TATA COMMUNICATIONS

Challenges in End-to-End Network-Centric Performance Management & Monitoring

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Challenges in End-to-End Network-Centric Performance Management & Monitoring

- Across different network domains that use different network technologies
  - **Old network paradigm**: users are mostly static PCs/LAN Client on a single network (enterprise network and Data Centers)
  - **New network paradigm**: users are mostly mobile client with application and data residing in a hosted multitenant data center
  - The *user requirement and expectation remains the same*: plug-and-play devise/application interoperability everywhere and one-stop-shop troubleshooting for all problems
  - **Problem**: the networks in the middle is much more complicated

    Mobile network – Metro network – WAN network/Internet – Hosted DC

    Existing performance management tools and capabilities often break down across network boundaries

Challenges in End-to-End Network-Centric Performance Management & Monitoring

- Across different network operators' domains
  - **Old paradigm**: very limited broadband data mobility
  - **New paradigm**: users expect their apps to work at home, in the office, and on the road
  - **Problem**: broadband data roaming support and performance management during roaming is almost non-exist
- Across network and OTT service providers' domains
  - **Old paradigm**: network operators and OTT service providers are natural-born enemies
  - **New paradigm**: network operators and OTT service providers can work together in the same ecosystem to server the users in the most efficient way possible and share the profits
  - **Problem**: the tools and capabilities are not quite there to make it happen

Challenges in End-to-End Network-Centric Performance Management & Monitoring

- Synchronize different views from different verticals: Layer 1 physical transport to Layer 7 applications
  - **Old paradigm**: each layer has its own performance management systems and tools, and each layer is isolated from other layers
  - **New paradigm**: application-aware and user-aware networking becomes critical due to factors such as fair usage, tiered billing, performance sensitive applications, and so on
  - **Challenges**: the tools/protocols/APIs are far from mature