Content Delivery World

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OTTtv World Summit

8th November 2016

Latest Innovations in Content Delivery and Live Streaming

Tamás Jursonovics

Solutions Architect

Deutsche Telekom

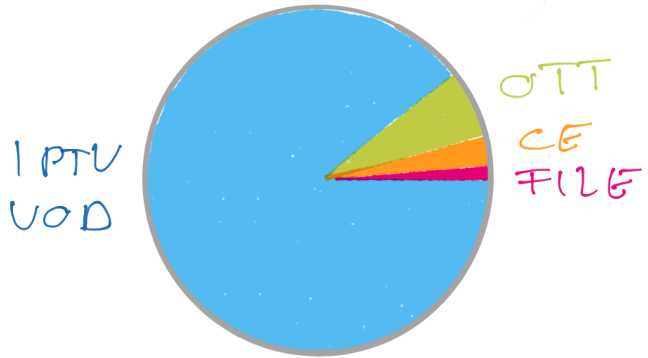
#OTTTV16

#CDW16

Delivered by KNect365 TMT

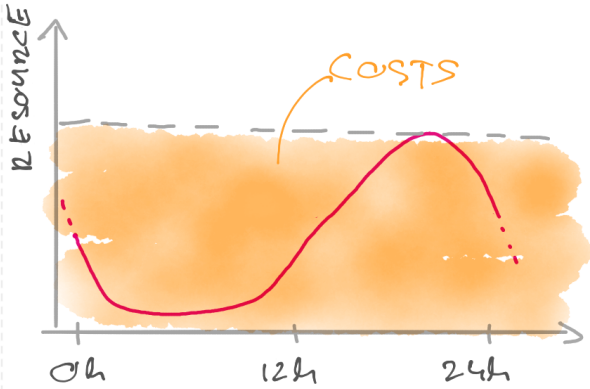
About us

- HSS/HLS/DASH
- ~ 100Gbps
- 26 caches / 7 locations in Germany
- 3play customers
  - Live TV
  - VOD
  - nPVR
  - FW images
  - IPTV STB
  - Mobile devices
  - Smart TV
  - PC/Mac browsers

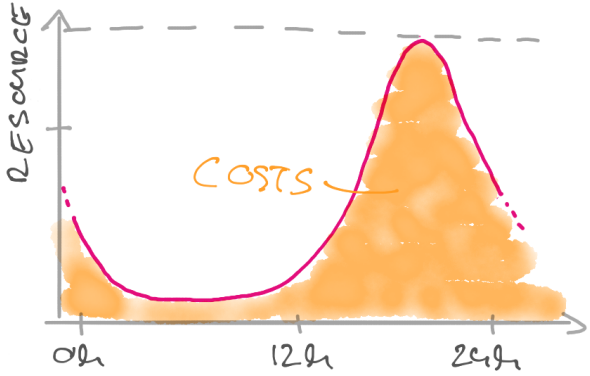


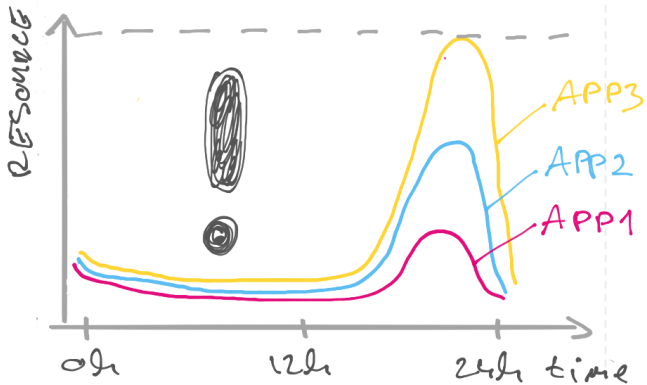
CLOUD CAN

bare metal



IaaS*

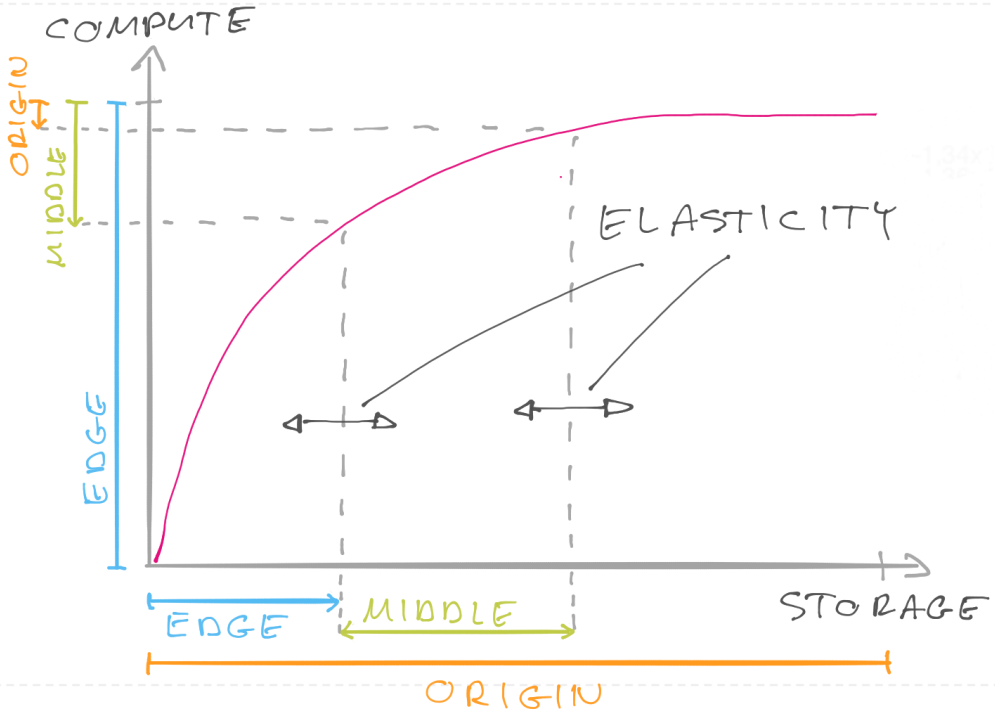


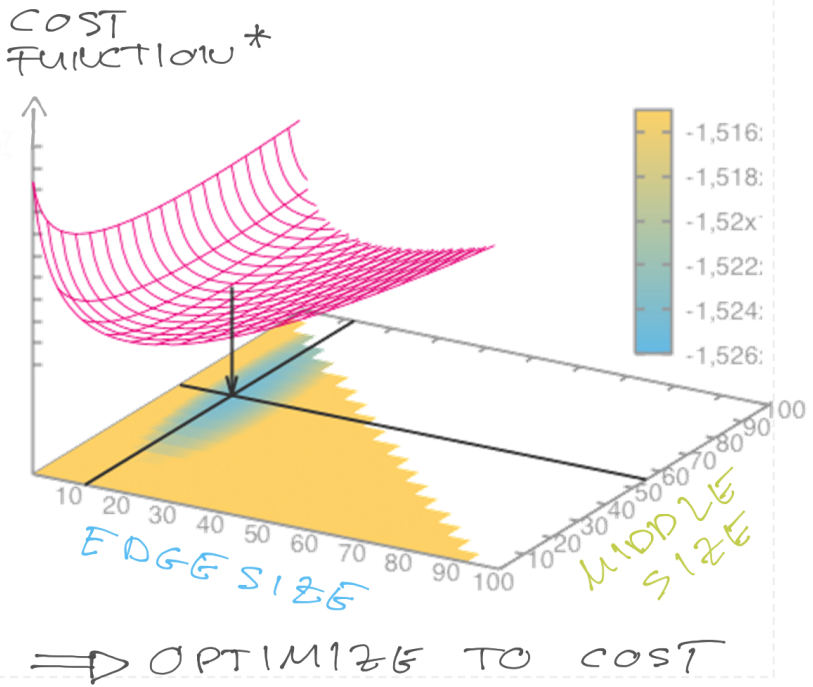


- SHARED RESOURCES
- TIME 2 MARKET
- UNIFIED INFRASTRUCTURE

* Axel Clauberg at http://www.openstack-israel.org/

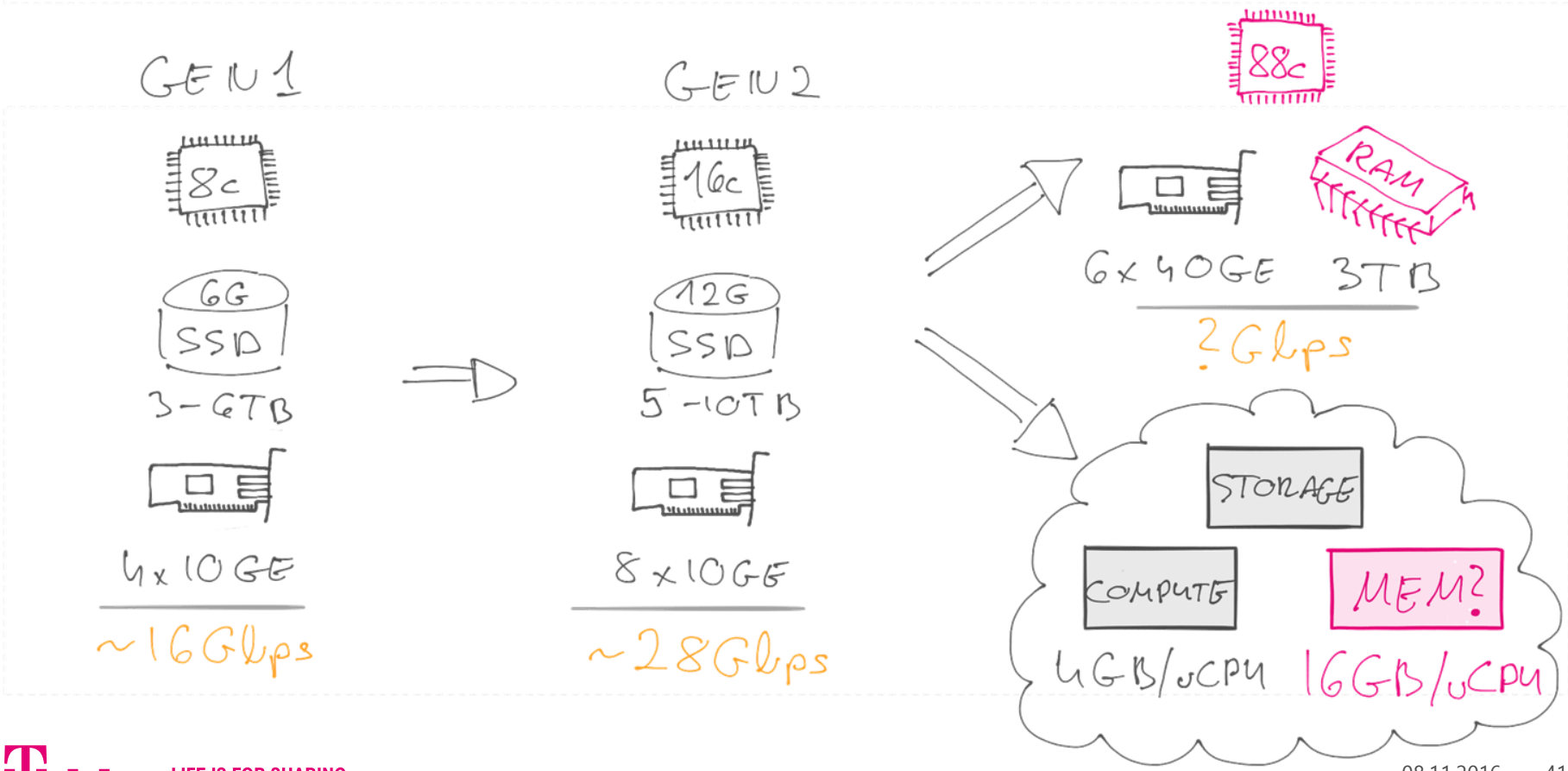
#1 ORCHESTRATION





*2 tier CDN with 6 edge, 1 middle cache; 100TB content base; 60 min / 20GB; Zipf popularity (s=.95)

#2 MEMCACHING FOR VOD

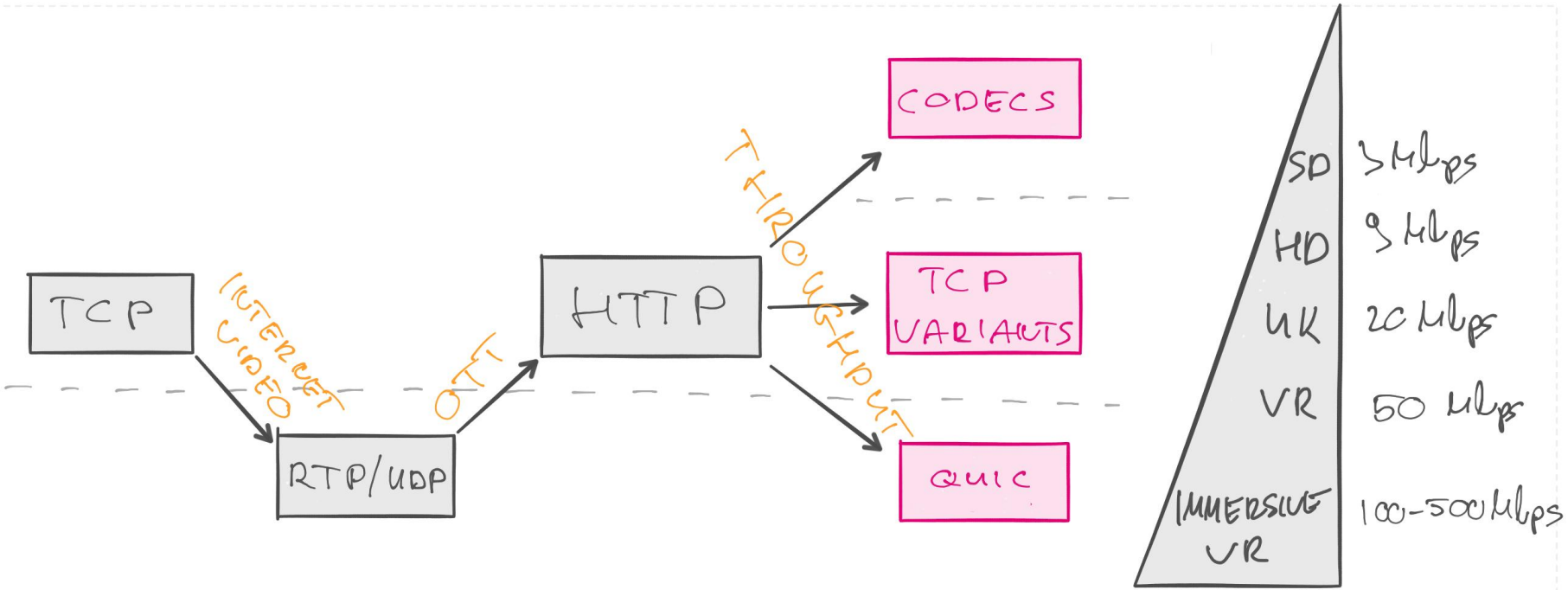


#3 NETWORK AWARENESS

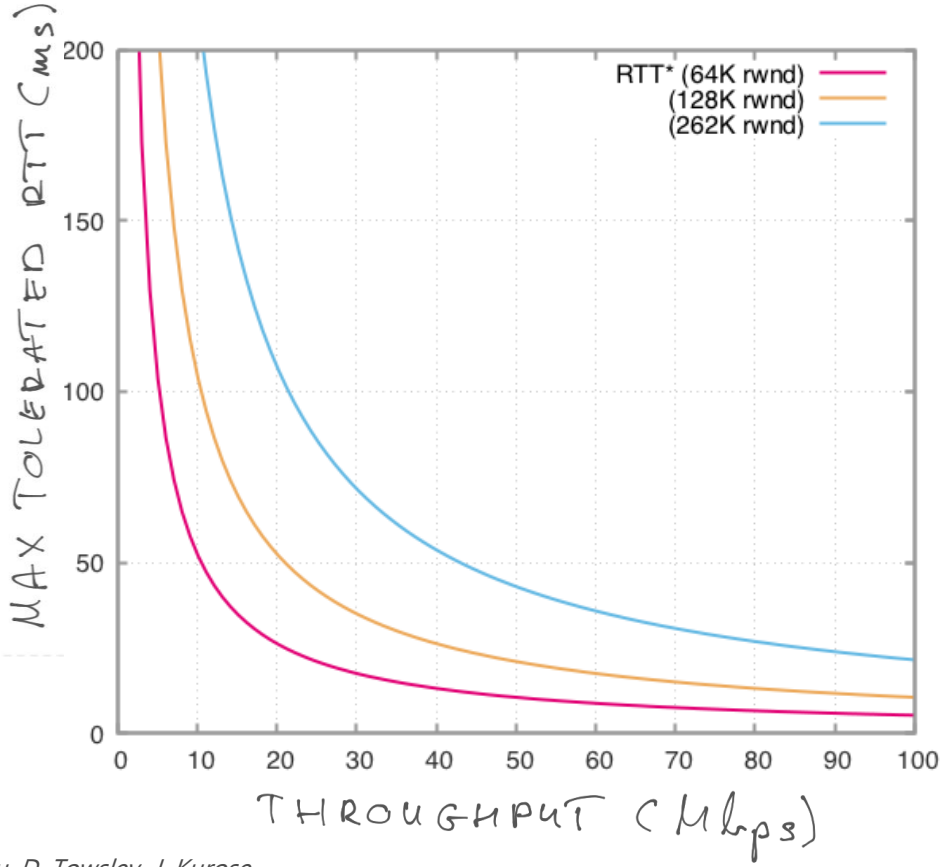
#4 REQUEST ROUTING

#5 NUMBER OF CDN TIERS

HIGH THROUGHPUT SERVICES



TCP PERFORMANCE

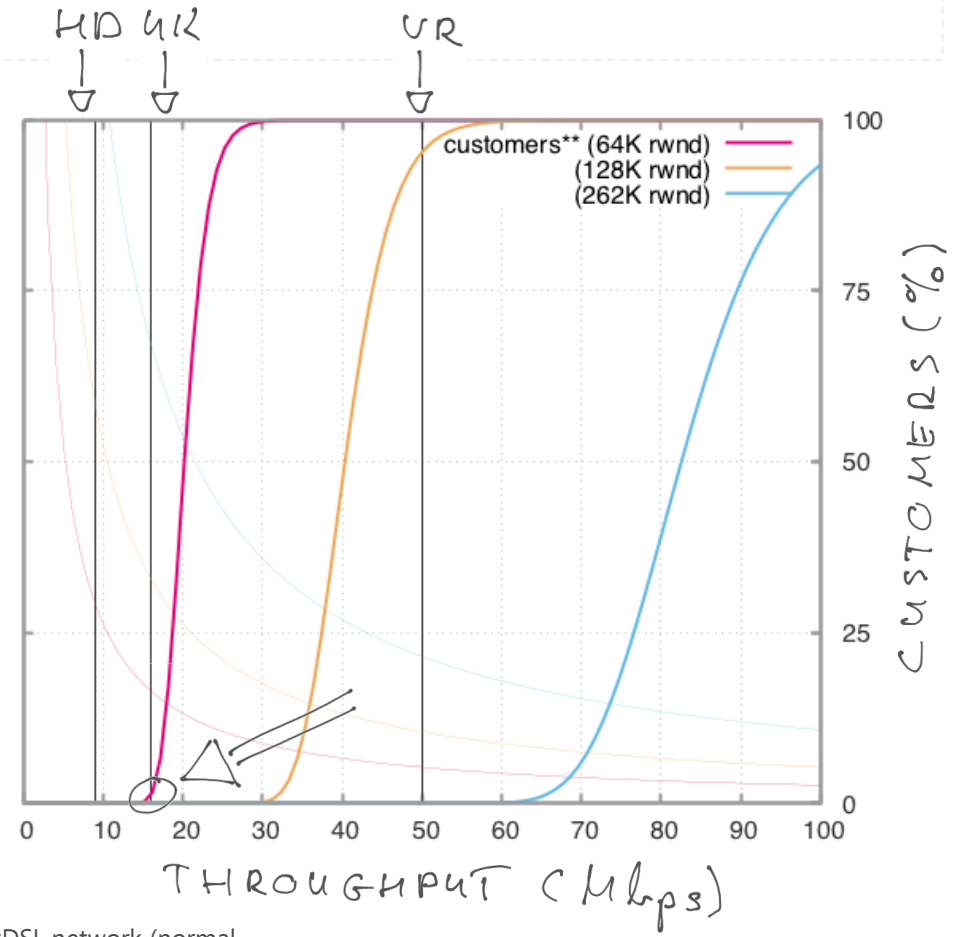


* *J. Padhye, V. Firoiu, D. Towsley, J. Kurose. „Modeling TCP Throughput: A Simple Model and its Empirical Validation"*

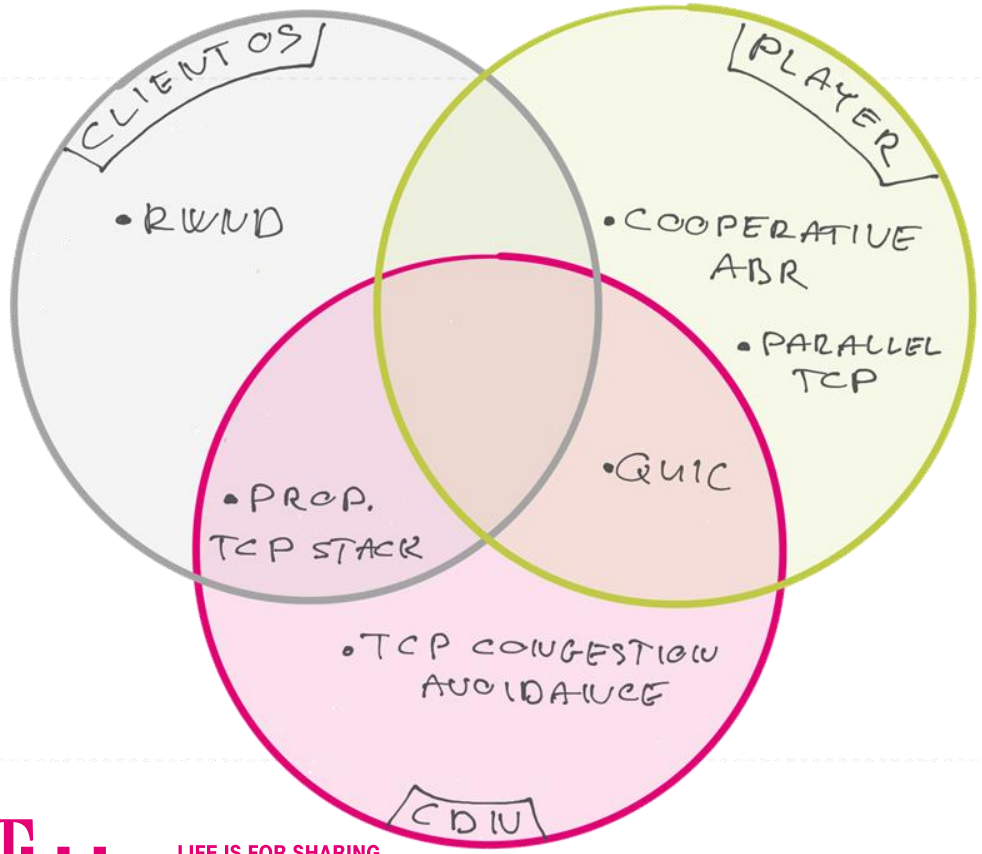
TCP PERFORMANCE

OTHER ASPECTS

- PACKET LOSS
- WLAN



** assuming typical telco xDSL network (normal distributed RTT with μ=26ms, σ =6ms)



	C.OS	PLAYER	CDN
STB	✓	✓	✓
MOBILE	X	X	✓
BROWSER	X	✓	✓
SMART TV	X	X	✓

⇒ NO SINGLE SOLUTION

SUMMARY

- NEXT STEP IN STORAGE TECHNOLOGY
- OPTIMAL SIZING IN ELASTIC CLOUD
- HIGH THROUGHPUT SERVICES IN ISP'S ECOSYSTEM

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