

## dSmartMobility - Our Journey so far and the road ahead





# POC - Vanilla Wi-Fi offload

Basic offload use case

3GPP parameter check

Location based offload



# POC Policy based offload

ANDSF Compliance
QoE check, Periodic
evaluation, Real Time
offload, Analytics



#### **ANDSF Live**

Any WiFi
Device coverage
Multi Tenancy
Engineering View

# Cloud Native multi offload approach

OMA DM
CNF
HS 2.0
OpenRoaming

Network Convergence

5G IoT Link Aggregation

#### We are here

- 3GPP Location based offload
- Basic RSSI check
- Android device only supported
- 3GPP Release 11 TS 24
- ISMP Policy
- Base Analytics
- Wi-Fi scanning
- Support up to Android 9

- iOS SDK
- Android device coverage
- Multi Tenancy
- Basic and Advanced Profiling
- Dashboard (Business/ Engineering)

- OMA DM
- CNF Based Deployment
- Hotspot 2.0 (3 use cases)
- OpenRoaming
- Advanced Analytics

- ANDSP
- MPTCP / Link Aggregation
- ATSSS
- IoT and eSIM use cases
- MicroServices

### STL's Role in overall WiFi Value Chain



**SMSC** 

**EMAIL** 

**Location Engine** 

**Payment** 

Gateway

LI System

Google/iOS

**Push Service** 

**Roaming Partners** 

#### **Market Challenges**

**Network congestions** 

**Higher LTE/5G CAPEX/OPEX** 

Vendor Lock-in

Lack of data and network insights

**Monetization issues** 

Poor end user experience

#### STL dWiFi Platform (Containerized, Virtualized, Microservices based)

**Access Points App Store + APIs** Wireless TWAG/ePDG dSmartMobility (WiFi5 / WiFi6) Controller (for 3rd party dev) **Captive Portal HS 2.0 OpenRoaming** AAA **AUSF Editor Advertisement** Monetization **Property WiFi Analytics** Mobile App/SDK Server Server **Management Monitoring & Location Based** Voucher TNGF/N3IF **Link Aggregation Management** Services Reporting SOLUTIONS **Public WiFi** WiFi Offload WiFi Calling **Smart City WiFi Roaming** 

## **Value Propositions**

**Carrier WiFi** 



**Smart & Intelligent Network Services** 



Elevate digital experience



**Guest WiFi** 

Innovate new revenue channels



In Flight WiFi

Reduced time to market



Hospitality /

Retail

**Better Customer** Experience



**Transportation** 

Seamless access & authentication



Middleware

Integration

**Low Cost** to serve



**Network Agnostic** & Vendor Neutral

## **STL WiFi Offload Solutions**



1

#### dSmartMobility

- Client App (Android/iOS SDK) Based Approach
- Auto offload to WiFi network when in range and have better connectivity than LTE
- Offload based on the QoS parameters/threshold
- Notifications for the nearby available hotspots

2

# NGH (Hotspot 2.0 + OpenRoaming)

- Client Less Approach (in built functionality in devices)
- Auto authentication and Seamless connectivity to WiFi without any manual login or intervention
- Offload based on the QoS parameters/threshold
- OpenRoaming to offer extended WiFi coverage by seamless roaming

3

# WI-FI and 5G Offload + Convergence

- App less approach where intelligence built in 5G devices
- Uses ANDSP and UE Route Selection Policy (URSP) for traffic selection and steering
- ATSSS rules which defines rules to dictate how the device should utilize the 3GPP and Non-3GPP access networks

## dSmartMobility Success Story – Tier 1 Operator



2.5M

Registered Users offloading to Wi-Fi

15%

Acceleration in Wi-Fi offload Adoption

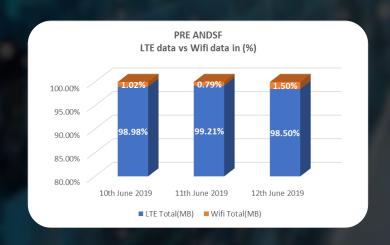


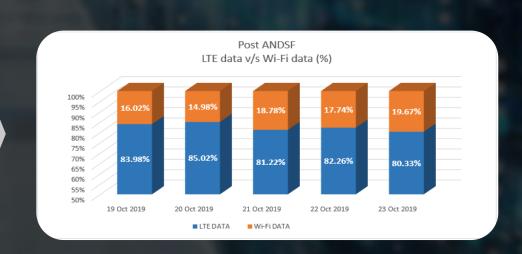
Higher Data usage volumes on Wi-Fi as compared to LTE



Wi-Fi usage duration is longer than LTE

## Impact created by dSmartMobility





## **Benefits after Implementing HS2.0**



#### **KPIs Improvement**

✓ Increased WiFi Adoption

- ✓ Improved User Onboarding and experience
- ✓ Reduced customer churn

✓ Increased WiFi Offload

- ✓ Reduced number of steps for WiFi login
- ✓ Increased opportunity for WiFi Roaming

#### **Benefits**

- ✓ Transparent, automatic WiFi connection and authentication
- ✓ No manual selection of SSID or input of access credentials
- ✓ Policy configuration support for differentiated QoS
- Enhanced security (WPA2 and EAP)
- Enabling WiFi Roaming for inexpensive but better network coverage
- ✓ No dependency on Application, OS version and device as functionality in-built in devices

## Alignment of CSP's Business Objective with STL Solutions



#### **Objective**

- 5G and WiFi interworking
- IoT and eSIM Use Cases (Home Automation, Industrial IoT, Asset Tracking, Enterprise IoT)

**STL Solutions** 

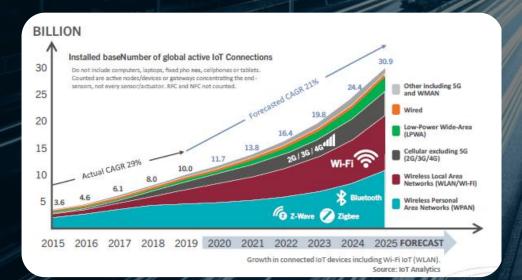
AUSF ANDSP / MPTCP

IoT
Dynamic
Roaming /
LBS / Asset
Tracker

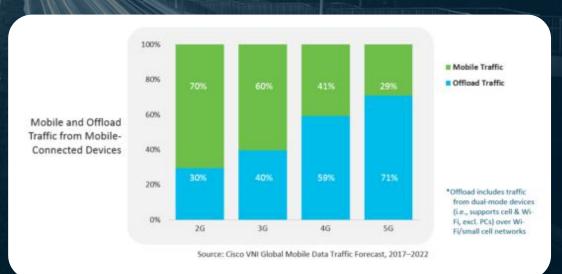
Addressing majority of IoT and 5G convergence use cases

#### **Analytics Digs Insights**

7.5 billion IoT units as of 2020 are short-range and non-cellular and uses only WiFi



The share of offloaded traffic will only increase with 5G (from 59% in 4G to 71% in 5G)



## STL dWiFi Excellence: Expertise & Experience



40+

Operators have chosen STL for WiFi deployments

**2500** 

ISP & Hotspot deployments globally

















































# Operational excellence with Tier-1 Telco

Successful experience for delivery, implementation and services support with large scale Live projects

# Proven Interoperability

Highest number of integrations with Tier 1 multi vendors' equipment and WiFi partner ecosystems worldwide

## Fastest Go-Live

Flexible platform, seamless integration with existing IT & packet core infrastructure. Plus on-site team in every region

## Rich experience in BSS & OSS

Easy understanding of operator business requirements and helps providing customized solution

# Comprehensive and Converged WiFi portfolio

Pre-integrated, modular platform to enable quick launch to innovative services to the market

# ST beyond tomorrow