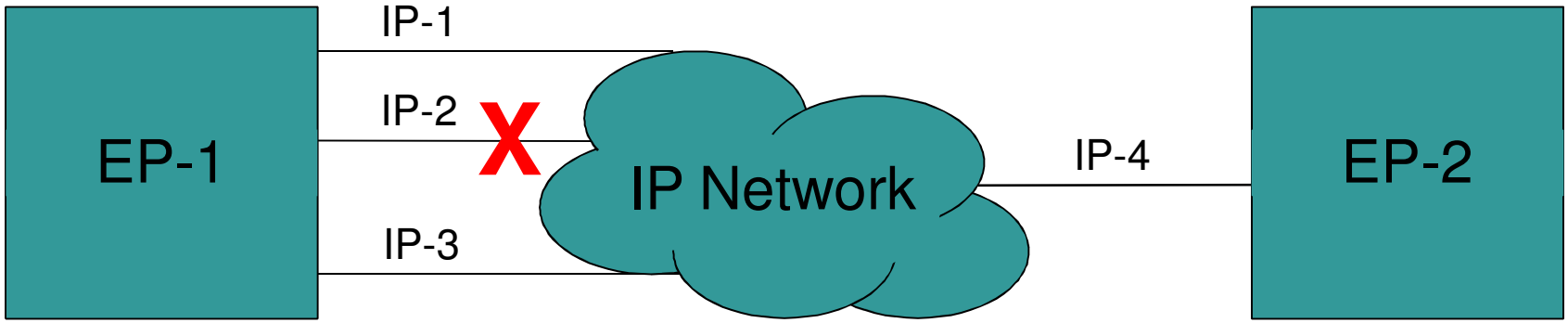
- Message oriented
- Flexible and extensible message format
- High availability
  - Failover between multiple redundant network interfaces
  - Need to monitor reachability status
- Tunable

Failure Detection and Recovery



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- One primary path (remaining paths are backups)
- Error counter counts retransmission attempts
- When error counter > ”preset value” then failover

Overview of SCTP Smartswitch

- Started in October 2009
- Duration: 3 years
- Involved parties
  - KTH (ICT)
  - Ericsson Research (Kista)
  - Karlstad University (Computer Science Dept.)
- Purpose: extending the SCTP failover/changeover mechanism with *smart* session management

Organisation

- WP1: improve the SCTP failover/changeover performance in managed IP networks
- WP2: design a session layer that treats handover/failover in an *integrated* fashion and provides smart and quick reactions to various mobility events
- WP3: implementing a prototype/demonstrator for smart session management

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Time Table

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	Activity	Year			
		2009	2010	2011	2012
WP1	Theoretical modeling	M1			
	Evaluation of startup schemes		M2		
	Refinement of startup scheme			M3	
WP2	Architectural design	M4			
	Detailed session layer design		M5	M6	
WP3	Definition of use cases and testbed environment	M7			
	Demonstrator development			M8	
	System evaluation and demonstrations				M9

Overview of WP1

- Participants
  - Prof. Anna Brunström (Karlstad University)
  - Dr. Karl-Johan Grinnemo (KTH/ICT)
  - Johan Eklund (Ph.D. student, Karlstad University)
- Activities
  - Theoretical modeling of alternative startup schemes
    - Find out theoretical bounds
  - Experimental evaluation of startup schemes
  - Refinement of selected startup scheme(s)
- Status
  - Theoretical modeling ongoing
  - First paper will be submitted to EUNICE 2010

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Overview of WP2

- Participants
  - Dr. Yury Ismailov (Ericsson Research)
  - Dr. Karl-Johan Grinnemo (KTH/ICT)
  - Georgios Cheimonidis (Master student KTH/ICT)
- Activities
  - Extend SCTP sockets API with session events
  - Evaluate extended API in an Android test platform
- Status
  - Georgios Cheimonidis starts thesis work next week

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