Converged Access Switch (CAS)

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Converged Access Switch Introduction

**Objective:** Consolidate multi-protocols into a common transport solution

- **Interoperable without vendor lock-in**
  - Standards based open interfaces
- **Agility via modular, µs-latency, flexible architectures**
  - Ethernet based aggregation
  - Converged protocols
- **Customized model and policy driven automation**
  - SDN controlled
- **White Box Solution**
  - Open Compute Project (OCP) design
CAS Requirements

Radio over Ethernet (RoE)
- Transport CPRI per IEEE 1914.3 Standards

Time Sensitive Networking (TSN)
- TSN Preemption (802.1CM)

Latency
- Low Latency (~125μs RTT max for 10km distance)

Synchronization (1588)
- Boundary Clock (class B) or Edge Grand Master

Switching / Routing Software
- Support NOS of operator’s choice

Low PHY
- CPRI to eCPRI Conversion
Use Cases

CAS Pico
- Outdoor Hardened
- Pole or Stand mounted
- Supports Fronthaul, Backhaul & Midhaul

CAS
- 1-2 RU Rack Mounted
- Deployed at CRAN Hub or Tower Sites
- Supports Fronthaul, Backhaul & Midhaul
## High Level Requirements

<table>
<thead>
<tr>
<th>Form Factor</th>
<th>Deployment Environment</th>
<th>Port Capacity</th>
<th>Power</th>
<th>Cooling</th>
<th>Environmental</th>
<th>Size</th>
<th>LPHY</th>
<th>RoE</th>
<th>Synch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pico CAS</td>
<td>Pole Mount Strand Mount</td>
<td>(6) X 10/25G CPRI/RoE/eCPRI (2) X 25G eCPRI (1) X 100G</td>
<td>AC (100 to 240 VAC) DC (-57 to -40VDC)</td>
<td>Passive</td>
<td>Outdoor Enclosure NEBS 3 OSP Class 4 -40C to + 70C Ambient IP65</td>
<td>10&quot;x6&quot;x4&quot; &lt; 35lbs</td>
<td>Optional (Desired)</td>
<td>Required</td>
<td>Boundary Clock</td>
</tr>
<tr>
<td>CAS</td>
<td>Tower-Cabinet Hub Site MTSO/CO</td>
<td>(18) X 10/25G CPRI/RoE/eCPRI (6) X 25G eCPRI (4) X 100G</td>
<td>AC (100 to 240 VAC) DC (-57 to -40VDC)</td>
<td>Redundant Fans Front to back</td>
<td>Rack Mount: 19&quot; NEBS 3 OSP Class 2 -40C to + 65C Ambient IP54 Front access</td>
<td>1-2 RU 19&quot; Rack 11.8&quot; Deep</td>
<td>Required</td>
<td>Required</td>
<td>Boundary Clock or Edge Grand Master</td>
</tr>
</tbody>
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### Concept Models

![Pico CAS](image1.png)

![CAS](image2.png)
Call to Action

Request Collaboration with Community to define detailed specification for CAS
Request Feedback from Operators and Suppliers by Mid April, 2019 to the OCP Mailing list:

https://www.opencompute.org/projects/telco

or contact Mike Meche mm477j@att.com