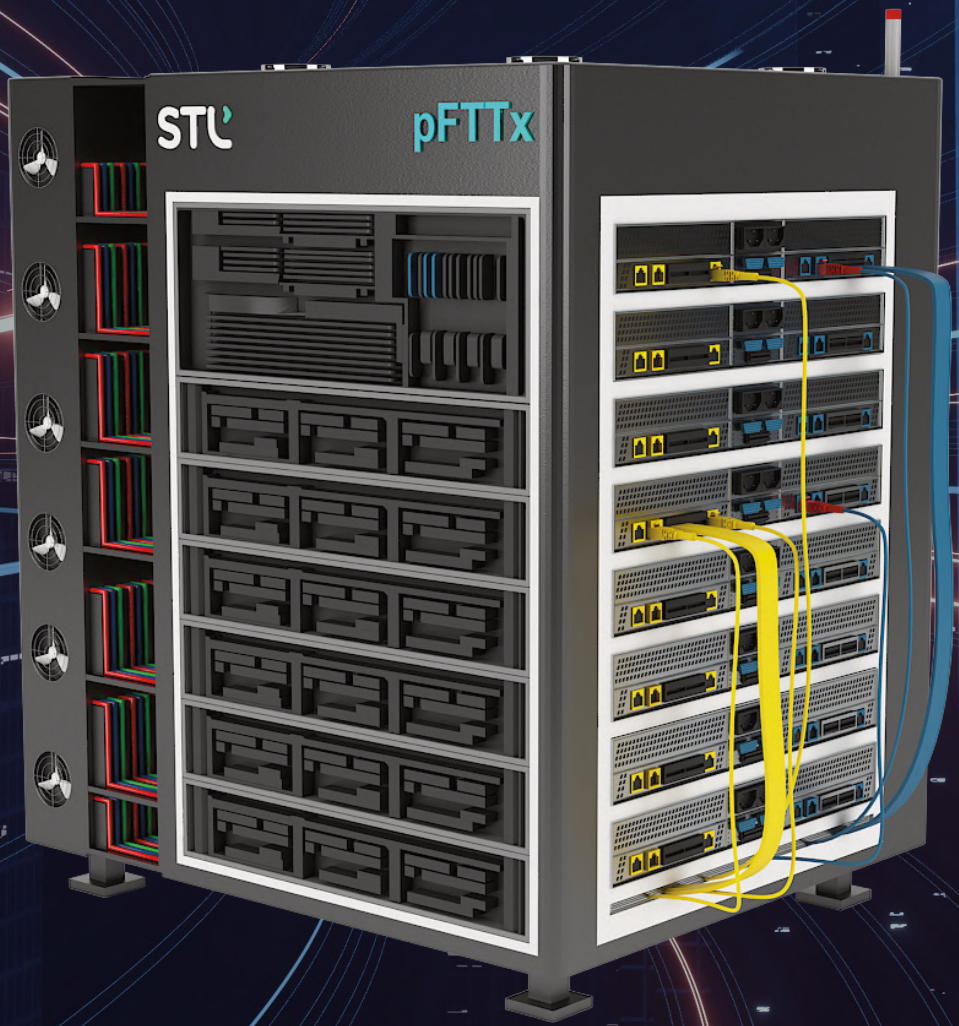
Programmable FTTx (pFTTx)

Taking gigabit broadband to everyone!



“We need to embrace the change that digital connectivity can bring. Now, towns will come alongside places where optical fibre network is present.”

- Shri Narendra Modi

Programmable FTTx (pFTTx)

To unlock the full potential of gigabit broadband, service providers need to build a scalable network which can launch new services on the fly. This can be achieved by building virtual networks wherein network resources can be re-configured on demand basis. Traditionally, this has required significant investment, and hence creating a massive roadblock for service providers. But today, with the maturity of cloud technologies, availability of open source codes and abstraction of hardware from software layer ensures this transition with minimal additional cost.

At STL, we offer pFTTx which can virtualize last mile network to enable flexible gigabit broadband. pFTTx is an SDN-NFV, micro-services oriented, cloud-based network solution that radically elevates the network service provider's business model. It helps in building virtual networks with open interfaces by abstracting software from hardware layer.It drastically reduces time to market for new digital services, sets the ball rolling for edge computing by disaggregating broadband networks and re-architecting central offices. While deploying this into our production network, we have implemented the SEBA (Software enabled broadband access), an ONF complaint reference platform. This platform serves as a benchmark for the community, customers, and industry and is helping in adoption of programmable FTTx.

pFTTx **Schematic**

White box switches ONF Trellis based Fabric

Compute Infrastructure – x86 Server & Kubernetes (K8s) based Docker Container applications environment

Applications on Compute (vOLTHA, vOLT, vONU, AAA, Routing etc.)

White box OLT

White box ONU

pFTTx **Offerings**

pFTTx (SDN) **Controller**

This is a software-defined controller that defines the data forwarding path across the FTTx network. This is a true cloud-native application which is based on open standards and a true CUPS (Control and User Plane Separation) model.

Edge **Orchestrator**

This is the orchestration engine for the FTTx network that enables container orchestration, workflow management, and FCAPS (for FTTx end device management). This works seamlessly with software and hardware components to provide a unified carrier-grade service experience.

White box **OLT**

This is a white-labelled hardware component of OLT which is controlled by pFTTx Controller and managed by Edge Orchestrator. This is an integral part of STL pFTTx stack that works with a whole ecosystem of partners supporting open interfaces.

White Box **ONU/ONT**

This is a white-labelled hardware component of ONU/ONT which is controlled by pFTTx Controller and managed by Edge Orchestrator. This is an integral part of STL pFTTx stack that works with a whole ecosystem of partners supporting open OMCI.

Non-Proprietary **Protocols**

This facilitates software stack internal messaging and external protocol communication through open, standardized, API and interfaces. This helps integrating third-party hardware (ONT/OLT) and also the existing operator NMS and OSS as long as they support open, standardized API and interfaces.

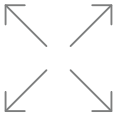
vOLTHA

This is a software-defined hardware abstraction platform that acts as a mediation between the control plane and forwarding plane. Thisabstraction platform helps in integration of open white box hardware with the software-defined platform.

Key **Benefits**

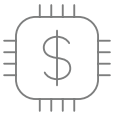
Reduced time to market

Abstraction of software from hardware layer enhances agility and hence ensures faster roll out of services



Scalability

Add and scale BNG software functions on demand basis



Lower TCO

Reduction in hardware costs with white boxes at edge

Better network control

pFTTx is a vendor agnostic solution and hence provides better control to service providers over their network

New revenue streams

Faster roll out of innovative and premium services opens up new revenue streams from premium customer segment

Zero touch provisioning

Zero touch provisioning automates the regular functions and hence reduces human intervention

Notes

> “The internet is becoming the town square for the global village of tomorrow.”
>
> - Bill Gates

About STL - Sterlite Technologies Ltd

STL is an industry-leading integrator of digital networks.

Our fully 5G ready digital network solutions help telcos, cloud companies, citizen networks, and large enterprises deliver enhanced experiences to their customers. STL provides integrated 5G ready end-to-end solutions ranging from wired to wireless, design to deployment, and connectivity to compute. Our core capabilities lie in Optical Interconnect, Virtualised Access Solutions, Network Software, and System Integration.

We believe in harnessing technology to create a world with next generation connected experiences that transform everyday living. With a global patent portfolio of 582 to our credit, we conduct fundamental research in next-generation network applications at our Centre of Excellence. STL has a strong global presence with next-gen optical preform, fibre, cable, and interconnect subsystem manufacturing facilities in India, Italy, China, and Brazil, along with two software-development centers across India and a data centre design facility in the UK.