STL

Global availability of 5G relies on **new networking vision and architecture**

5G, for many years we have been following this North Star, and finally, the moment of truth is here. STL has been at the leading edge of this technology in several ways. Company is beneficially positioned to be working with leading mobile network operators in defining adoption strategies by showcasing a non-traditional approach of programmable, open and disaggregated solutions (PODS) for 5G and other network applications.

PODS™

Programmable Open Disaggregated Solutions

As a key 5G community member, STL present its thoughts on how 5G can make a broader social and economic impact using this PODS approach:

Affordable Access

More than 3 billion folk are still unconnected, and cellular technologies can play a very vital role in bringing them online. However, the total cost of infrastructure ownership has been the most significant impediment for the broader coverage until now. From the last decade or so, mobile network operators have been spending a lot on building capacity and providing extensive coverage through 3G and 4G greenfield infrastructure. The technology knowhow was limited to a handful of vendors, and they developed vertically integrated solutions with monolithic code, which are not only expensive but also difficult to deploy, manage, and operate.

While mobile operators were constrained by building limited capacity and coverage during this decade, cloud operators and infrastructure providers leveraged open and frugal innovation and made not only web-scale Cloud networks in a cost-effective way but were able to offer these services to billions of users during this decade. One of the very novel concepts that helped them build and manage large-scale infrastructure in a cost-effective manner was 'disaggregation' of hardware from software. It enabled a variety of new business and delivery models. Both Software Defined Networking (SDN) and Network Function Virtualization (NFV) technologies further helped the adoption of disaggregated general-purpose servers, famously known as 'white boxes'.

Investments from 'white box' suppliers into the open networking communities and early field trials bolstered this cause and helped carriers deploy many of the old primitive physical networks functions a software controlled virtual functions.

It's imperative for us to make 'disaggregation' and 'white boxes' as critical components of the new 5G architecture, deployment, operations, and supply chain models. That not only lowers the capital expenditures by many folds but also allows the custodians of networks to reduce operating costs using various vendor-neutral automation tools. It further empowers mobile network operators to increase capacity and coverage and provide affordable connectivity services.

Customer Experience

The spinning wheel of death while watching your favorite shows on mobile, call drops, echoes, or video distortions during conference calls are all too familiar to users. These problems will be exaggerated further if we don't enable the mobile network operators to measure the user experience on a real-time basis and correct that automatically through a feedback loop using vendor-neutral and common control using SDN technologies. Today, the mobile network operators rely heavily on vendors to provide automation tools. Although each vendor claims to be open, they are not common and open as defined by various open specification and source bodies formed and managed by mobile network operators.

Thus, vendor-neutral programmability is essential to automated provisioning, managing, and proactive monitoring of services, and superior customer experience. Machine learning and artificial intelligence algorithms and tools become useful in predicting poor customer experience scenarios and prescribing effective remedies. If these algorithms are not decoupled from the underlying hardware or tied to vendor-specific solutions, it's almost impossible to achieve end-to-end true automation.

Excellence in Innovation

Knowledge and innovation are and should not be limited to specific individuals, groups, countries, or sects. Till now, mobile network operators relied heavily upon three or four vendors to provide specific features and innovate. On the contrary, we have experienced remarkable outcomes and internet tools, where open source and internet has been used as platforms for innovation. From browsers to cars, we have experienced multiple levels of innovation because of open source and community efforts. Fortunately, leading mobile network operators recognized this to be one of the biggest impediments within this industry. They joined hands to actively participate in open communities (Open RAN, Telecom Infrastructure Project, Open Networking Foundation, The Linux Foundation, Open AI, and many others). Since then, they have done an outstanding job in developing reference designs, open interfaces, and API specification as well as open-source code for the mobile network operators to consume and deploy when they build this world-class 5G, fixed and cloud networks.

> The new Frugal 5G Vision requires PODS (Programmable, Open, and Disaggregated Solutions) based modular architecture and deployment models. By deploying PODS, the custodians of the network can control their destiny through agile, automated, vendor-neutral infrastructure and play a critical role in uplifting the lifestyles of billions that are yet to be connected, and provide a superior experience to both existing and new customers.

Frugal 5G is cool with PODS.

About Sterlite Technologies Ltd - STL

STL is a global leader in end-to-end data network solutions.

We design and deploy high-capacity converged fibre and wireless networks. With expertise ranging from optical fibre and cables, hyper-scale network design, and deployment and network software, we are the industry's leading integrated solutions provider for global data networks. We partner with global telecom companies, cloud companies, citizen networks and large enterprises to design, build and manage such cloud-native software-defined networks.

STL has innovation at its core. With intense focus on end-to-end network solutions development, we conduct fundamental research in next-generation network applications at our Centres of Excellence. STL has strong global presence with next-gen optical preform, fibre and cable manufacturing facilities in India, Italy, China and Brazil and two software-development centres.

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