AT&T Open DPU Single Port (ODPU-1P)

Delivering a Fiber Experience Where Fiber Won’t Go

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Problem Statement
Pulling Fiber can be Challenging and Time Consuming!
Sometimes it can be difficult to get a fiber from a building entrance…
…to where you need it: all the way into a living unit!
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Some Possible Solutions

• Serve customer with less competitive offering (i.e. non-fiber speed)
• Abandon customer
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Some Possible Solutions

- Serve customer with less competitive offering (i.e. non-fiber speed)
- Abandon customer
- Find a better way! → → → ODPU-1P!

WARNING!
ODPU-1P Solution
Delivering a Fiber Experience Where Fiber Won’t Go

A point solution providing a fiber-like Gig experience
Extends fiber over existing copper facilities (twisted pair or coax)

• Satisfy customer
• Save time
• Another tool in the arsenal

WARNING!
ODPU-1P Under the Hood
Modem + Uplink + Power Supply + Cloud/SDN/NFV

Line-side Interface (R/S)

GPON
G.984

SoC
GPON
SGMII
802.3 or G.999.1
SGMII

SFP

Drop-side Interface (U-O)

AFE
G.fast
G.9701
RPF
Optional Wallwart

SMPS

PD Controller

NOTE: Terminate **ONLY** SFP OR iONT uplink; use one **OR** the other.

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ODPU-1P Solution
Modem + Uplink + Power Supply + Cloud/SDN/NFV

- G.fast 106MHz Modem
  - DSP + Analog Front End (AFE) + Magnetics
  - SGMII on one side
  - OFDM on the other
  - Develops a TDD (Time Division Duplex) signal towards the subscriber
ODPU-1P Solution
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- **Uplink: SFP & GPON**
  - SFP provides Ethernet, XGS-PON, GPON, etc.
  - Integrated ONT provides Open OMCI based GPON
ODPU-1P Solution
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- Power Supply
  - RPF Input (PoE-like)
  - Local Input (Wallwart)
  - Holdover (Tens of ms)
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- **Software**
  - Cloud-based Virtualization
  - Embedded Operations Software
  - Firmware
Wrap-up & Next Steps
ODPU-1P Can Save Time, Money and Customers
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- Want to learn more?
  - Read the OCP Contribution!
    - http://opencompute.org/wiki/Telcos
    - Click on “AT&T 1 PORT G.Fast DPU v2.0 (draft)”
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- Can ODPU-1P help your organization?
  - We welcome your input! Get involved by…
  - …Joining the OCP Telco Project

- Help drive ODPU-1P to the Next Step: Detailed Design
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THANK YOU!