



The SEA use case in the FIRE testbed

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December 2008

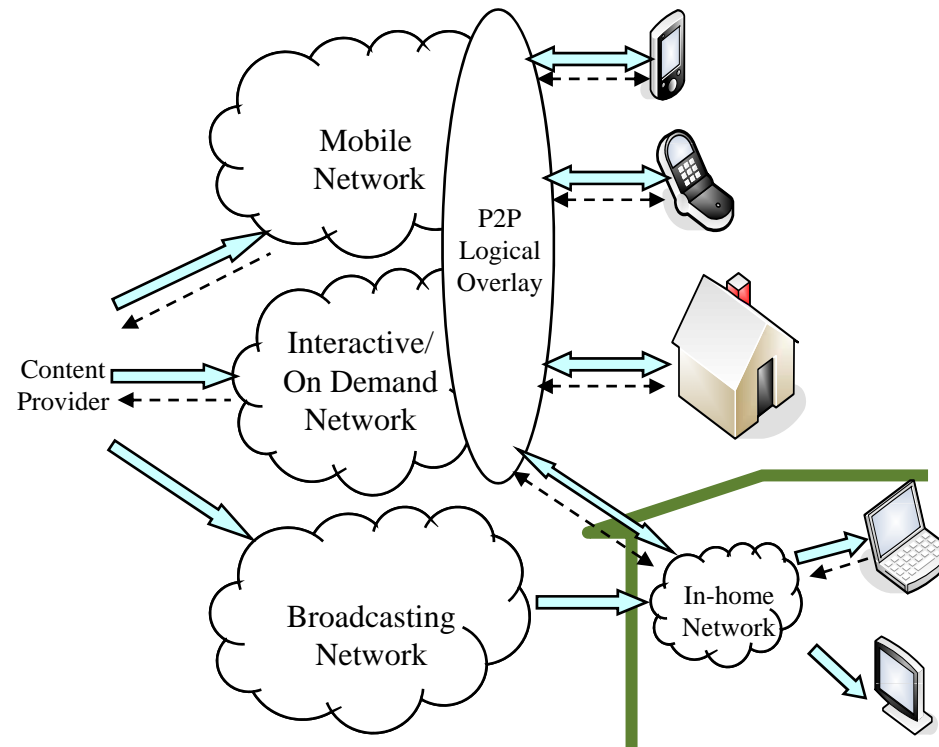


What is SEA

SEA is focused on seamless, personalised, trusted and PQoS-optimised multimedia content delivery, across broadband networks, varying from broadband broadcasting to P2P topologies

Within SEA everyone can be:

- Content Producer/Provider
- Content Mediator
- Content Consumer





Who is SEA



- STMicroelectronics I Industry
- Synelxis Solutions GR SME
- Thomson FR Industry
- Philips NL Industry
- Vodafone GR Operator
- Nomor Research DE SME
- Fraunhofer HHI DE Research Institute
- POLITO I University
- UPM ES University
- UCLA USA University*

* All UCLA resources will be covered by US funded research programs. No claims will be made towards EC

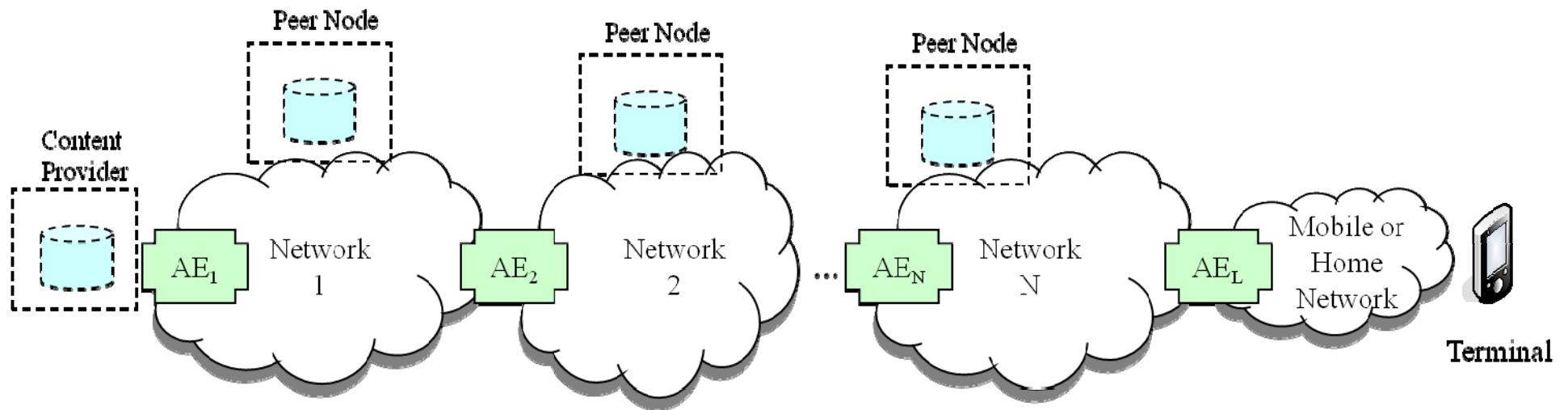


SEA Innovation Pillars

- Multi-layered/Multi-viewed/Multi-description content coding
 - H.264 SVC (Scalable Video Coding): Layered temporal/spatial/quality scalability
 - H.264 MVC (Multi View Coding): Different views embedded in a single video stream
 - MDC (Multiple Description Coding): Inherited resilience
- Multi-source/Multi-network streaming & adaptation
 - **Enriched PQoS** by on-the fly **content adaptation** and **dynamic reconstruction** of different layers (SVC), views (MVC) and representations (MDC) of the same resource transmitted from multiple sources (servers/P2P) and/or received over multiple diverse paths.
- P2P video streaming
 - Peer retrieval optimization (exploiting proper cross layer parameters),
 - Proper coding techniques (e.g. to limit the traffic and delays due to buffer map exchange)
 - Optimization of the visual quality via exploitation of advanced source coding techniques
- Content Protection and lightweight asset management

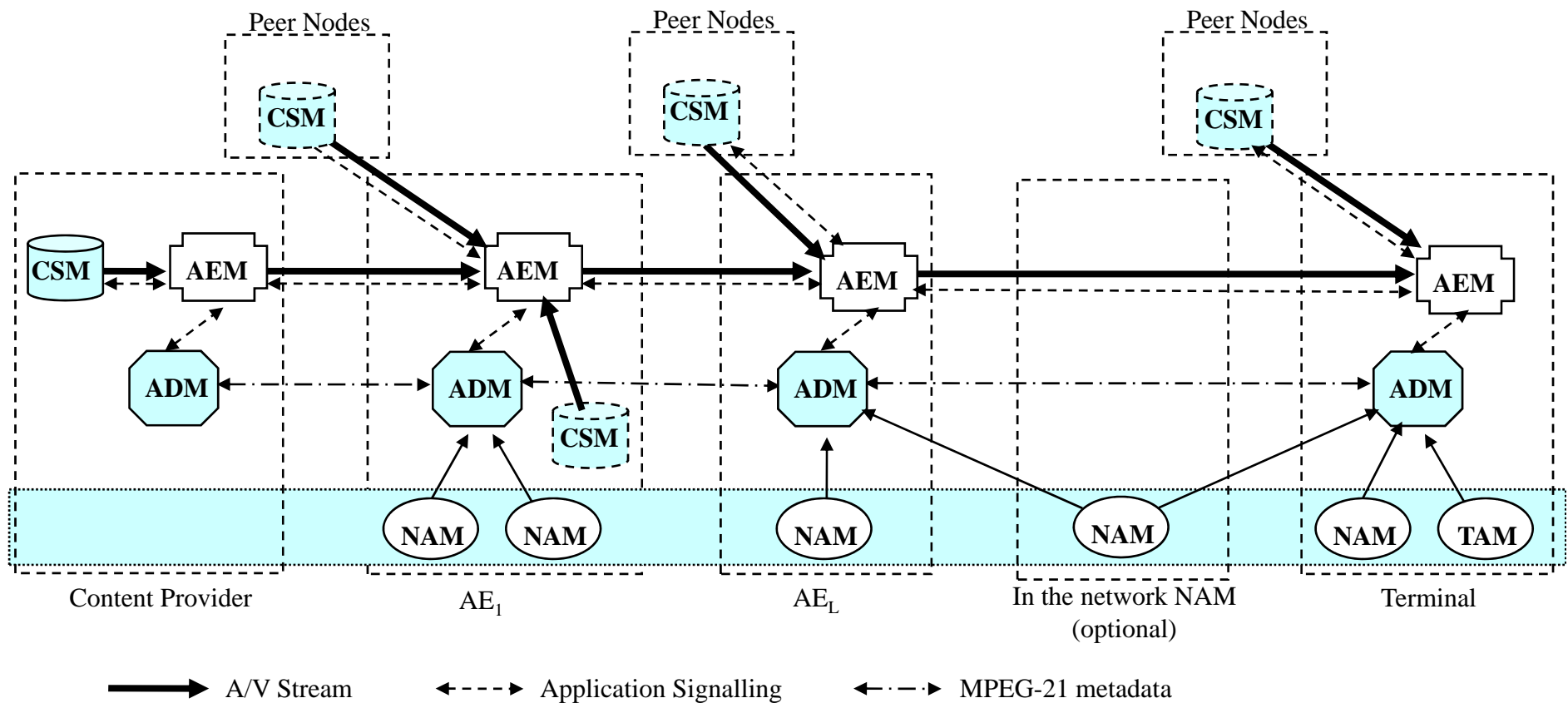


Adaptation Architecture



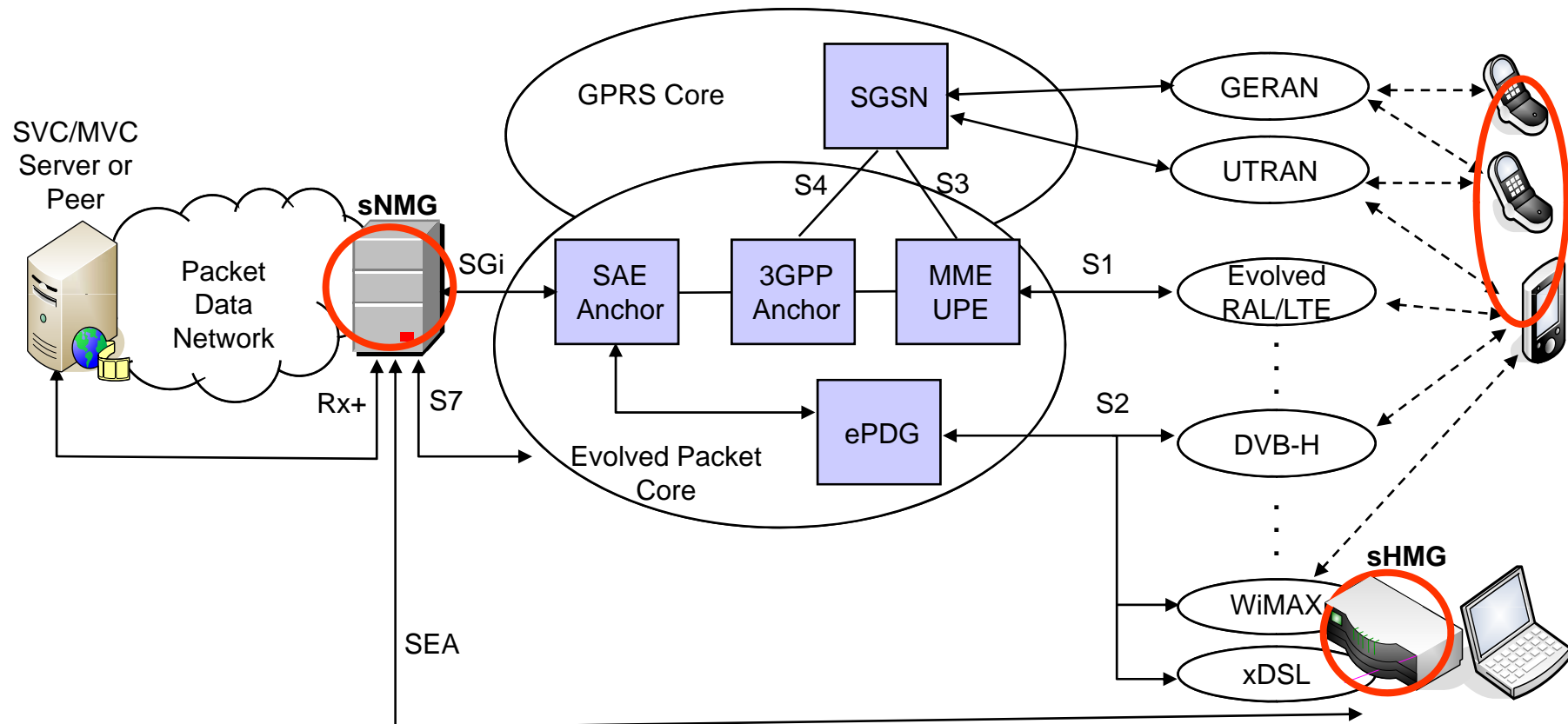


Content Adaptation Mechanism





SEA/3GPP SAE Network Architecture





SEA aims to test

- TV and IPTV Streaming of:
 - SVC video
 - MVC Video
 - MDC Video
 - selected combinations (e.g. some layer of SVC maybe MDC)

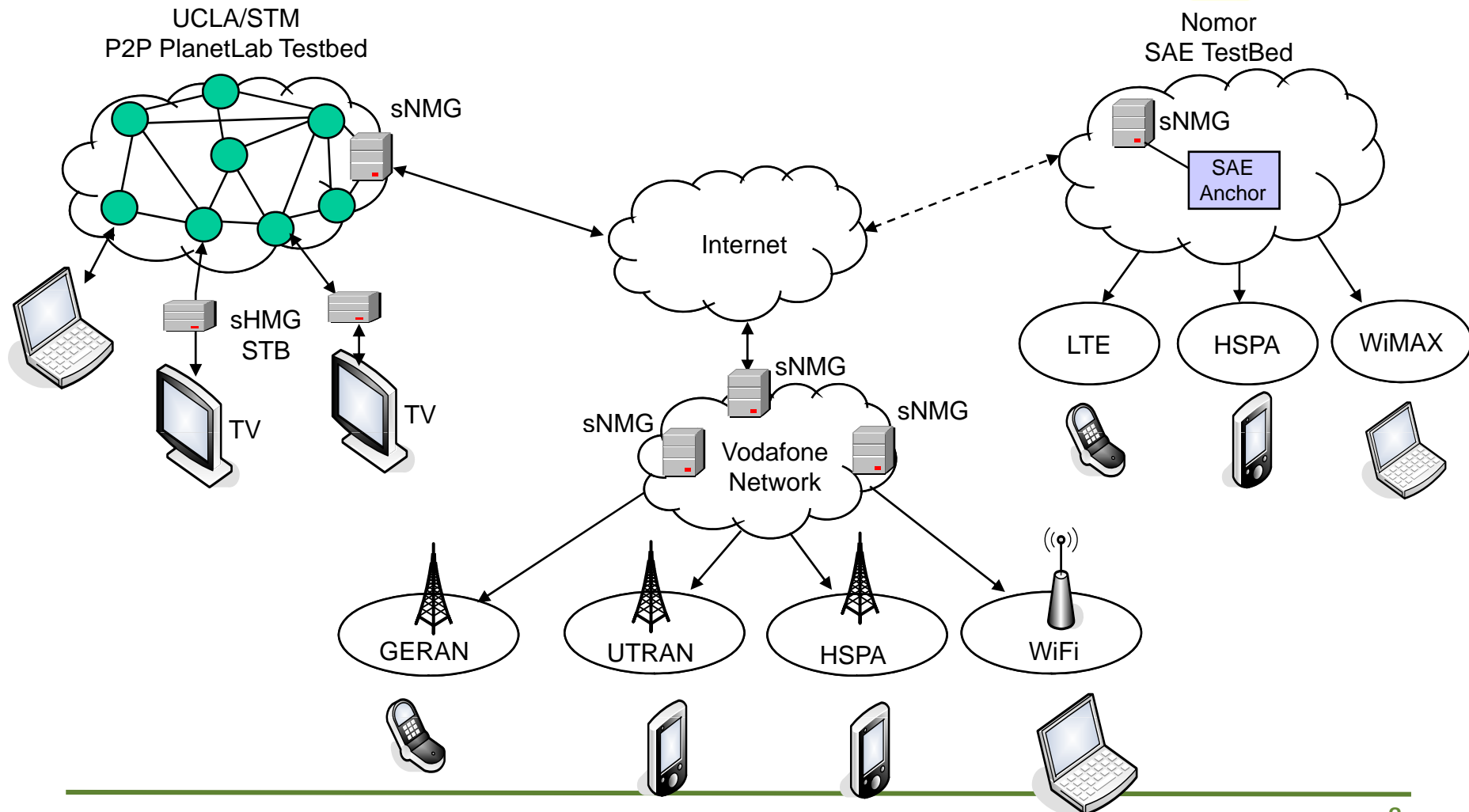
Using

- Fixed/Wireless/Mobile Networks
- P2P Networks

While adapting & protection the stream on the fly



SEA testbed





- How can we utilise FIRE?
- Which are the requirements?
- What are the criteria for allowing a project/ application to use the facilities?
- What would it cost?

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