

Infrastructure Sharing for Sustainability

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- Does infrastructure sharing reduce resilience?
 - Can we manage faults, peak load/congestion and disasters?
- Can we dynamically manage network capacity & performance?
 - Do we have tools to monitor/allocate resources and use?
- Does infrastructure sharing already happen, and does it make more sense in access, transport, core or end-to-end?
- Are IETF protocols adapted to infrastructure sharing or would an orchestration layer be needed?
- Would infrastructure sharing increase/decrease centralization?

Infrastructure Sharing for Sustainability (ctd.)

- Infrastructure sharing is doing more with less!
 - A fundamental principle of sustainability.
- Infrastructure sharing enables collaboration at infrastructure layer, but differentiation and competition in upper layers.
 - Requiring innovative thinking at all layers.
- Infrastructure sharing has the potential to help connect the unconnected and to enable new business models.
- Through trade-offs and optimizations, infrastructure sharing could be implemented where it makes sense!

Thanks!

Backup Slides

Why Infrastructure Sharing for Sustainability?

- Network **capacity** is often dimensioned for **peak load**.
 - Leading to **idle** capacity & low resource **efficiency**.
- Network elements often have **high idle power** consumption.
 - Limited energy **proportionality** & low energy **efficiency**.
- **Infrastructure sharing** could be a **mitigation** strategy.
 - Avoiding excess capacity build up and increasing efficiencies.

Why Infrastructure Sharing for Sustainability? (ctd.)

- There are coverage **gaps in rural areas** and the **global south**.
 - Investing in infrastructure/services **not economically viable**.
- Some network deployments like for autonomous driving, railroad and highway coverage require **massive** infrastructure
 - **Not economically viable** for a single operator.
- **Infrastructure sharing** could be a **mitigation** strategy.
 - **Making** economic and operational **sense**.