Standard based Device Management

March 2012

1

Alcatel·Lucent

Motive at-a-Glance

Product Div. within Alcatel-Lucent(ALU)

- Started in 1997 and acquired by ALU Oct. 2008

- Based in Austin, TX

Focus

- Help wireline, wireless, cable and satellite providers simplify the management of key user-centric processes that bring digital services and applications to life

- Network, device, application agnostic

Customers

- 120+ leading wireline, wireless, cable and satellite providers

- #1 providers in US ,Brazil, Canada, Germany, Italy, Japan, Peru, Switzerland, Thailand,UK

Partners & Industry Organizations

- MotiveSmart™ Verification Program for Device interoperability

- More than 90 of the world's top handset, CPE and chipset manufacturers

- Member of Broadband Forum, DLNA, WiMAX Forum, Femto Forum, Open Mobile Alliance and UPnP Forum

Alcatel·Lucent

THE DEPTH OF OUR EXPERIENCE

SELF-INSTALL/
SELF-HELP SOLUTION

100M+

end points supported

CONTACT
CENTER SOLUTION

110M+

daily interactions

THE BREADTH OF OUR EXPERIENCE

315

Mobile customers
in over 100 countries

90M

Fixed lines under
management

70M

Devices under
management

THE UNIQUENESS OF OUR EXPERTISE

Experience
working with

250+

CSPs around the world

TIM

Patent-pending Touchpoint
Improvement Model (TIM)

Alcatel·Lucent

Commercial LTE Industry

AT THE SPEED OF IDEAS™

Alcatel·Lucent

LTE based MOBILE Broadband MARKET

MOBILE BROADBAND SUCCESS REQUIRES NETWORK as well as DEVICE KNOWLEDGE

222 OPERATORS IN 87 COUNTRIES ARE INVESTING IN LTE *

- 37 commercial network launches in 21 countries (17 ALU)
- 185 network commitments in 66 countries (70 + ALU)
- More than 103 commercial networks by the end of 2012
- 3.8 million LTE subscriptions
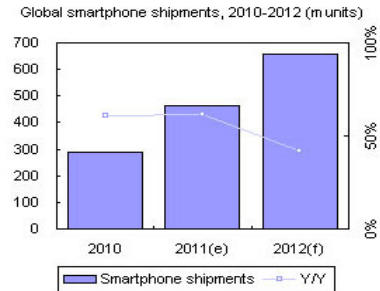
Device returns are 11 to 20% and rising

- 68% of returns are No Fault Found
- Equates to 2-3% of retailer/carrier sales
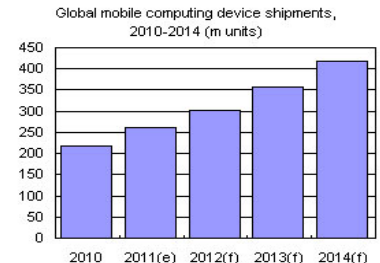
Source: Accenture

- Misconfiguration the biggest issue-Example APN

- Firmware and Software Update Challenges

Global smartphone shipments, 2010-2012 (m units)

2012 Smartphone shipments = 650M+ units

Smartphone shipments — Y/Y

Global mobile computing device shipments, 2010-2014 (m units)

2012 Tablet shipments = 300M+ units

Digitimes 2011

AT THE SPEED OF IDEAS™

Alcatel·Lucent

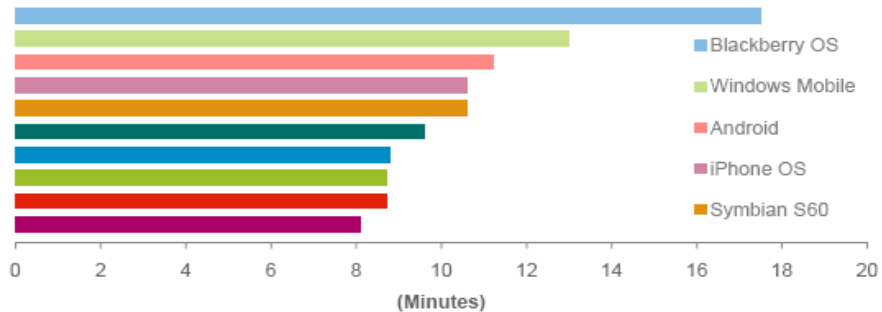# WHAT DOES IT MEAN FOR COMMERCIAL LTE MARKET?

- Increased Complexity
  - More devices, services, applications connecting to the network
  - Per Application Data usage difficult to figure out
  - Common practice to escalate to costly Tier 2 and Tier 3 CSRs leads to IT Nightmare

- More Competition
  - Traditional voice and data services are becoming commoditized

- Higher Costs
  - Smartphones drive 70% of support costs
    - 2X call volume
    - 30% Higher Average Handle Time
  - Home network device return rates of 30% to 50%

AT THE SPEED OF IDEAS™

Alcatel·Lucent

ECONOMIC IMPACT OF SMARTPHONES

Operator IT & End User Support becomes challenging, expensive and complex

- 30% longer support calls

- 47% of support calls escalated

- 21% of issues take 1 hour to resolve

- 43% of issues require 2 or more calls to resolve

AHT across Operating System

- Blackberry OS
- Windows Mobile
- Android
- iPhone OS
- Symbian S60

(Minutes)

Source WDS, 2010

AT THE SPEED OF IDEAS™

Alcatel·Lucent

COMBINED
WITH AN INCREASINGLY
COMPLEX EXPERIENCE IN
THE COMMERCIAL LTE
MARKET

9B
Connected
Devices
2011

50B
Connected Devices
2020

Source: Strategy Analytics

Watch TV episode on **Hulu**

Engage in MMOG on **Playstation**

Download finance app through **iTunes**

Read report on **Kindle**

Check **Twitter**

Check **BBC** app

Stream music with **Pandora**

Start **Apple Facetime** conversation

Skype with remote colleague

Stream movie with **Netflix**

Chat with friend using **Gmail**

Post pictures to **Facebook**

Pause and play live game with **IPTV**

Alcatel·Lucent

SAMPLE SCENARIOS - COMMON Problems

Device oriented

- Answer questions about device capabilities
- Identify device
- Assist user to perform manual setup on features on phone
- Diagnose issues with features that arise from device capabilities E.g. Can't MMS with no data capabilities
- Flag that a 2G SIM is in a 3G device
- Flag that a 3G SIM is in a 2G device
- Get inventory of applications installed on device
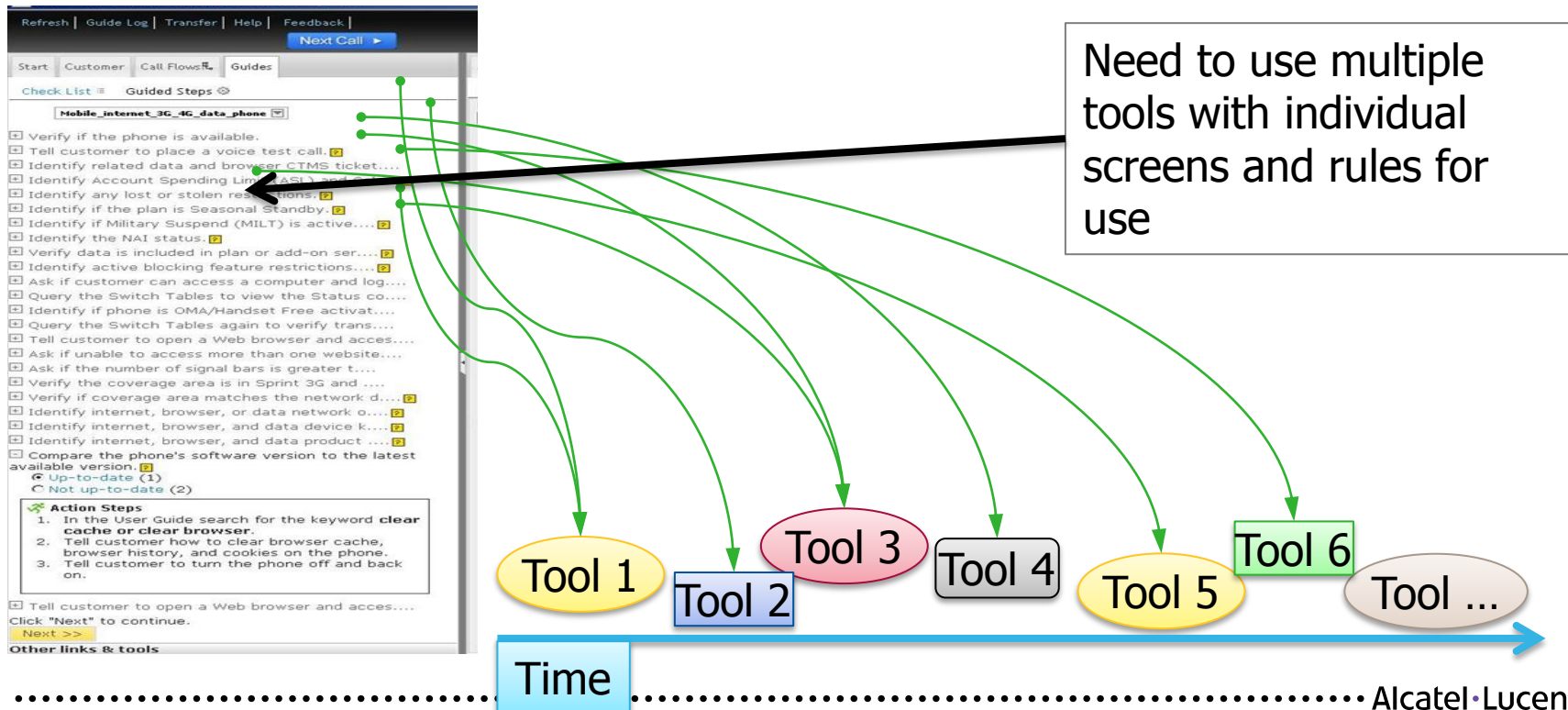- Check OS version, guide user to update

Connectivity Oriented

- Cannot connect
- Slow web browsing
- Data usage inquiry
- Validate that the plan has been provisioned
- Validate that phone is not in outage area
- Validate that phone is in a coverage area
- Validate that user has not exhausted prepaid credit
- Validate that service has not been suspended E.g. For non-payment of bill

Configuration & Management

- e-mail configuration
- Wi-Fi configuration
- APN configuration/reset
- Activate device
- Activate data service
- Flag device as lost or stolen
- Lock device
- Unlock device
- Wipe device
- Device diagnostics (Is device faulty?)
- Optimize device configuration

Alcatel·Lucent

In Commercial LTE Network, multiple Tools Slow Down to troubleshoot a Device or Service issue

Need to use multiple tools with individual screens and rules for use

Tool 1
Tool 2
Tool 3
Tool 4
Tool 5
Tool 6
Tool ...

Time

OPERATORS NEED EFFICIENT TOOLS

Application Mgmt
- Application Lifecycle Manager, Store Front
- Configuration and Customization

Self-Service Tools
- Drive call avoidance
- Empower subscribers to self-manage routine tasks

Help Desk Tools
- Guide Customer Service Representatives through entire triage, diagnosis & problem resolution process

Knowledge Libraries
- Library of device capabilities and specifications
- OMA-CP, OMA-DM and Proprietary

Bulk Device Management
- Large scale actions to targeted device populations
- Firmware upgrades, configuration updates

1:1 Device Management
- Retrieve device status information
- Push updated configurations and repairs

AT THE SPEED OF IDEAS™

Alcatel·Lucent

Our Approach-Standard based Device Management Solutions for Public Safety LTE Networks

AT THE SPEED OF IDEAS™

Alcatel·Lucent

Standard based Device management-Value Propositions

**SIMPLIFY THE USER EXPERIENCE
STARTING WITH CUSTOMER CARE OR IT SUPPORT**

Reduce Average Hold Time(AHT) & Escalations

Improve First Call Resolution(FCR)

Workflow automation

VISIBILITY OF DEVICE AND NETWORK ORIENTED ISSUES
IDENTIFY AND DIAGNOSE MOBILE AND NETWORK ISSUES FAST

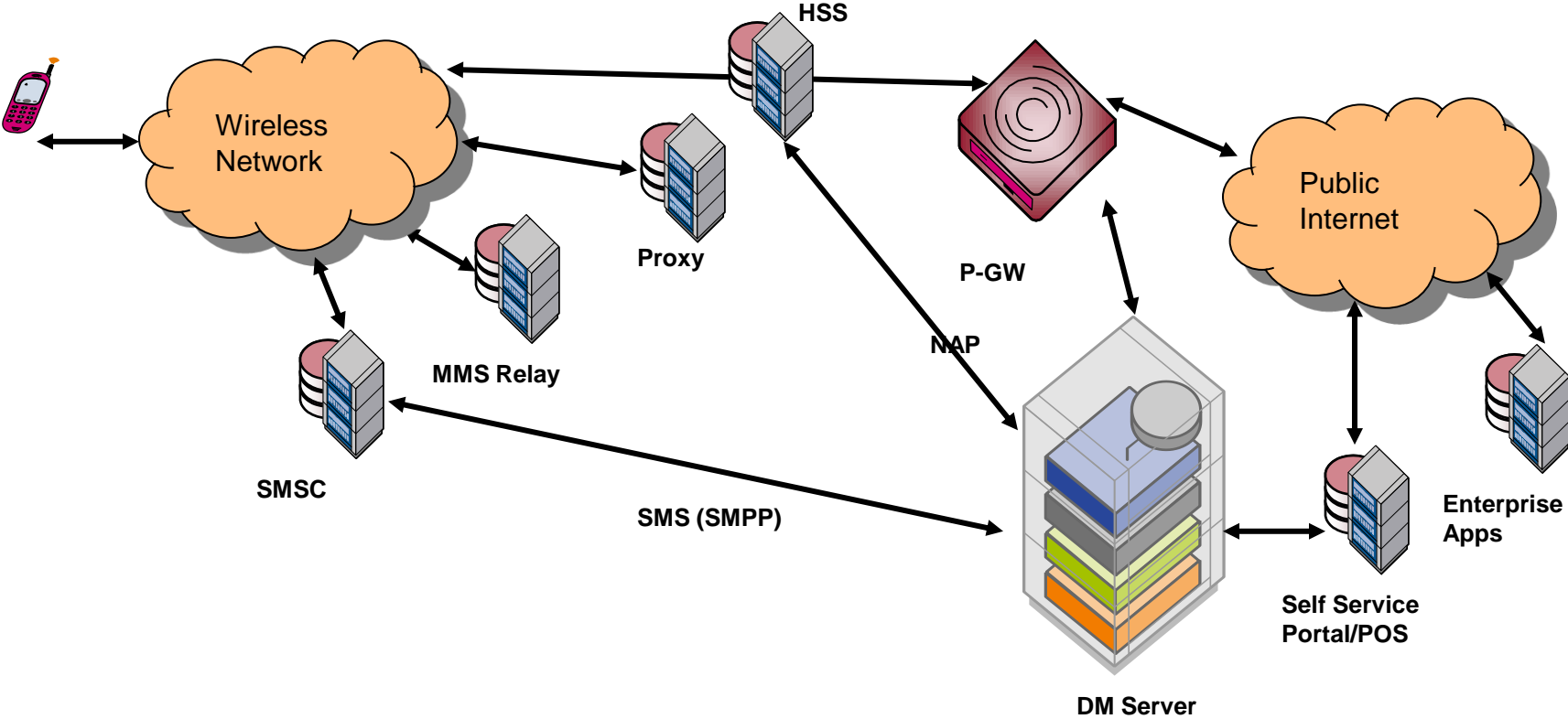Connectivity and Application Performance

Device and B/OSS Issues

LEVERAGE DEVICE MANAGEMENT,
KNOWLEDGE AND NETWORK ANALYTIC PROBES

Connectivity Diagnostics

Service Management and Data Inquiries

Device Management

AT THE SPEED OF IDEAS™

Alcatel·Lucent

Standard based Mobile Management Architecture

Wireless Network

HSS

Proxy

P-GW

NAP

Public Internet

MMS Relay

SMSC

SMS (SMPP)

DM Server

Self Service Portal/POS

Enterprise Apps

Alcatel·Lucent

History-Standard based Management

SIMPLIFY DEVICE MANAGEMENT WITH GREATER CONTROL ACROSS MULTIPLE MOBILE DEVICES

- **OTA 6.5/7.0 (Smart Messaging)**
  - Uses SMS (1997-1999)-One way, no acknowledgement
  - Nokia/Sony-Ericsson lead the specifications

- **Client Provisioning – CP 1.0/1.1**
  - WAP Forum lead the specifications-SMS -One way, no feedback
  - Email support (2000)
  - CP 1.1 includes other capabilities

- **Auto-Device Detection and Service Provisioning**
  - HSS.EIR/Billing GW can send trigger to DM Server
  - Server compares IMEI, IMSI, MSISDN to device profiles and policies

- **SyncML→ OMA-DM (2002-2012)**
  - Bi Directional, leverages Data bearer in the handset
  - Solve problem of acknowledgement and makes User Support easy
  - Firmware Update, Software Update, Diagnostics and monitoring, Lock and Wipe..so on….

MOBILE DEVICE MANAGEMENT & SUPPORT

- Configure, manage and troubleshoot devices OTA

- Open Mobile Alliance(OMA)-DM/CP, Android, iOS, proprietary protocols

- Automatic Device Detection and Configuration

- Remote configuration management

- Real time Diagnostics

- Firmware/Software Updates

- Integrate multiple data sources to perform common service management operations

- Provide proactive reporting and detailed statistics and usage analysis

- Reduce customer care/IT Support costs with customer friendly self-service touch points (portal, IVR, email, on device app)

- Create, test, and deploy customer care and service troubleshooting workflows quickly
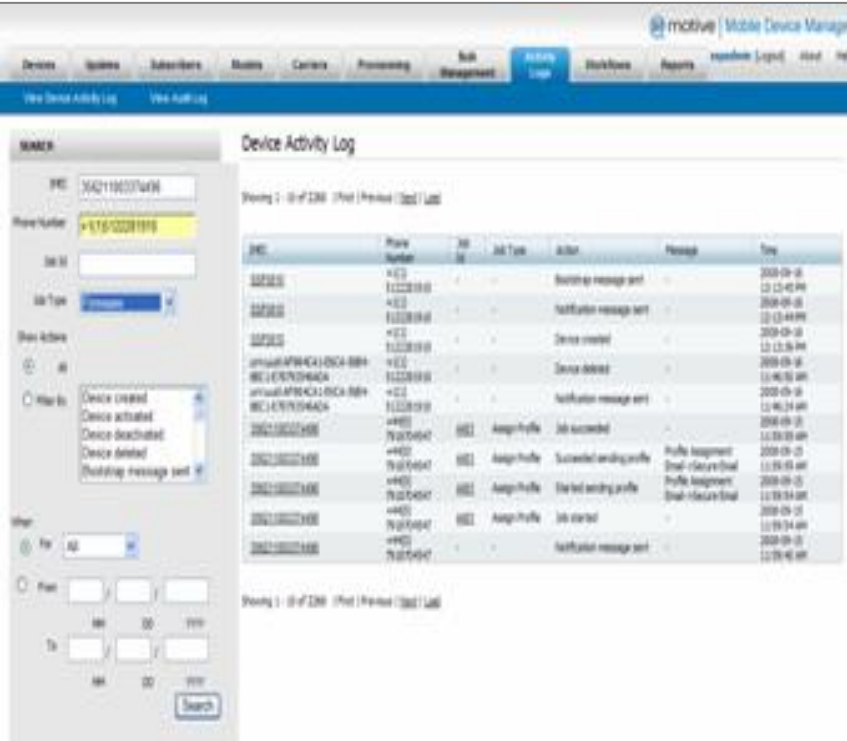
Alcatel·Lucent

MOBILE DEVICE MANAGER IT Features

MULTIPLE DEVICE TYPES ON LTE TECHNOLOGIES

Mobile Device Manager - Management Console

Alcatel·Lucent | wds enlightened thinking

About   Help   Logout

| Welcome | Devices | Jobs | Actions | Device Types | Firmware |

Home > Devices

Target a specific set of devices

Select Selection Criteria   :   Find All Devices   Manage Selection Criteria

Search

Displaying 7 of 7 records

	Device ID	Subscriber ID	Network ID	Customer ID	Manufacturer	Model	In Use	Status
☐	354795046919459	32477995329	206012210867467	John Smith	Samsung	I9000 Galaxy S	true	Managed
☐	354781040253657	32485460972	206017701262746	Mike Doe	Samsung	I9000 Galaxy S	true	Managed
☐	012849003236714	380951006468	2341324123412	Neil Richards	Apple	iPhone 4	false	
☐	A0112233000004	1234000303	404400110000303	James Wesson	Samsung	default	true	
☐	356211004144625	380989417609	123123123123121	Mike Stevenson	Nokia	E61	true	
☐	012755007847622	32475124387	012755007847622	Ben Anderson	Apple	iPhone 4	true	
☐	012753002939429	33658987612	012753002939429	Tracey Geller	Apple	iPhone 4	true	

Delete

Copyright © 2008-2011 Alcatel-Lucent | WDS. All rights reserved.

Manufacturer and Model determined in an automated manner Manage wide range of device types & operating systems
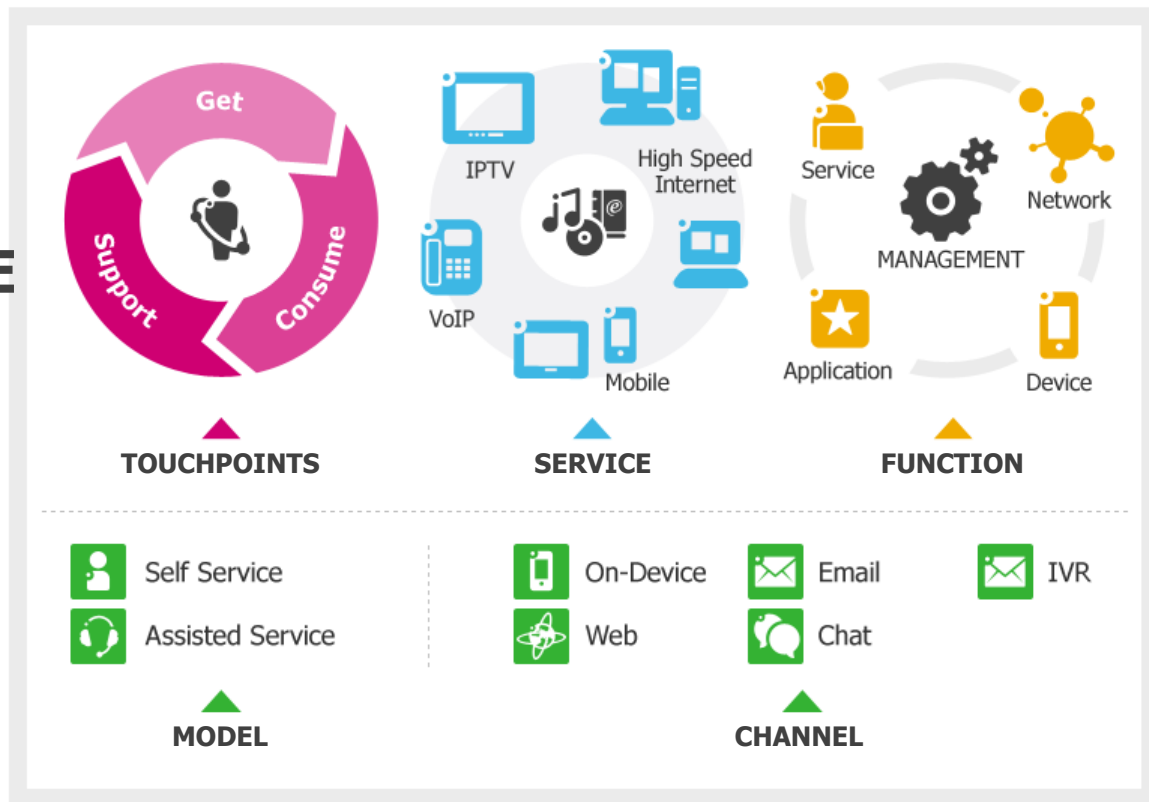
Single console supports LTE Dongles ,Smartphones and other PS LTE Devices

Alcatel·Lucent

MOBILE BROADBAND NETWORK SUPPORT

DIAGNOSE THE
NETWORK TO
IDENTIFY AND
RESOLVE MOBILE
BROADBAND
ISSUES QUICKLY

- Powerful network support workflows for assisted and self care

  - Diagnostics: connectivity issues, data inquiries, application data usage, battery drain issues

  - Identify root causes: Account status, data usage monthly caps, network issues (outage, congestion, APN failures, session failures), device misconfiguration…

  - Application Data usage details, APN fixes, Outage Maps

- Integration with Motive Mobile Device Manager

- Optional Multi-vendor analytics probe integration support to detect Network Issues

- Remediation through Network Support workflows ,Mobile Device Management and Support

Alcatel·Lucent

BETTER AND SIMPLIFIED DEVICE AS WELL AS SERVICE MANAGEMENT FOR PUBLIC SAFETY USERS AND IT

TOUCHPOINTS — Get, Consume, Support

SERVICE — IPTV, High Speed Internet, VoIP, Mobile

FUNCTION — Service, Network, Application, Device, MANAGEMENT

MODEL — Self Service, Assisted Service

CHANNEL — On-Device, Web, Email, Chat, IVR

AT THE SPEED OF IDEAS™

Alcatel·Lucent

AT THE SPEED OF IDEAS

Alcatel·Lucent