Aether Architecture - Component Level

- Aether Edge
  - ROC - Runtime Operational Control
  - SD-RAN
  - SD-Core
  - SD-Fabric

- Central Cloud
  - Distributed Mobile Core User Plane provides local breakout at all remote Aether Edge sites
  - Shared Mobile Core Control Plane in central cloud supports all Aether Edge sites

- Enterprise Portal

- IoT Sensors
- Surveillance
- Multimedia
- Employees
- Visitors

- Small Cell or RU
- CBRS or Licensed Band
Aether Consumption Models - **Aether-in-a-Box**

- Aether installed on single machine
  - One radio, or Simulated RAN
- Ideal for:
  - Evaluating Aether
  - Learning Cloud Platform, 5G
  - University - Research on Aether cloud platform
  - Learn & Research on Programmable SD Fabric
Aether Consumption Models - **Aether Standalone**

- Aether installed Inside a private network
  - Multiple radios/RANs
  - UPF can be extended to RAN for edge computing
  - Hardware acceleration of UPF (P4-based)

- Ideal for:
  - Provide 4G/5G connectivity services built on readily available hardware
  - Extensible architecture for “Pay as you grow” model
  - Writing Applications on Aether Platform
  - Enterprise - Smart edge POC/Trial
Aether Connected Edge (ACE)

- Aether core installed in commercial cloud provider (GCP, AWS and others)
- RAN and radios installed across multiple sites
  - Multiple radios/RANs
  - UPF can be extended to RAN for edge computing
  - Hardware acceleration of UPF (P4-based)
- Ideal for:
  - Provide 4G/5G connectivity services built on readily available cloud provider infrastructure
  - Extensible architecture
  - Writing Applications on Aether Platform
  - Open Source developer
Aether Consumption Direction

**Aether-in-a-Box**
- Simplification - enhance documents and tools
- Broaden radio vendors as needed
- Simplify subscriber provisioning (SIM cards)
- Continued evolution of ROC
- Add CPU target support (ARM)

**Aether Standalone**
- Straightforward installation and upgrade to higher capacity and higher reliability configurations
- Cultivate additional UPF accelerators
- More complex and bespoke configurations
- Mix and match UPF

**Aether Cloud**
- Customizable installation for cloud
- Continued easy integration with SD-RAN
- Additional cloud vendor support (e.g. Azure)
- Security enhancements (VPN) between cloud and edge
- Complex multi-edge configurations
Aether Resources

- Aether document page
  https://docs.aetherproject.org/master/index.html
- Aether Slack channel
  https://join.slack.com/t/onf-community/shared_invite/zt-g2ed9rid-t9mAGa4Y2RrKfBWbY665tA
- Aether TST information
  https://wiki.opennetworking.org/display/COM/Aether
- Aether Community meeting notes
  https://docs.google.com/document/d/1haONZ6kecEDorkANeOqsk-poyufAGwav9ECp2HIHDI/edit?usp=sharing