



OCEAN

Open Content Aware Networks



An EU-FP7 Project

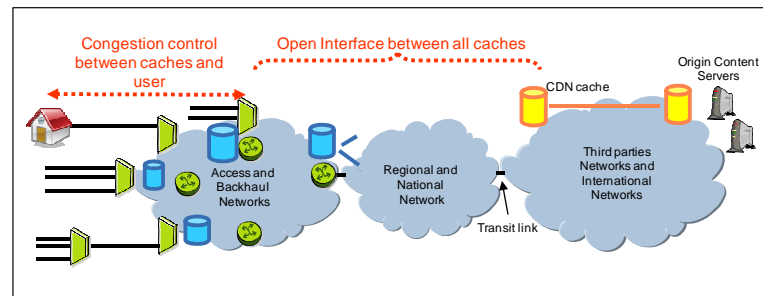
Next Generation Open Content Delivery Network (CDN)

Context and Challenges

- Major breakthroughs and structuring changes on-going in audiovisual content delivery over Internet
 - 50 to 60% traffic volume growth per year
 - Broadband networks increasingly used to carry high definition content (HD and 3D)
- Key role of CDN players in the Internet
 - 1/3 of all Internet traffic delivered through a CDN
- ... And shortcomings
 - QoS and network cost in the "CDN last mile"
 - Lack of Openness in Content Delivery Systems
 - Business challenges (services and regulation evolution, network and CDN interconnections)

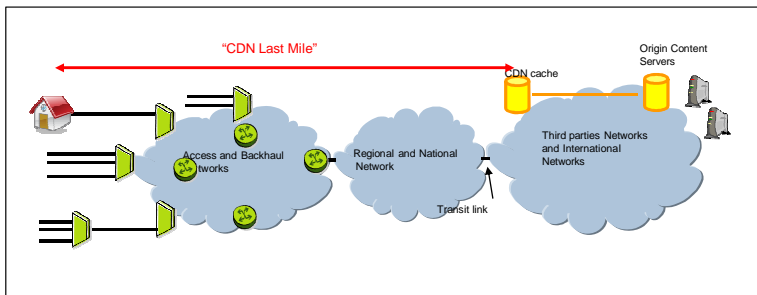
OCEAN Innovations

- New open content delivery framework optimizing the overall quality of experience to end-users



OCEAN Framework

- Content cached closer to the user than traditional CDNs do
- Network-controlled, content-aware, scalable and adaptive content delivery techniques
- Innovative self-learning caching algorithms that meet the specifics of the highly unpredictable location and time-dependent consumption patterns, and that dynamically adapt to the rising popularity of future delivery services
- New media-aware congestion control mechanisms based on slight, but controlled quality degradation, providing a better alternative than mere blocking of user requests
- Content architecture with light-weight signaling protocols and public interfaces between its building blocks to foster multi-vendor and multi-player solutions
- Business strategies providing investment incentives to the different types of players in the Internet content delivery value chain



Typical CDN deployment today

OCEAN Objectives

- Design and develop a second-generation open content delivery system (CDN), complementary to the current global CDNs over Internet, and interoperable with them
- Investigate several technical solutions in a balanced value chain with benefits for the end-user, content provider, delivery service provider and network operator

Expected Impacts

- Strengthened positioning of Europe in content delivery technologies and online audiovisual content services over Internet
- Global standards to favor multi-vendor deployment opportunities and content network interconnections.



The OCEAN project is partially funded by the European Union as part of the FP7 Information and Communication Technologies program.

www.ict-ocean.eu