

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

Delivering a Fiber Experience Where Fiber Won't Go



OPEN
Compute Project

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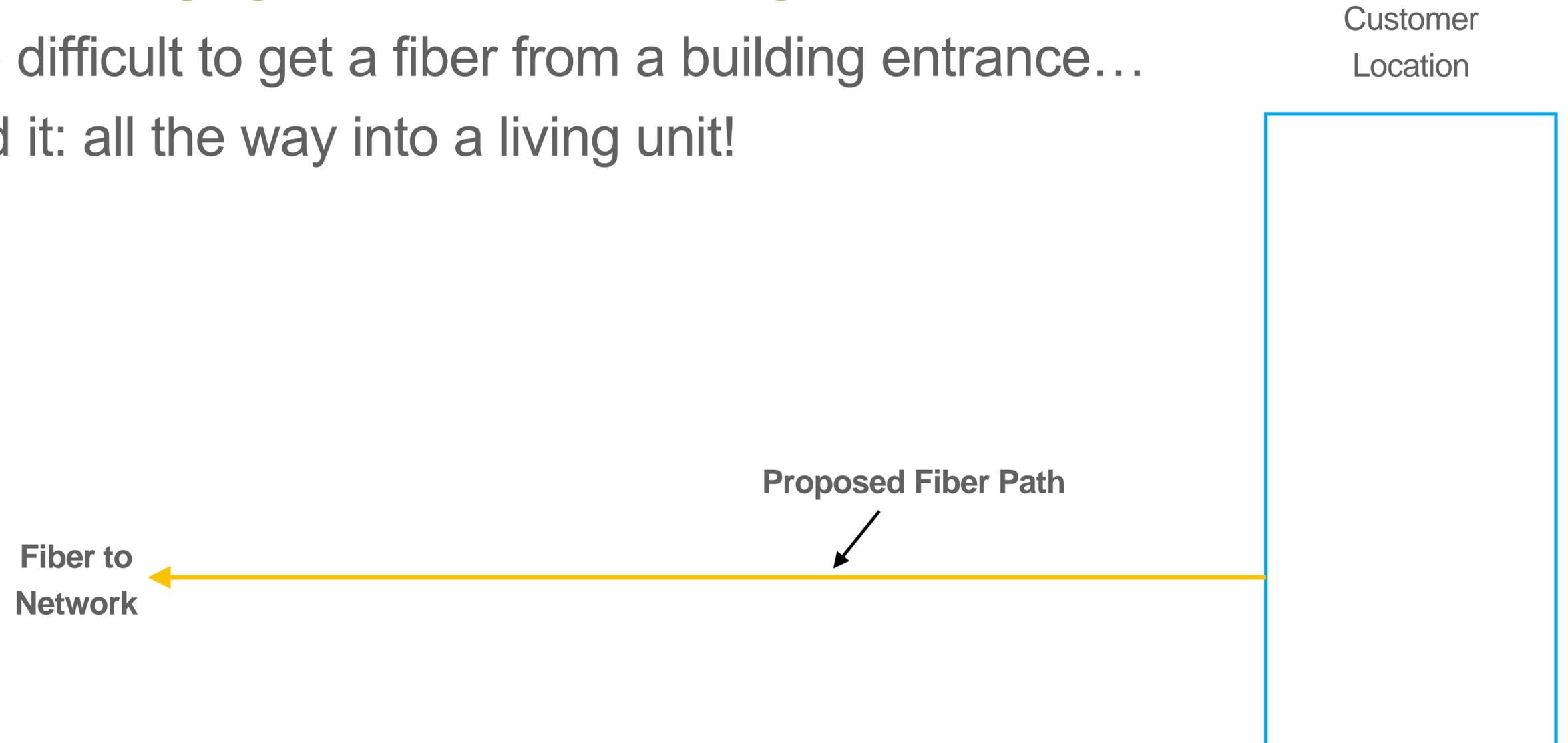
OCP Telco Engineering Workshop

09.25.2017

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!

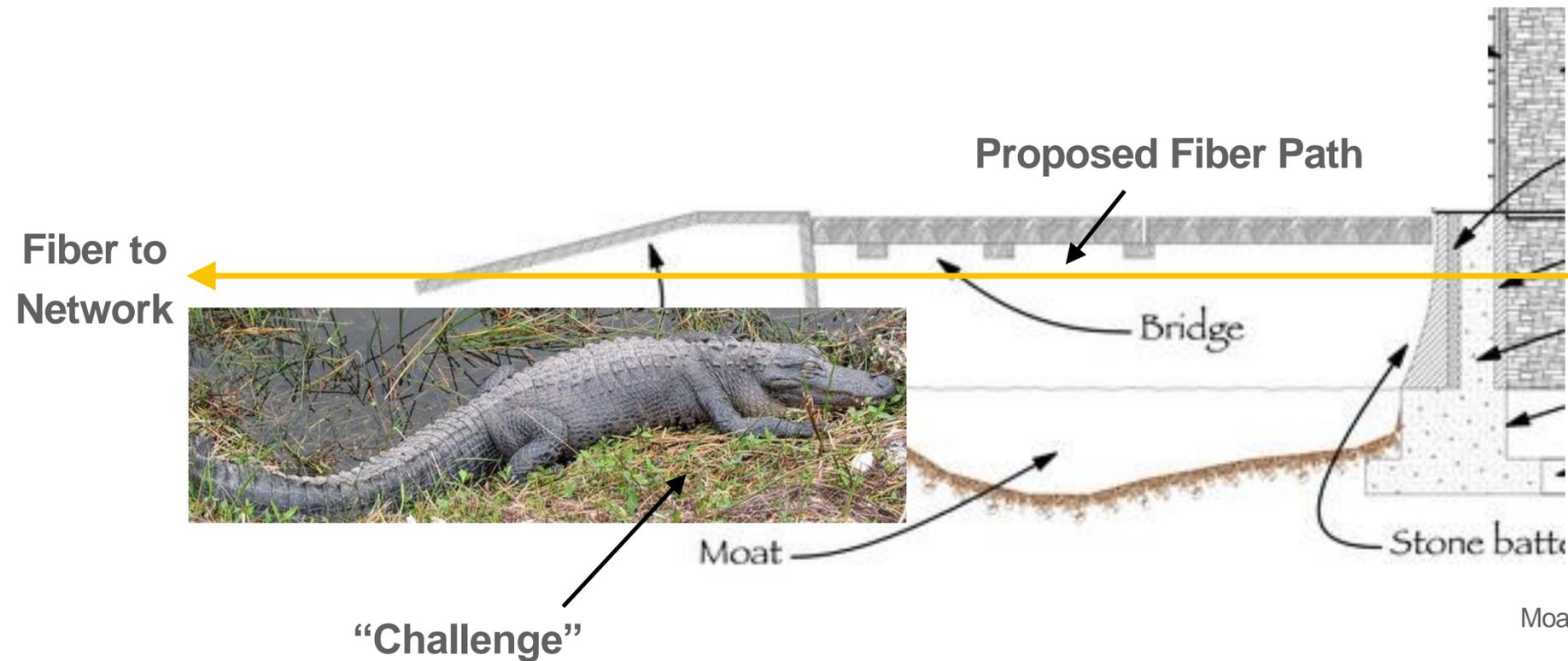
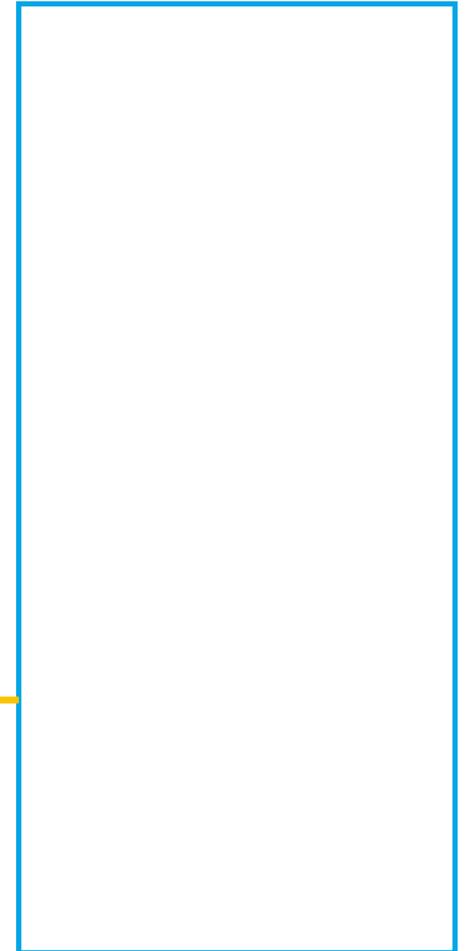


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Customer
Location



Moat © Castlemagic

Problem Statement

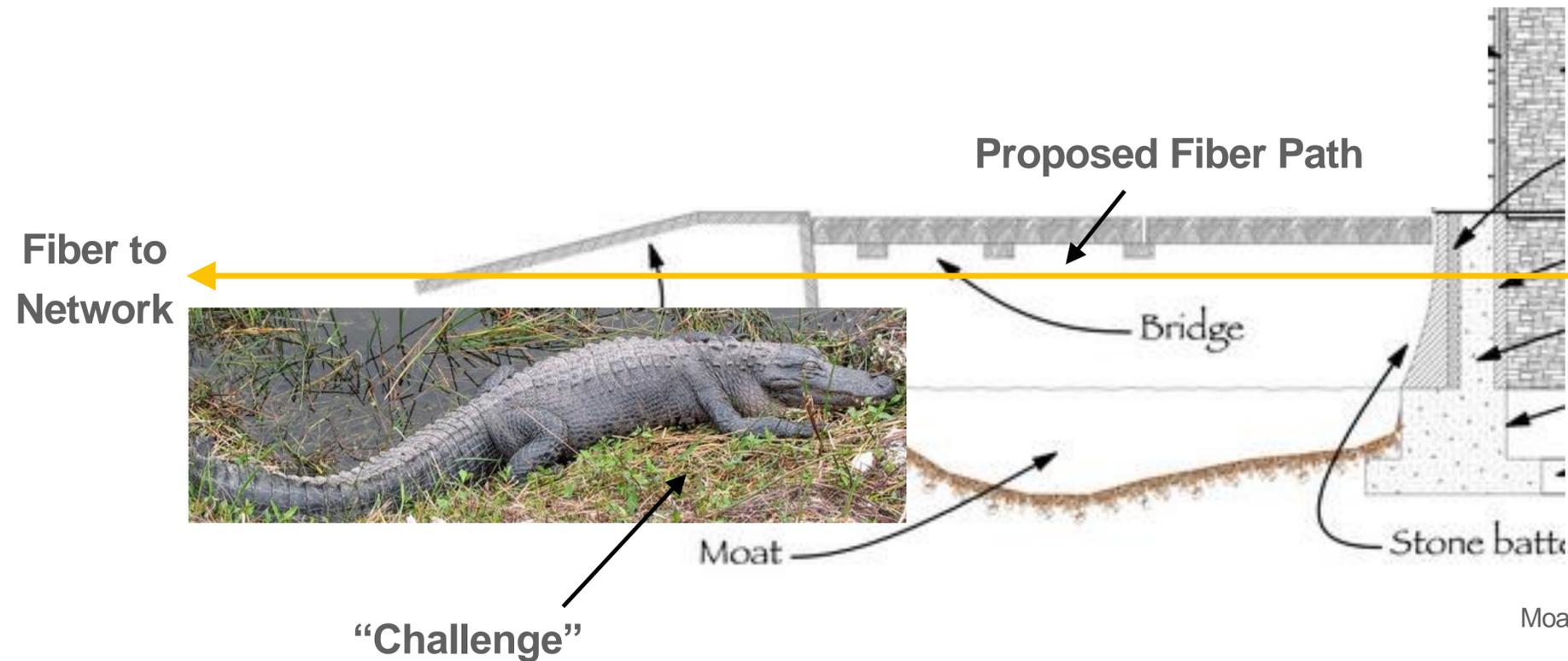
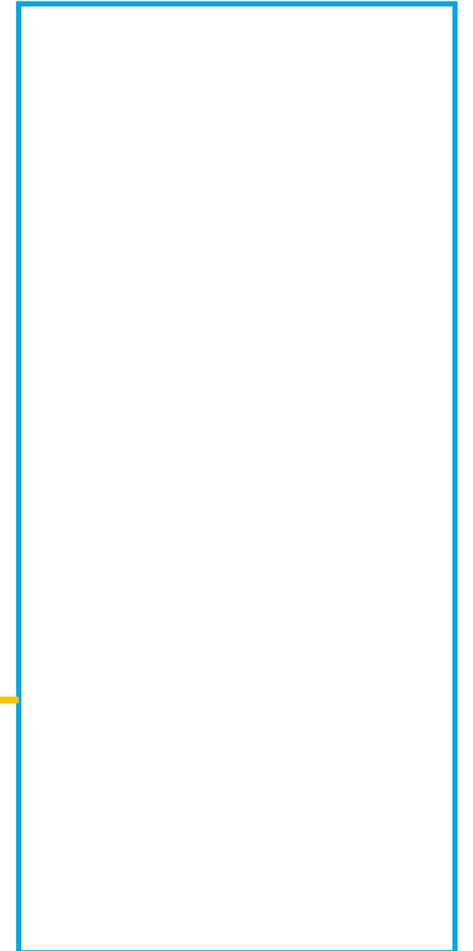
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Some Possible Solutions

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

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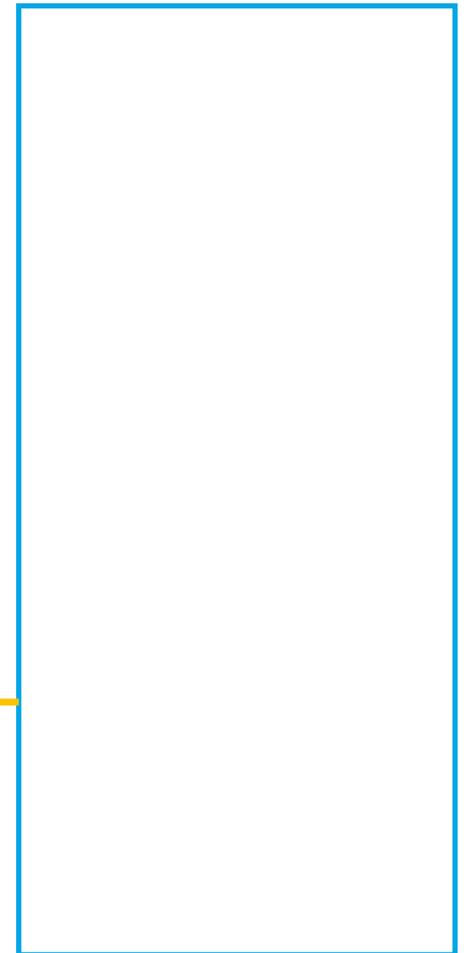
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Some Possible Solutions

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

Customer
Location



Fiber to
Network



“Challenge”

Moat

Proposed Fiber Path

Bridge

Stone batt

Moat © Castlemagic

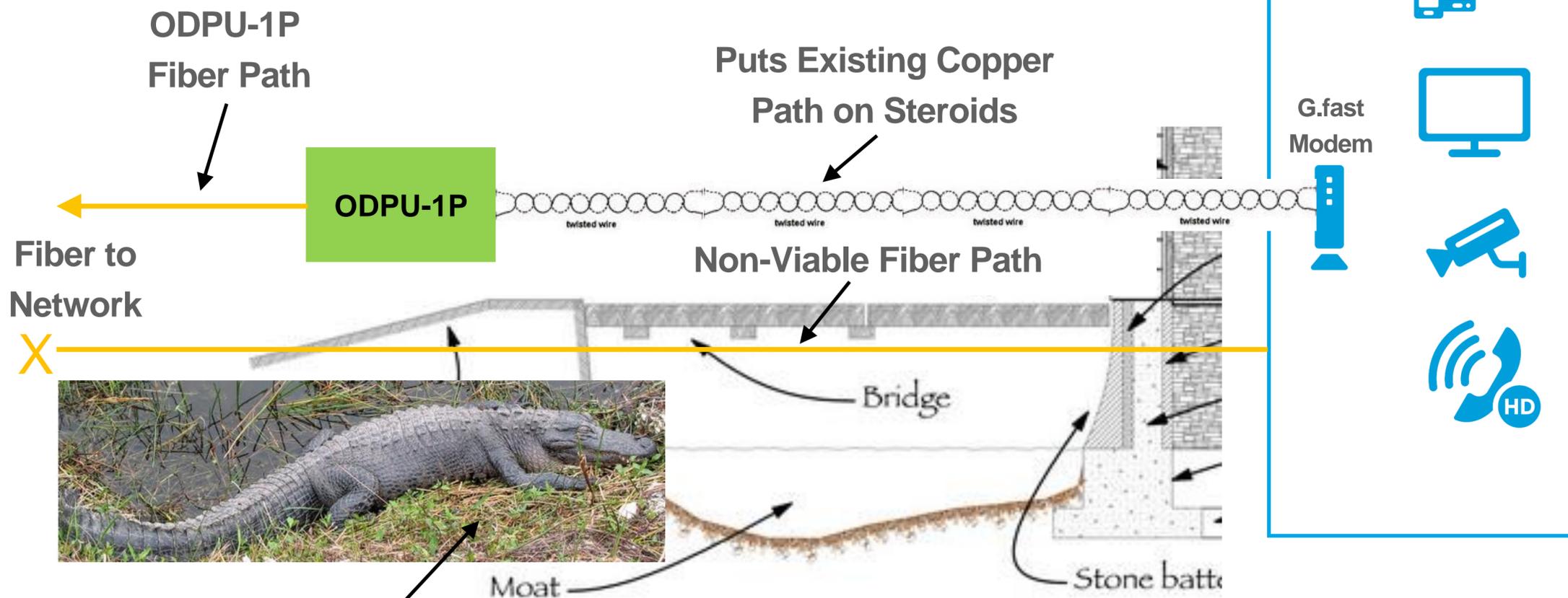
ODPU-1P Solution

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



“Challenge”

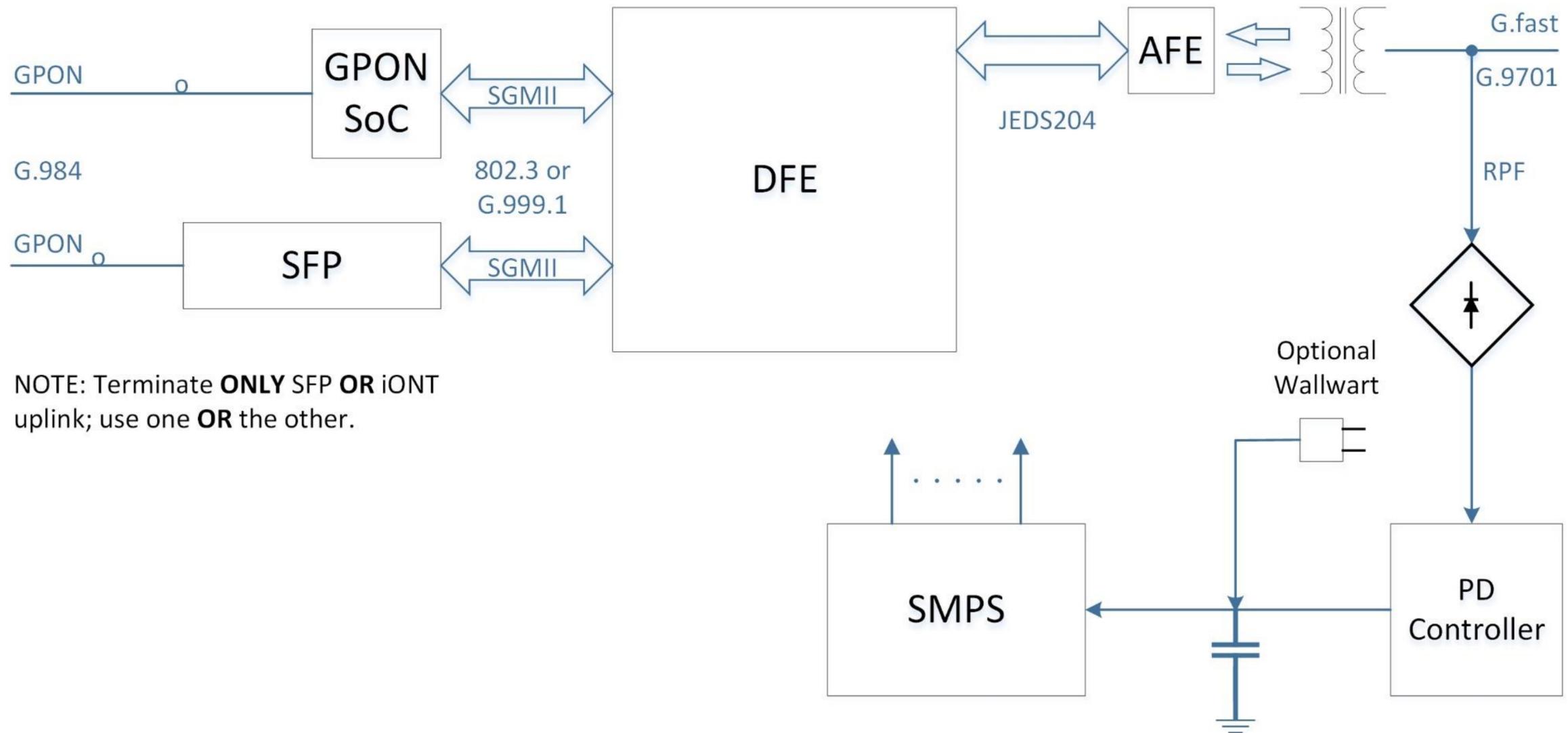
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ODPU-1P Under the Hood

Modem + Uplink + Power Supply + Cloud/SDN/NFV

Line-side Interface (R/S)

Drop-side Interface (U-O)



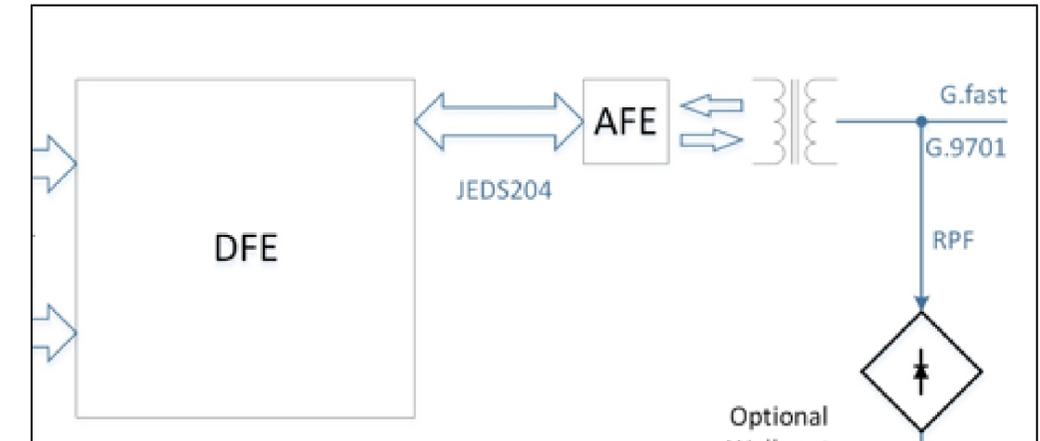
V0.1 Shostak – 1/07/2017

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

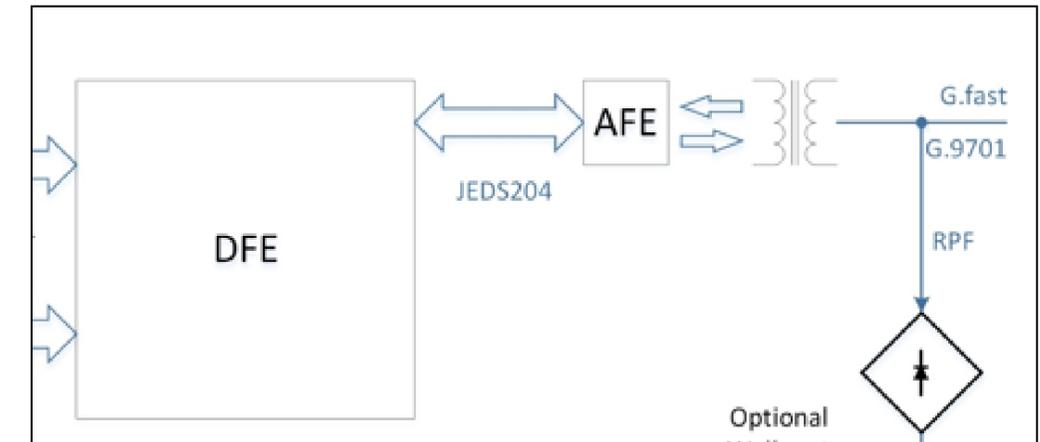


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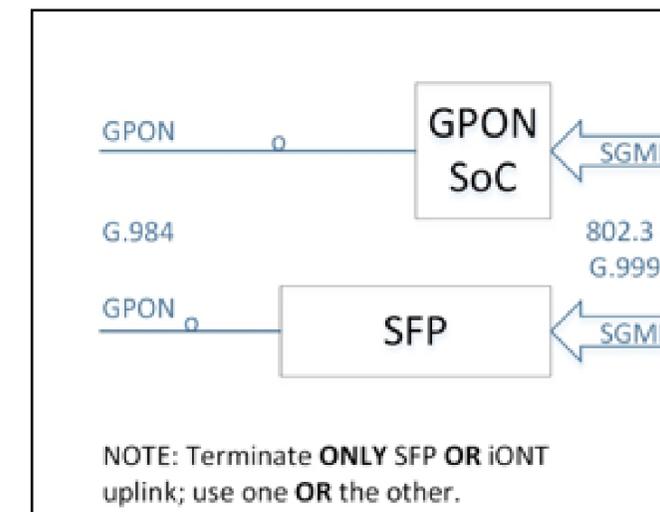
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- Uplink: SFP & GPON

- SFP provides Ethernet, XGS-PON, GPON, etc.
- Integrated ONT provides Open OMCI based GPON

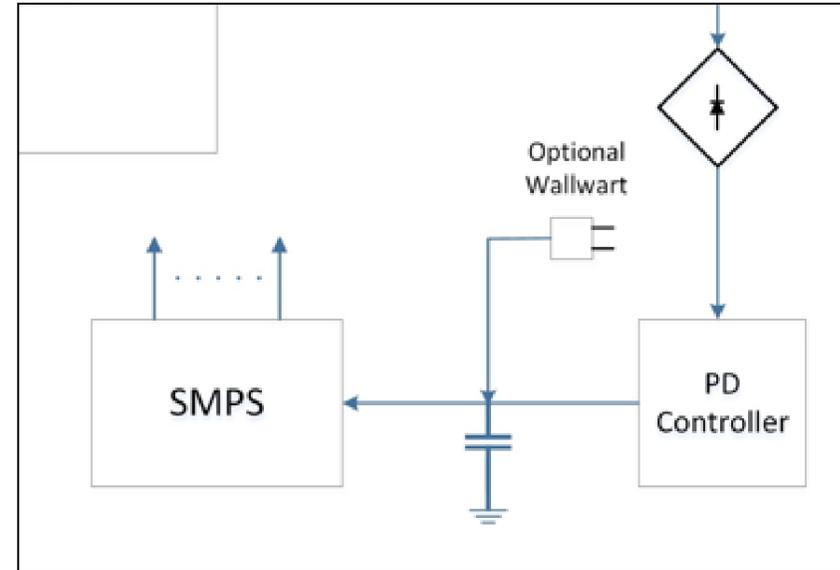


ODPU-1P Solution

Modem + Uplink + Power Supply + Cloud/SDN/NFV

○ Power Supply

- RPF Input (PoE-like)
- Local Input (Wallwart)
- Holdover (Tens of ms)

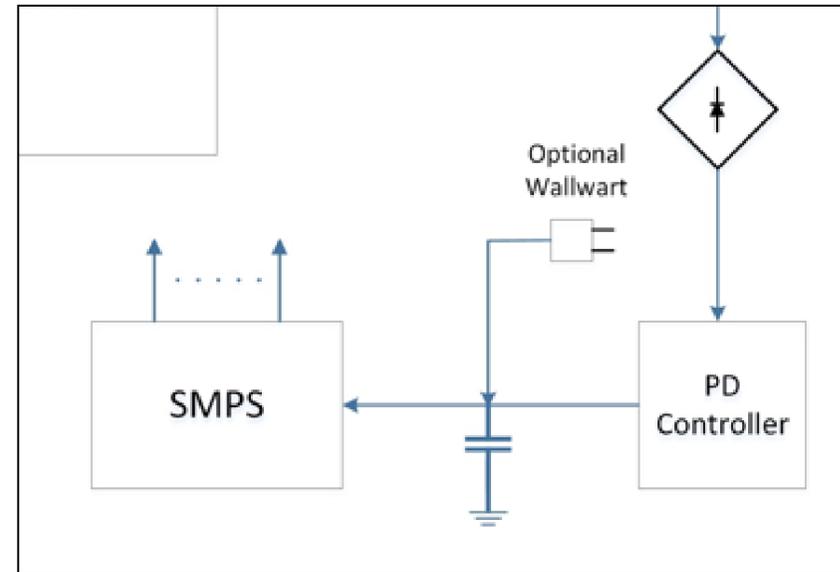


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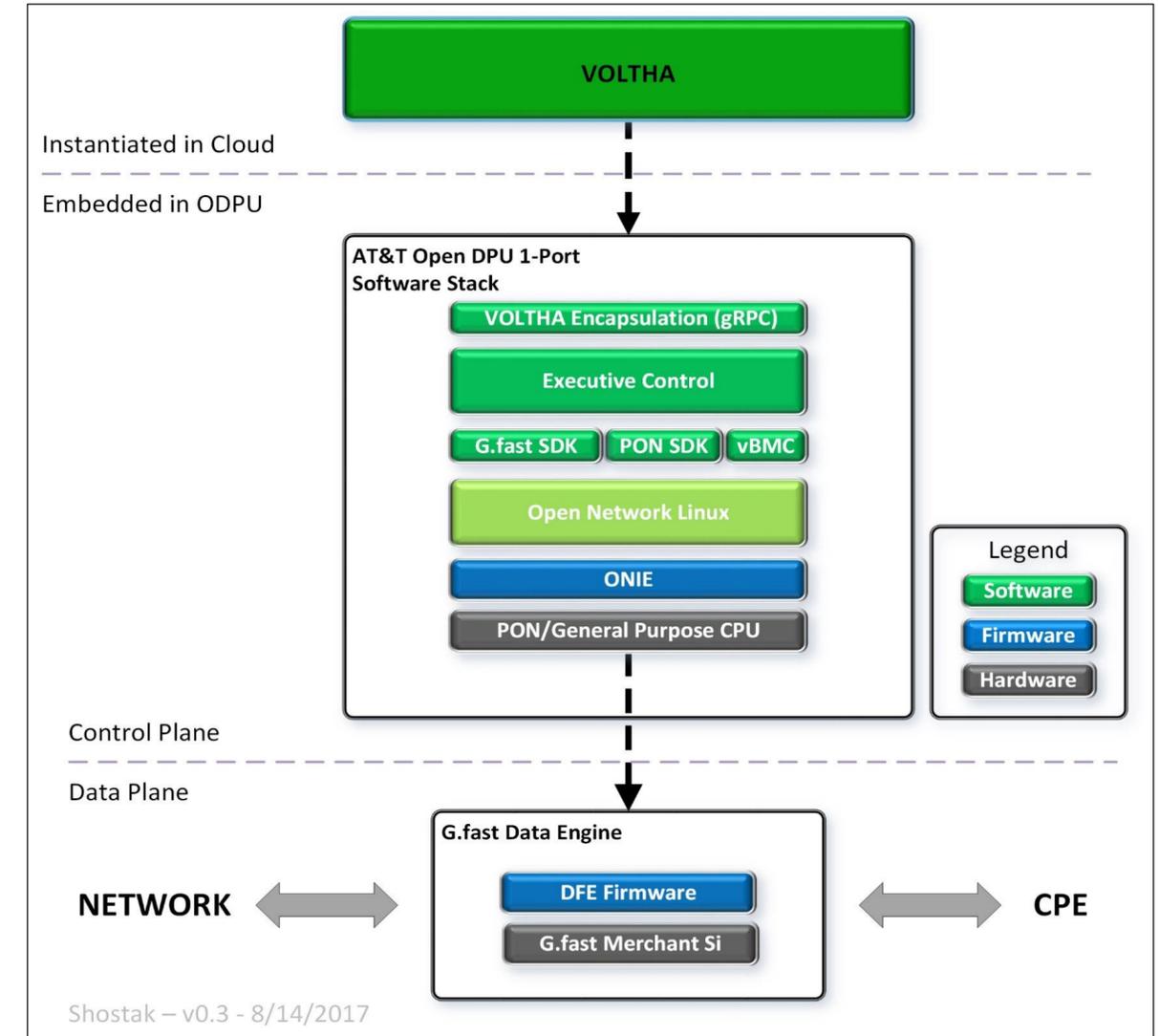
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Software

- 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>
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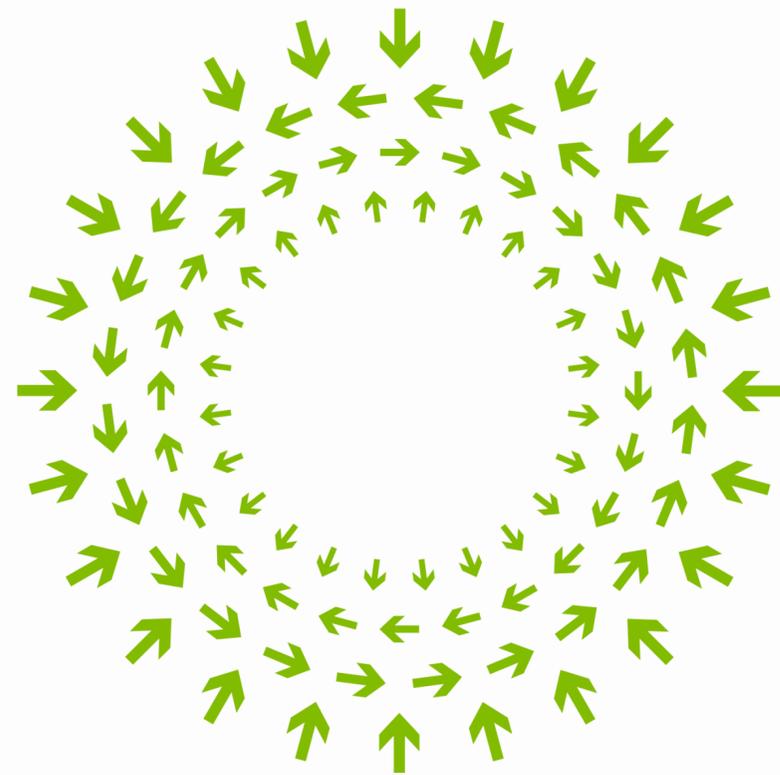
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THANK YOU!



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