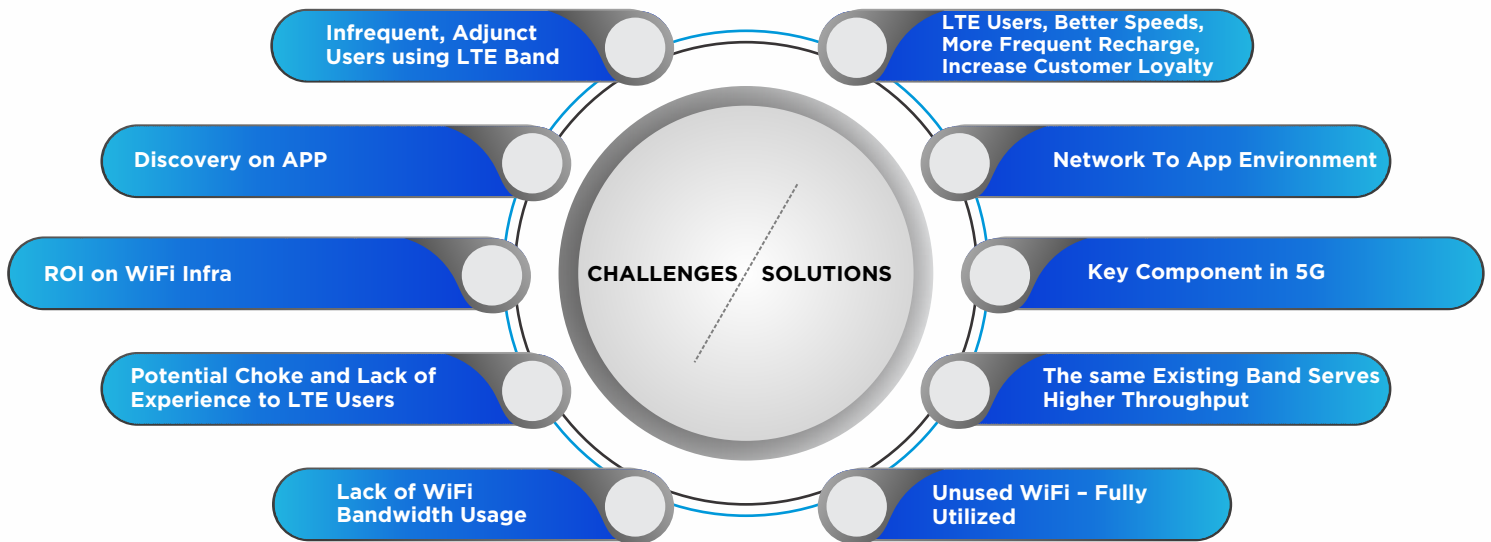# dSmartMobility

Rise in Smart & IoT devices has increased the data traffic over cellular networks, creating demand for faster data speeds. To counter this problem and for faster connectivity, CSPs used LTE due and marketed it heavily. As a result customers latched on it and created bandwidth choke.

Moreover, existing bandwidth of WiFi networks remain unused as it required marketing awareness and manually switching from mobile data to WiFi by consumers. Return on Investment on WiFi infrastructure was already a question mark with these problems. Additionally, to use WiFi bandwidth CSPs already had a connection manager app which not only drains consumer's devices but also required manual consumer intervention to switch on the app and scan for networks.

CHALLENGES VS. SOLUTION

Infrequent, Adjunct Users using LTE Band

LTE Users, Better Speeds, More Frequent Recharge, Increase Customer Loyalty

Discovery on APP

Network To App Environment

ROI on WiFi Infra

Key Component in 5G

Potential Choke and Lack of Experience to LTE Users

The same Existing Band Serves Higher Throughput

Lack of WiFi Bandwidth Usage

Unused WiFi – Fully Utilized

CHALLENGES / SOLUTIONS

dSmartMobility – An Overview

dSmartMobility solution helps consumers automatically switch from LTE to WiFi networks based on signal strength, throughput, latency, jitter and packet-loss without manual intervention. Consumers can enjoy faster data speeds and enhanced voice quality using Trusted WiFi Hotspots compared to traditional LTE networks. dSmartMobility also helps to improve network selection, adds policy-control capabilities, enables smart decision making based on analytics and collate to an ultimate user experience. The three enablers of intelligent offload in the dWiFi SMP are the dSmartMobility server, dSmartMobility SDK Client and Edge Analytics. dSmartMobility helps reduce the cost for the operators and the customers. The offloading allows CSPs the flexibility to add bandwidth and capacity, cost effectively, as the usage spikes in public areas.

Intelligent WiFi Offload is divided into three parts Smart and Intelligent Services, Network Analytics Service and Policy Management Service

NETWORK ANALYTICS SERVICE

Offers Location, Radio & Proximity Analytics, On/Off Network Data Usage and Enhances Subscriber Experience

SMART AND INTELLIGENT SERVICE

Offers Device Event Monitoring, Intelligent Rule/Automation Engine and Actions Framework

POLICY MANAGEMENT SERVICE

Offers Policy Pull/Fetch, Policy Caching, Policy Evaluation, QoE Measurement, Rove In/out

VALUE PROPOSITION

ACTIONABLE INSIGHTS
Discover Network Congestion Reasons for Quick Decision Making

New Hotspot Deployments based on Network Connectivity

DATA MONETISATION
Increase No. of Recharges with Faster Data Speed of Automatic WiFi Offload

WiFi Adoption Increases Subscribers & Revenue in the Same Cell Site

CUSTOMER EXPERIENCE
Higher Data Speed Compared to LTE with Automatic Seamless Offload

Always Best Connected Network Even in Congested Areas

COST REDUCTION
Reduce up to 30% of Operation Cost of LTE compared with WiFi Offloading

Reduce 50% of Infra Cost & Increase Coverage Area through WiFi compared to LTE

PLATFORM HIGHLIGHTS

300k
UNIQUE ACTIVE USERS

210k
UNIQUE WiFi OFFLOAD USERS/WEEK

8 TB
TOTAL DATA DOWNLOADED/ WEEK OVER WiFi

420k
TOTAL NO. OF WiFi OFFLOAD SESSIONS/WEEK

60k
UNIQUE CLIENT REGISTRATION/WEEK

5K Hours
TOTAL WiFi OFFLOAD DURATION/WEEK

KEY FEATURES

POLICY MANAGEMENT
Allows CSPs to identify & manage experience over WiFi from a centralized location

INTELLIGENT NETWORK SELECTION
Automatic selection of LTE/WiFi based on Signal Strength and Throughput of user

CONTROLLED ROLLOUT OF INTELLIGENT NETWORK SELECTION
Flexibility to CSPs of providing WiFi offload to specific user set and users to experience the solution before launch

AUTOMATIC WIFI CONTROL
Auto on/off switching of WiFi based on location e.g. CSP WiFi/home/office

dSmartMobility

WIFI QUALITY CHECKS
Assess the quality of wireless networks before offloading user to WiFi based on WiFi QoE metrics.

3GPP-STANDARDS COMPLIANT
Compliant with 3GPP standards for ANDSF.

EDGE ANALYTICS
Meaningful insights to CSPs for New WiFi site deployment, Network Congestion Location, Problem Source Findings etc.

CONTINUOUS QUALITY CHECKS
Measure user experience using passive and active throughput test to determine whether the network should be LTE or WiFi

BENEFITS

IMPROVES USER EXPERIENCE & CUSTOMER LOYALTY
Provides Always Best Connected Network & Faster Speed to Encourage Loyalty

NEW MONETISATION OPPORTUNITIES
Platform for Paid Advertising, Partnership Opportunities & Increase No. of Recharges with Faster Network Speed Creates More Revenue

LEVERAGE EXISTING INFRA
Use Existing Unused WiFi Bandwidth with LTE Network to Offload Users to WiFi, Accommodating More Users and Optimizing Network Capacity

ACTIONABLE MEANINGFUL INSIGHTS
Provides Insights in categories of Network & Policy, User Mobile Device & Location for Data Monetization, Network Optimization & Enhance User Experience
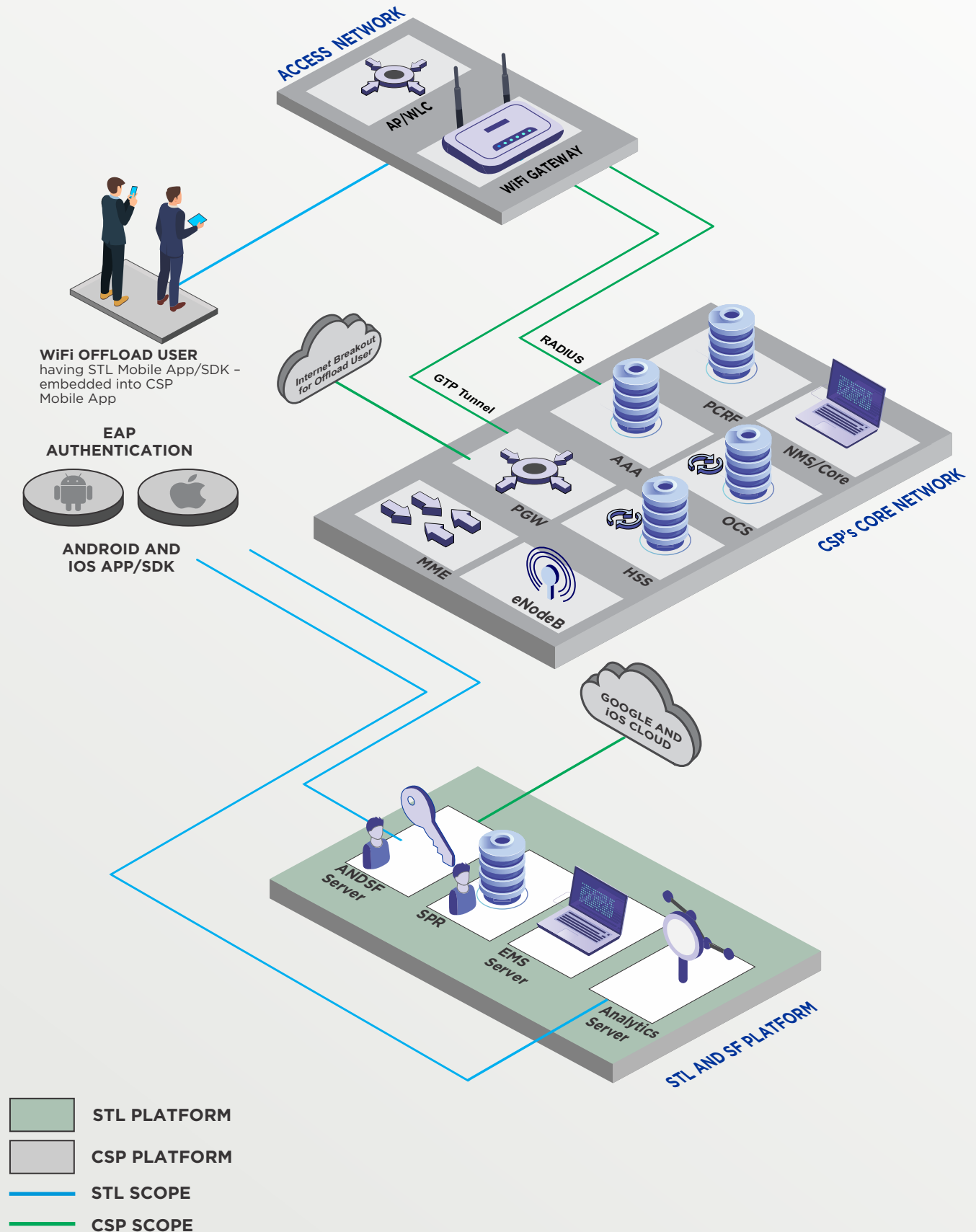
COST EFFICIENT
Save Infra Cost by Deploying WiFi Hotspots for WiFi Offloading at much Economical Rates Compared to New LTE Deployments

IMPROVES COVERAGE AREA
Alleviates 4G, 3G and 2G network clogging and augments cellular network capacity by offering reliable WiFi access with improvised coverage

ARCHITECTURE

ACCESS NETWORK

AP/WLC

WiFi GATEWAY

WiFi OFFLOAD USER
having STL Mobile App/SDK –
embedded into CSP
Mobile App

**EAP
AUTHENTICATION**

**ANDROID AND
IOS APP/SDK**

Internet Breakout
for Offload User

RADIUS

GTP Tunnel

PCRF

AAA

NMS/Core

PGW

OCS

MME

HSS

eNodeB

CSP's CORE NETWORK

GOOGLE AND
iOS CLOUD

ANDSF
Server

SPR

EMS
Server

Analytics
Server

STL AND SF PLATFORM

STL PLATFORM

CSP PLATFORM

STL SCOPE

CSP SCOPE

USE CASES

Intelligent Network Discovery and Auto Selection of WiFi SSID

Real-time Effective Location Based Offload

Personalised Experience on WiFi for user is preserved

Time based Policy Application

SSID Prioritization - CSP offload and Home Net SSID

Hassle free offload on dual sim devices

Always best connected Wireless Experience

Best Connected WiFi Experience

Continuous Quality Check on WiFi

Sterlite Technologies Limited (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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