2009

VERSO

ANR-09-VERS-014

ViPeer (WP4)

Video Traffic Engineering in an Intra-Domain Context using **Peer**-to-Peer Paradigms

AGENCE NATIONALE DE LA RECHERCHE ANR

Academic Partners

INRIA — Mines Télécom Institut — Telecom Bretagne — EURECOM

Industry Partners

envivio. — orange — NDS (NDS is now part of Cisco.) — cisco

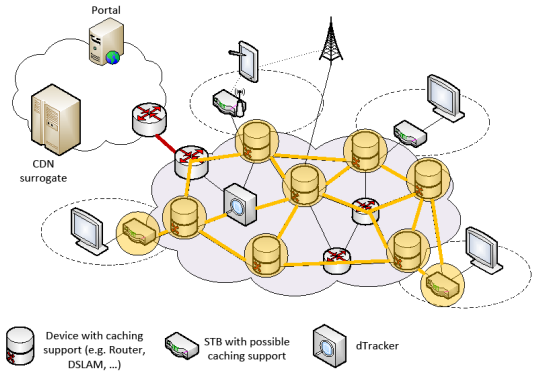
SOLUTIONS COMMUNICANTES SECURISEES — images & réseaux

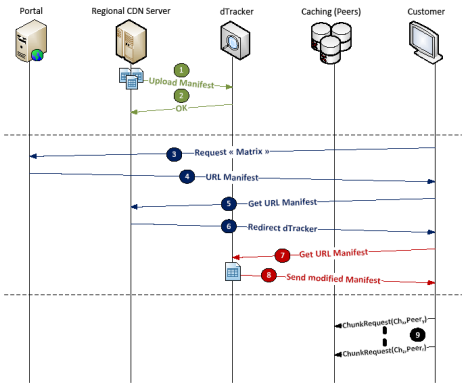
Tasks

- ❑ Maintaining a state-of-the-art bibliography
- ❑ Designing the algorithm for allocating content
- ❑ Designing the algorithm for delivering data
- ❑ Developing tools for analyzing the proposed algorithms

Propositions

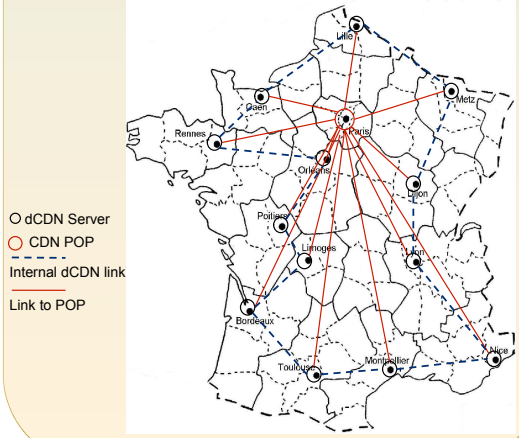
- ❑ Architecture: distributed Content Delivery Network (dCDN) leverage on in-network caching and dTracker
- ❑ Data delivery: application-layer Information Centric Network & Dynamic Adaptive Streaming over HTTP
- ❑ Content allocation: *k*-Product Capacitated Facility Location Problem solved by genetic algorithm and MapReduce
- ❑ Content placement: cooperative caching, multi-policy caching, joint replication and caching strategy, *etc.*



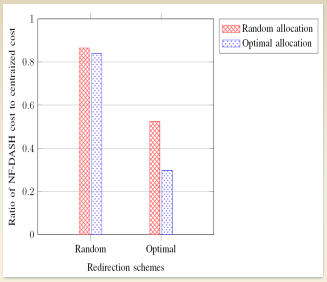


Evaluations

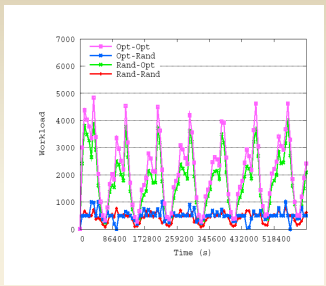
- ❑ Trace: 7 days traffic observed by Orange from 13 regions in France
- ❑ Performance Metrics: ISP operation cost, servers' workload, ratio of postponed requests



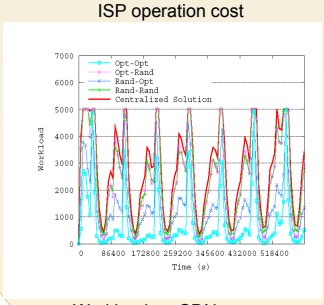
Results



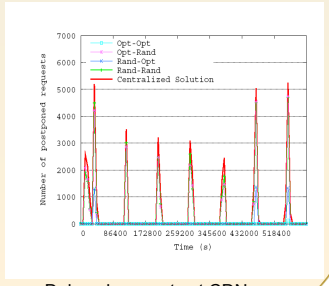
ISP operation cost



Workload on dServers



Workload on CDN server



Delayed requests at CDN server

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