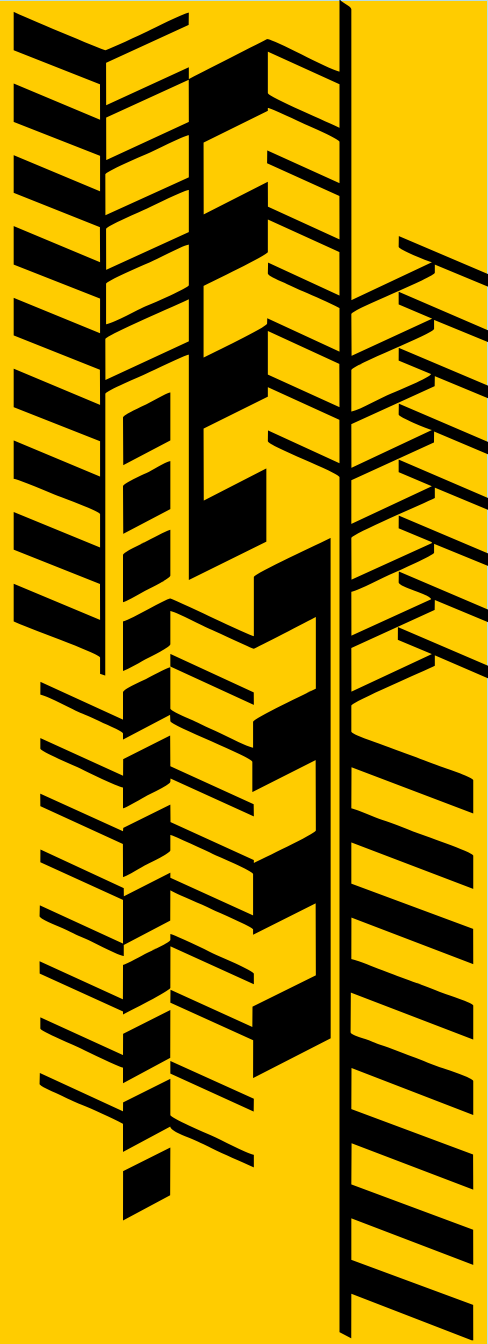


Speedon Networks Ltd.
(Erstwhile Sterlite Networks Ltd.)

**Presentation on - FTTH : Enabler of
Connected Life**



STERLITE GROUP : BASIC FACTS

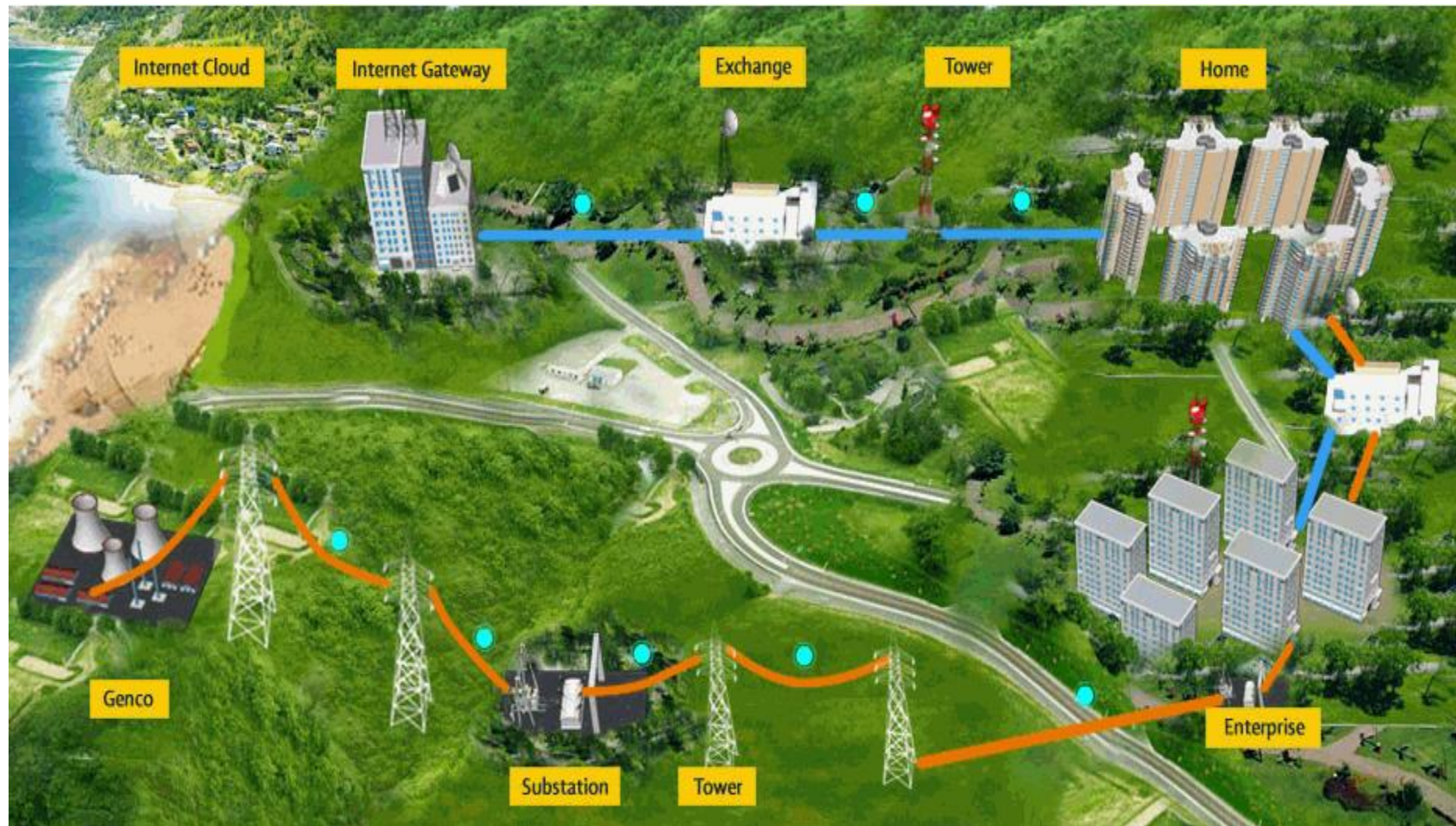
450	million US\$ net revenues (FY14)	47	patents in USA, EU, India, China
9	countries in which we operate* for sales, technical support, manufacturing	1400	full time employees

Telecom & Power

Products. Engineering Solutions. Infrastructure Development

30%	of Sterlite's revenues are from international markets	75+	Countries are connected by Sterlite
6	of the global top 10 telecom companies rely on Sterlite for innovative solutions	25%	of India's national power grid runs on Sterlite conductors

Sterlite FTTH Network: Enabler of Connected Life



Our fiber & cable technology

- ▶ Amongst the **largest integrated facilities** in the world.
- ▶ Complete **control over the value chain**.
- ▶ Products portfolio for **high bandwidth applications and FTTx**.
- ▶ Strong focus on product design and technology, spearheaded by the '**Sterlite Center of Excellence**'.
- ▶ Recently entered into a **JV in China** for fiber manufacture and supply.

Our system integration & passive solutions



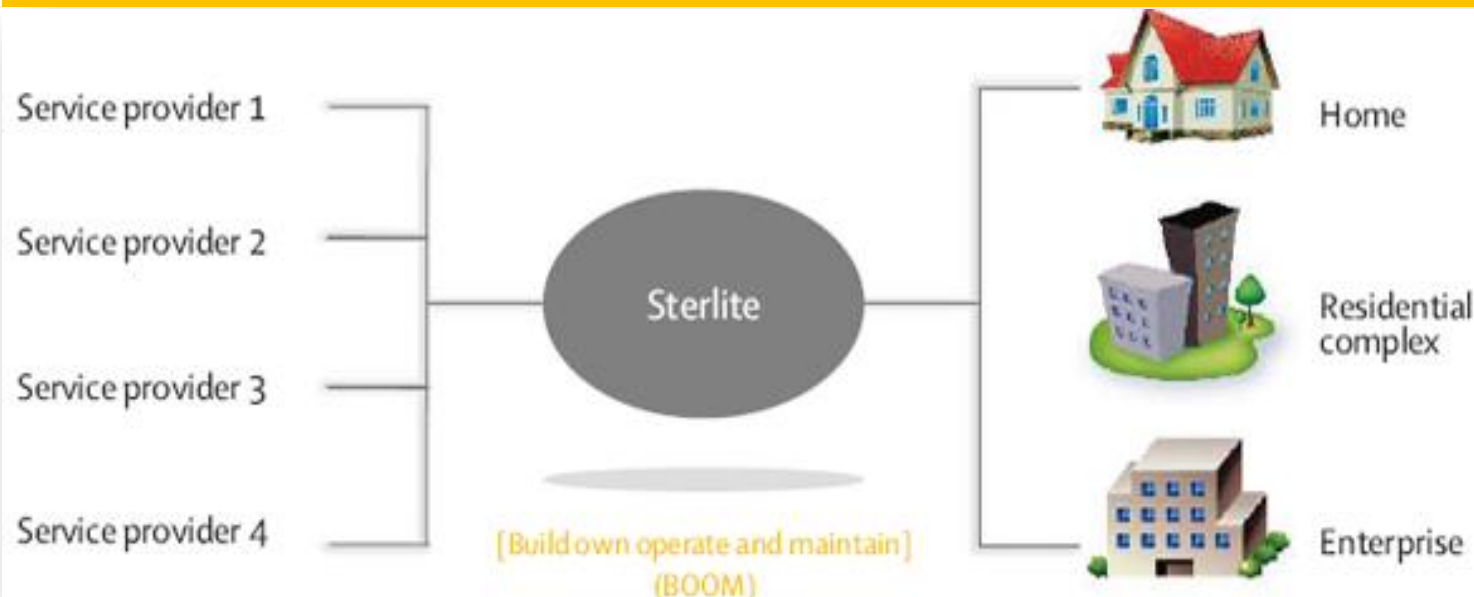
- ▶ Experience in implementation of **multi-million dollar projects** (MPLS, DSL Broadband, GPON, NGN-IPTAX, FTTx).
- ▶ **Global partners** for passive equipment.
- ▶ Strength in **project management**, providing a seamless one-point of contact.
- ▶ Team of trained professionals for **network maintenance**.

FTTx Business Model of Sterlite

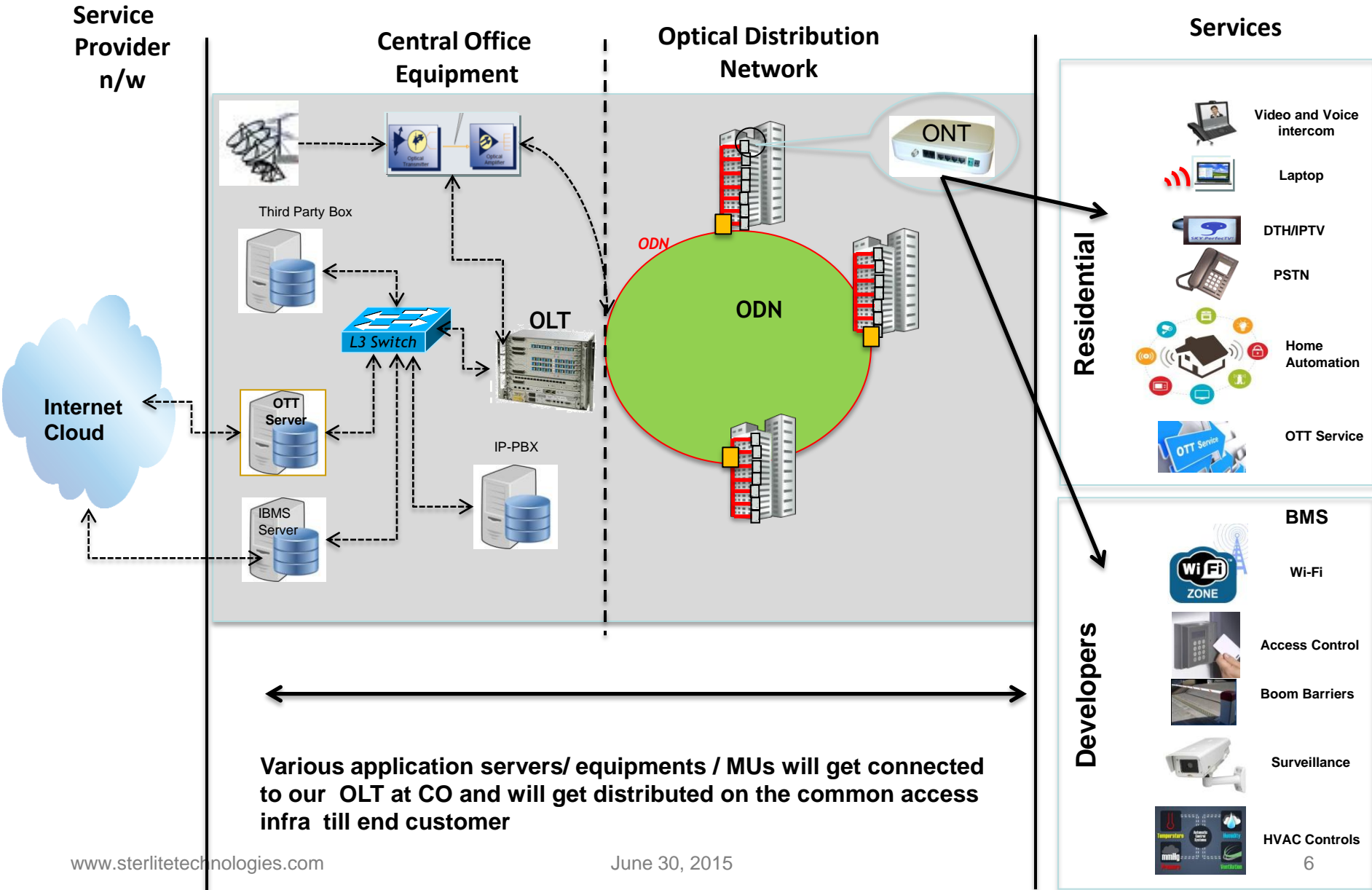


- Design , Plan, Build & Manage Open Access FTTx network
- Aim to connect 1 Million Homes by 2017

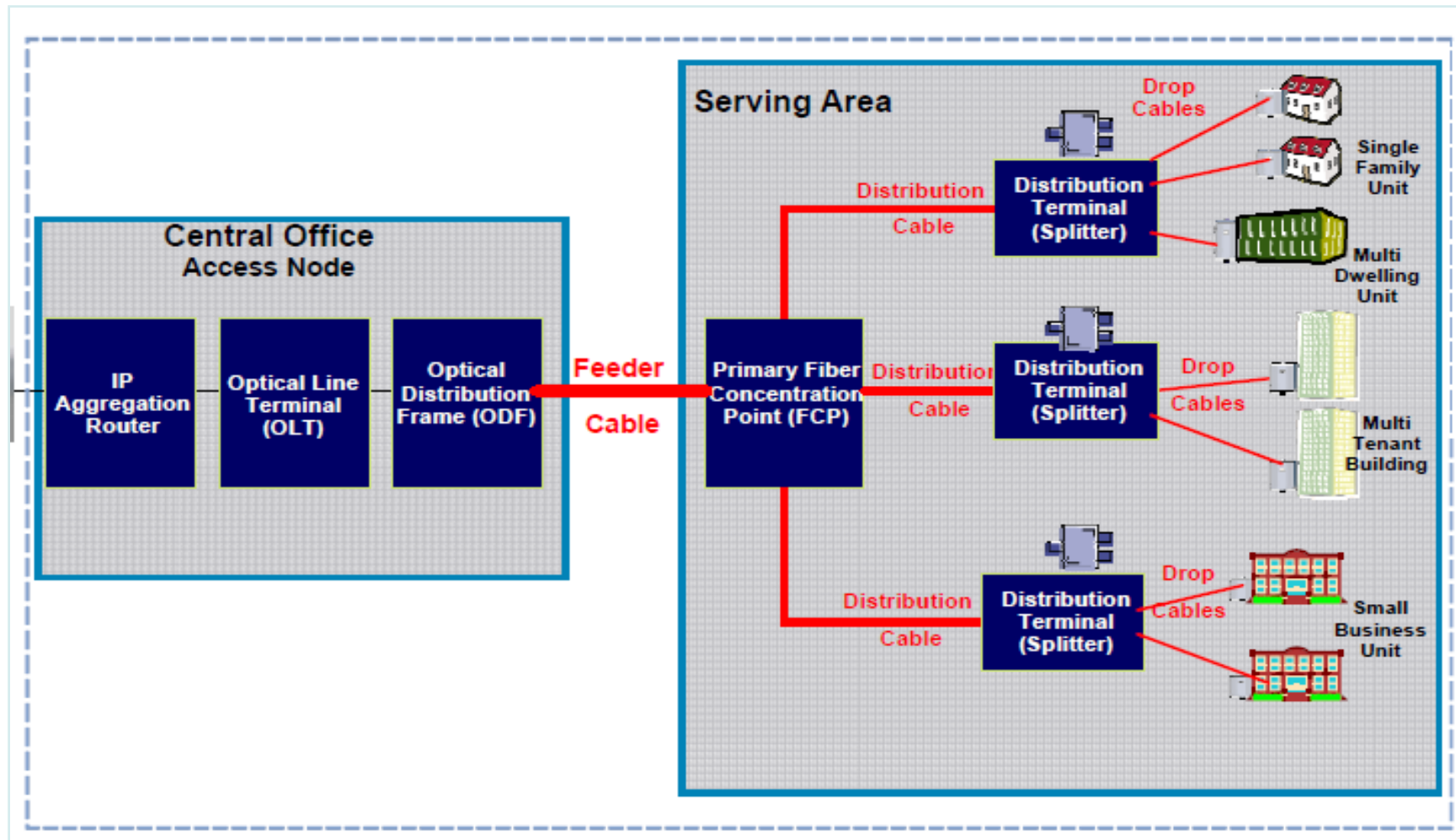
Sterlite FTTx Open Access Model



FTTH Based Service offering



FTTH Topology



Introduction

World has become a small place to live, thanks to the different means of connectivity made possible by Telecommunication. Today we are able to send immediately clicked photo to our family and friends across the world. While working in office, a mother is able to keep watch of her children at home. A grandmother residing in Chennai is able to video chat with children living in London every day. High profile executives need not carry bulky confidential data physically with him while globe hopping as entire data is stored in a secure cloud server and accessible on Mobile, Tablet or Laptop through Internet. In nutshell, one need not physically move even a foot to get access to desired data, info, content or person if the location is connected through wired or wireless media.

Sterlite FTTH Network: Enabler of Connected Life



Medium of Connectivity

Internet is most popular, affordable and accessible medium of connectivity available for mass. Internet access can be done through various means like,

- Wireless – GSM, 3G, WiMax, LTE, WiFi etc
- Wire line - ADSL, VSDL, GPON, EPON, DOCSIS etc

Internet has become accessible due to combination of media mentioned above. Wireless is the mass means for extending data connectivity at most of the locations. However various limitations like, limited and costly Spectrum, Dense geography, Lack of adequate backhaul bandwidth etc make this medium unreliable and inconsistent. Complaints of rampant call drop and slow browsing speed can be seen on any social media for the networks of even leading telecom operators. In such scenario, dream of truly **Connected Life** can only be achieved through wired medium. Internet connectivity using wired medium has traditionally been offered using copper cable. However copper medium has limitation in supporting high speed Internet as bandwidth beyond 10 Mbps is difficult to achieve with currently deployed network. Hence only viable medium which can support and sustain the ever growing requirement of Internet speed is fibre medium which is getting implemented as “**Fiber to the Home(FTTH)**” solution. Once a home is connected through fibre last mile, we can say that particular home has direct access to Internet Super Highway and entire content, information and application available through web can be accessed without any limitation or constraint. **Speedon Network Ltd.** is pioneer in the field of implementation of FTTH technology in India.

Sterlite FTTH Network: Enabler of Connected Life

Few Special facts about Speedon Network Ltd.

- Only Neutral Service provider offering “Open Access” Architecture
- Presence across top six cities across country
- 165K homes have been connected on fibre using FTTH technology
- More than 40K active customer base enabling “Connected Life” of lacs of people across country
- Deploying Network using state of the art GPON Technology
- GPON Technology supports downstream speed of 2.5Gb and Upstream speed of 1.25 Gb on single fibre core
- Technology partnership with Global leader like Alcatel-Lucent
- Large number of Service partnership including operators like – Airtel / Tata / BSNL and ISPs like - Spectranet / Worldphone etc serve on this network
- Plan to expand to many other cities with target to connect 1 Million homes
- State of the art dedicated “Network Operation Centre” created for monitoring pan India FTTH network

Sterlite FTTH Network: Unique Proposition



- **Neutral Network Provider:** SNL is only service provider in India offering Neutral Network at national scale, means – Sterlite has restricted itself as Access Infra provider and does not offer its own ISP service on this network. Access infra created by connecting homes has been offered to different ISP / telecom Operators to serve customer needs. This helps in minimizing capital expenditure for ISP / Operators. This network also offers choice to customers and Operators / ISP always remain under pressure to deliver better Quality of Service.
- **Very Cost Effective:** Since common infra is shared by different ISP / Operators, it does away the need of creating separate infra for every Service provider (SP). This help SPs in saving huge capex and time in creating last mile infra. Due to this synergy, world class ultra-high speed fibre Broadband service could be offered to customer at affordable price. This proposition has helped immensely in bridging the digital divide in metro cities and enabled people to live **Connected Life**.
- **Common Infra for all Digital Services:** Entire FTTH infra is Digital in nature and hence capable of providing different services like Voice, Data, Video, Streaming, Multicasting, DTH, Cable Television, Surveillance etc on same FTTH infrastructure.
- **Innovative Implementation:** SNL always keeps on working on customized solutions to support world class infrastructure service overcoming local limitation in most cost effective manner. One of the major problems faced by our customer was power outage impacting service uptime of the customers. Sterlite Networks developed its own cost effective solution called “*Reverse Power over Ethernet (RPoE)*“. Sterlite has been granted patent right for design and development of this unique product.
- **Highest FTTx Customer base:** Only pure FTTx player having 165K connected homes and more than 40K active connections working across country.
- **Customized Bandwidth Option:** To serve varying requirement of different customer segments, customized bandwidth deployment option is offered to customers which starts from 10 Mb speed and capable of supporting bandwidth requirement up to 1Gb.

Service Portfolio on Sterlite FTTH network

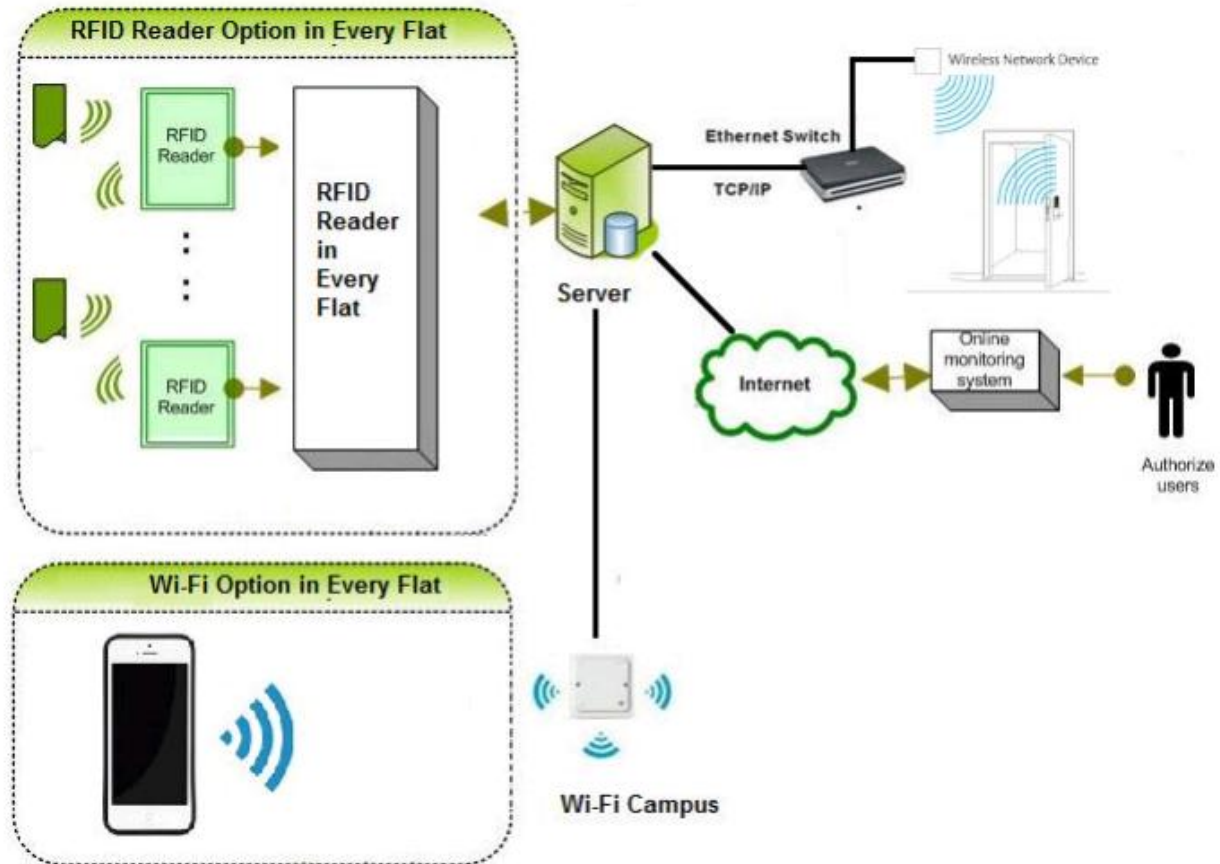


- Internet – Ultra High Speed Broadband (Capable to support 1G Bandwidth)
- Voice Services – TDM / NGN
- IP-PBX – Intercom and VOIP
- Standalone / Cloud Based IP Surveillance Solution
- Smart Home Solution
- Video Conferencing
- Mobile TV
- OTT Services
- DTH + LCO Services
- Community Intranet Portal
- Public Wi-Fi Hotspot Solution
- IBS – DAS solution for Mobile Operators
- Backhaul Solution for Small Cell and Heterogeneous Network

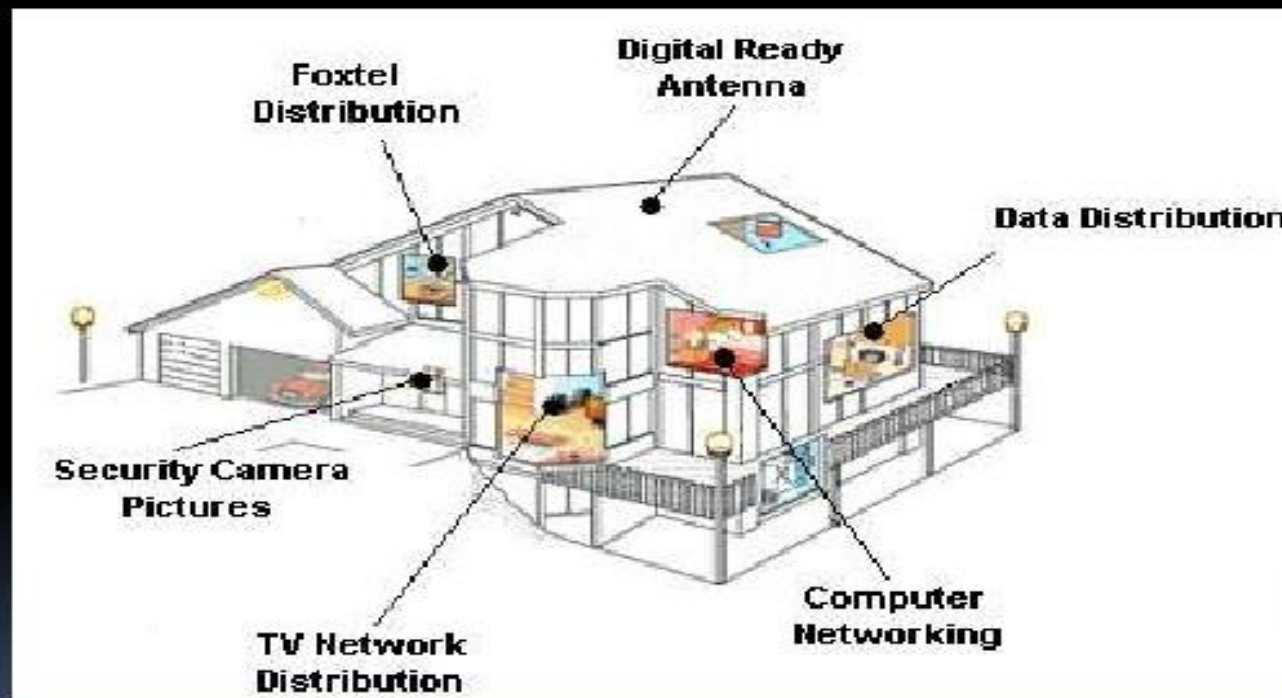
IPBX – AUDIO VIDEO INTERCOM SYSTEM



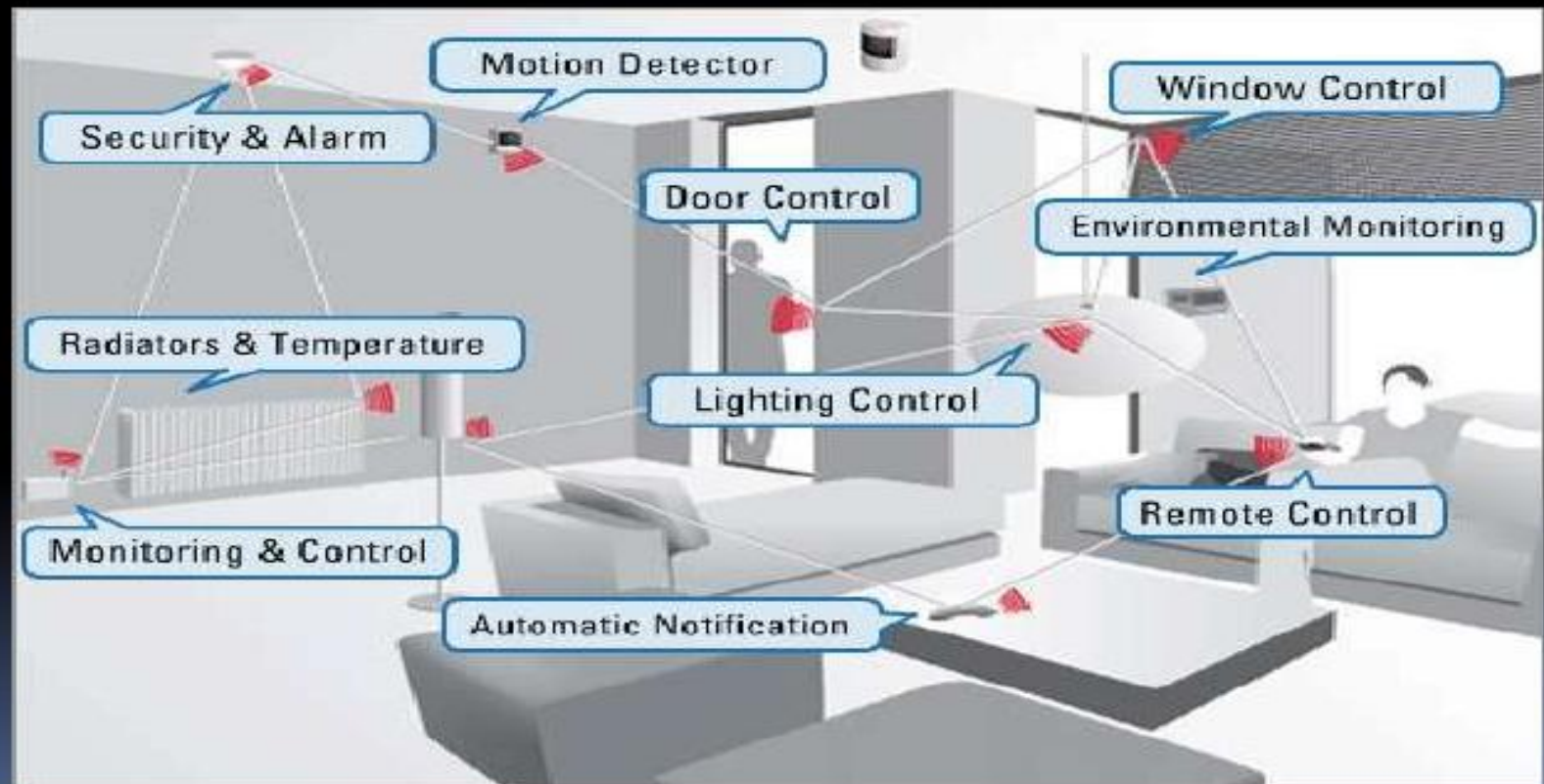
SAFEPRO – WIRELESS RFID DOOR LOCK SYSTEM



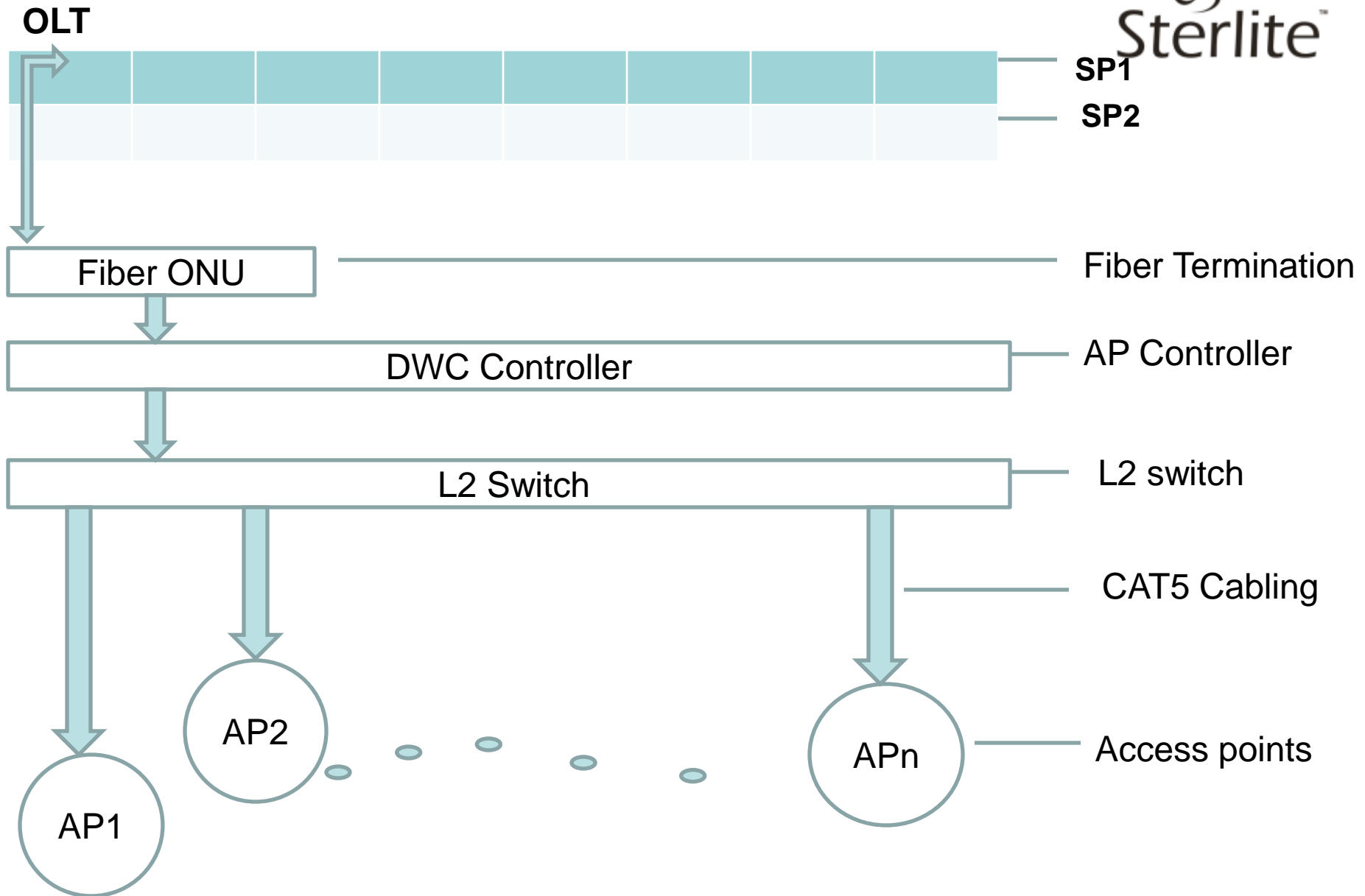
Smart homes products



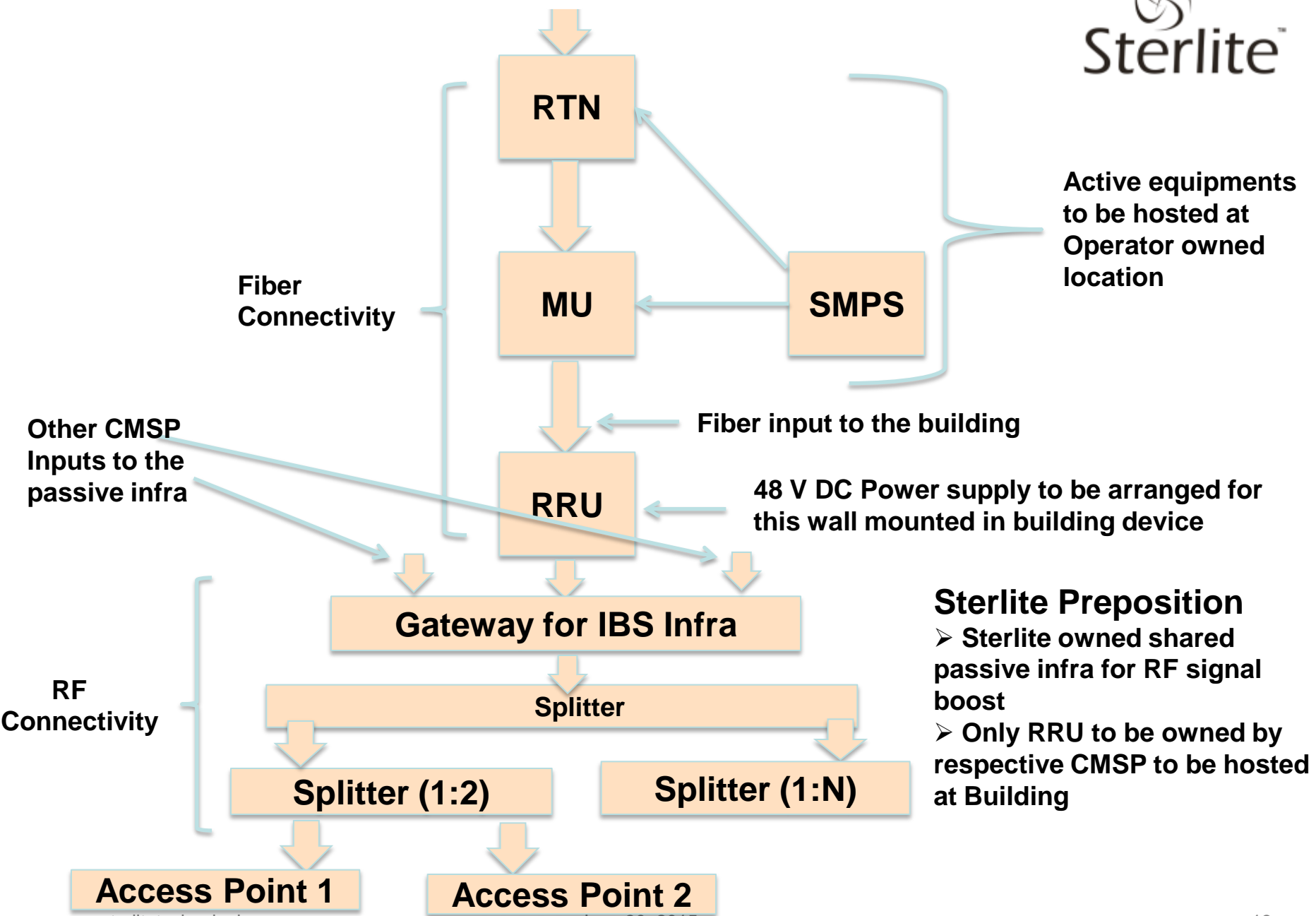
Total Home Automation



Wi-Fi Solution at Public Places



Sterlite IBS – DAS Solution



Sterlite Networks: Enabler of Connected Life



Case Study – Neutral Network serves it all

Client – Real Estate Developer

Name – Hiranandani

Location – Chennai

Project – Hiranandani Upscale

Application – Communication Services

Scenario

Builder needs to build Infrastructure keeping in view the requirements of the high-earning modern tech savvy families. Now while talking about the VAS with respect to the telecommunications services along with increasing bandwidth demand the families look up to him for the below mentioned service readiness:

Voice & Data services like Intercom, Hi-speed Internet & telephony

Security Services like CCTV, Video Door phone, Home surveillance, Boom Barriers etc

Video services for entertainment

In order to provide such a versatile range of aforesaid services, the builder might need to approach multiple vendors

CHALLENGES

In the scenario of multiple vendors the builder faces different challenges to build multiple infrastructures depending on different solutions through different vendors as per their products which impacts developers in terms of

- Multi-vendor Coordination.
- Cost.
- Implementation.
- Operational issues in Maintenance.
- Meeting new service demands.



Individual systems with multiple Infrastructure

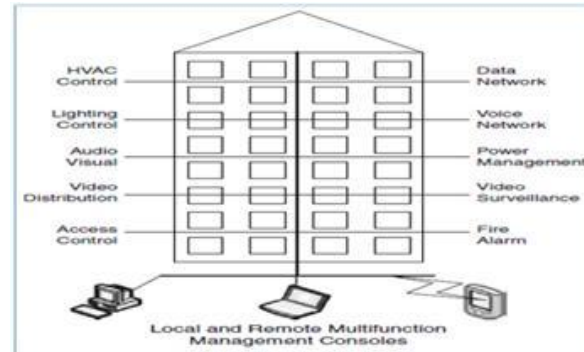
- Different cabling standards
- Different Communication Protocols
- Separate Aggregation Points

Challenges in traditional Systems

- Can not suffice to higher Bandwidth requirements
- Data Security
- Immunity & Reliability
- Future Upgrades
- New systems Introduction

SOLUTION

The hassle of meeting multiple vendors, negotiations and above said challenges could be addressed using a single infrastructure i.e. a 'Neutral network' that will serve it all in one go. Hence opting for an FTTH based network would be a judicious call for the builder, same was suggested & implemented to overcome the challenges.



Common Infrastructure for different systems

- Centralized Control room
- Common structured cabling
- All IP systems

To meet the challenges Fiber is the solution

- provides much high bandwidth
- Fiber doesn't radiates signal & is difficult to tap
- Provides extremely reliable data transmission as very less susceptible to environmental factors

CONCLUSION

- Reduced cost as only one type of infrastructure will prevail.
- Ease of maintenance & Co-ordination
- Hassle free addition of new features and services.

Team Lead



S. ANAND

COO & Director, Speedon Network Ltd.

- 18+ year of experience in managing business and profit centre operations.
- Master in Management Studies (Marketing Management) and Bachelor of Science from University of Mumbai

Team Profile

Priyadarshi Sidhartha (Head Legal & Regulatory):

16+ year of experience in Secretarial / Legal/ Regulatory filed with primary focus on Telecom.
C.S., LLM, MBA.

Himanshu Kumar (Head – Technical):

16+ year of experience in Telecom Network Design, Planning, Deployment and O&M.
B.E from NIT Nagpur and Senior Management Program from IIM Calcutta.

Mayank Shirke (Manager - Network Planning):

10+ Years of experience in Telecom Network Design, Planning & Business evaluation.
B.E from NIT Bhopal.

Thank you

