The Digital Services Landscape

Managing Partners, Data, and Security in the world of Big Data and IoE

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Brief Introduction: Subex Today

Financial Strength

More than US$ 60M in Revenue

EBITDA higher than most other BSS vendors in the market

Strong, Experienced Team

Global team, with local presence at locations all over the world

Over 900+ dedicated professionals working together to deliver market leading software products

Global Presence

Development centers in India, US and the UK

Over 200 customers and 300+ installations in over 70 countries

Customers include 28 of top 50 operators* and 33 of the world's 50 biggest telecom service providers worldwide

*GTB Carrier Guide, 2011 ; #Forbes' Global 2000 list, 2011

Thought Leadership

Comprehensive B/OSS product suite

Pioneers in CAPEX Optimization
Pioneers in IoT Security
Pioneers in SDN/NFV Hybrid Planning

Featured as one of the '10 companies to watch out for in 2015', Frost & Sullivan March 2015

Project leader for TM Forum Asset Management Group

Awarded GTB Innovation Award 2015 with Mobily and 2014 with Telstra

Market Leader in Financial Assurance 2012, Frost & Sullivan

Pipeline Innovation Award 2013

Digital Services Landscape (DSL)
Telecom has always been an enabler for Digital Services...

- Providing network transport for the ever-increasing **(big)** data loads

- Hosting applications, products, services, and billions of **devices**

- Supporting (and providing) devices to access Digital Services

Operators are rapidly growing beyond simply enabling the **Digital Services Landscape**

Resources outpace revenue

Digital Services Landscape

Evolve security models

Compete with verticals
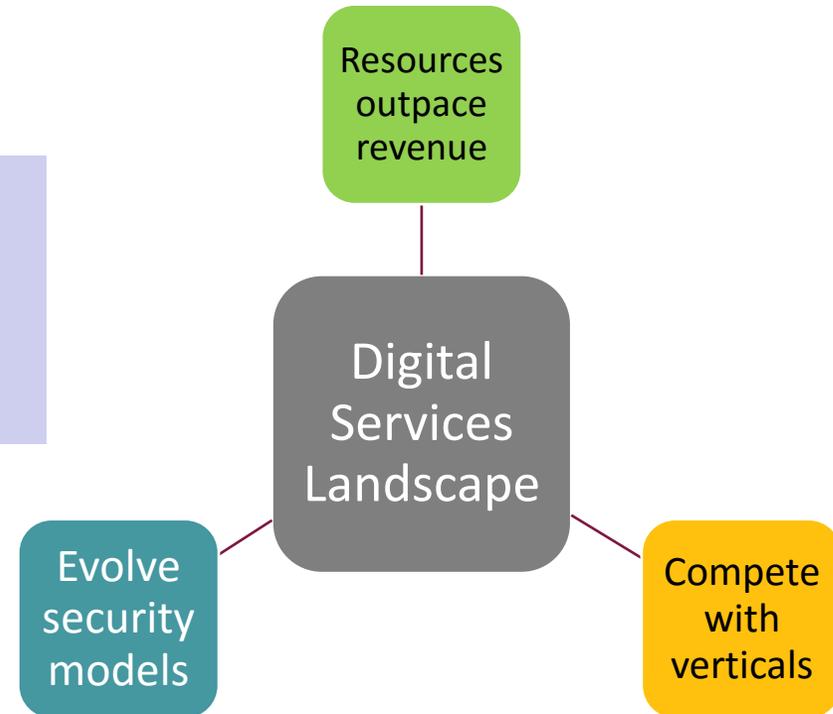
Understanding the Scope Facing Operators
By the Numbers…

Big Data? How big?

- Until 2015 the world moved 2.7 zettabytes of data across the global internet (since internet "birth")

- In 2015 the world moved 1 zettabyte *within the year*…for the first time ever

- By 2020 total data volumes are expected to exceed 35 zettabytes!

1 zettabyte =
1,000 exabytes =
1,000,000 petabytes =
1,000,000,000 terabytes

Internet of Everything

- The IoE world encompasses all of IoT, but also begins to include **omni-channel** considerations

- Early estimates forecasted 35B devices and sensors online and active by 2020

- Most recent estimates have exploded that estimate to over *200B* devices and sensors!
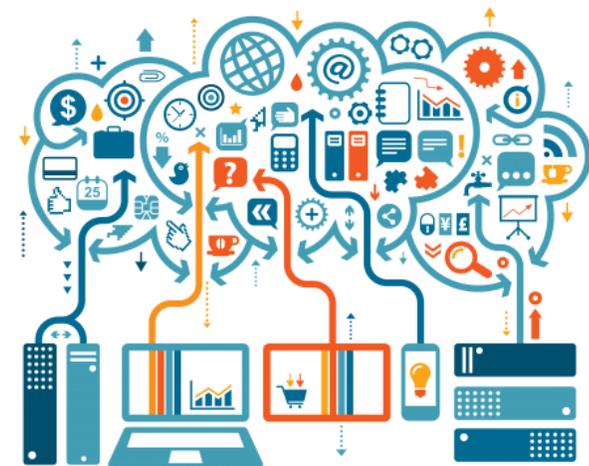
What does Omni-Channel bring to DSL?
Big Data and IoE are ultimately driven by customer behaviors

- Omni-channel implies providing a seamless experience to customers, regardless of how you are communicating with them (mobile app, smart health monitor, connected car, NFC marketing, etc.)

- While most of the world of marketing sees this as a commerce strategy, Telecom Operators need to see this as Commerce *and* as Lifestyle strategies

- The ability to be in constant contact with your customer, through various channels, drives massive data and massive analytics opportunities

Increasing Omni-Channel access is becoming proportional to Customer Experience

With Increased Access Comes Risks
Security threats and Fraud opportunities are growing alarmingly fast

- Consumer Identity Theft
  - Better pictures of a consumer's life and habits are now available

- Consumer Credit Theft
  - Account take-overs, Chip Card theft, mobile pay theft, are all growing quickly (new victim every 20 seconds)

- Business Disruption
  - Supply chain interception, consumer access, data corruption, etc., are at greatly increased risk

- Data interception
  - IoT devices: Session "sniffing" technologies are emerging, and hacking is now common from **anywhere** globally

With Increased Access Comes Margin Threats
Can you monetize the access? Can you manage complex partners?

Revenues

- Expanding IoT charging models
  - Consumer subscriptions
  - Commercial contracts
  - Government contracts
- Managing a new range of products
  - Product consumption measured across many platforms
 - Billing no longer based on MOU or KB

Costs / Settlements

- Managing content agreements
  - Multi-platform consumer delivery, settling same content differently
  - Prepay partners
  - IoT / IoE packaged services
- Managing the Roaming Revolution
  - Surcharge (Anumber) billing
  - Digital product roaming, WiFi roaming
- Managing broad (cross-carrier) agreements
  - Digital contracts including services delivered by external carriers

Operators Will Need Simplified Operational Models
Margin risks have already begun impacting smaller operators globally
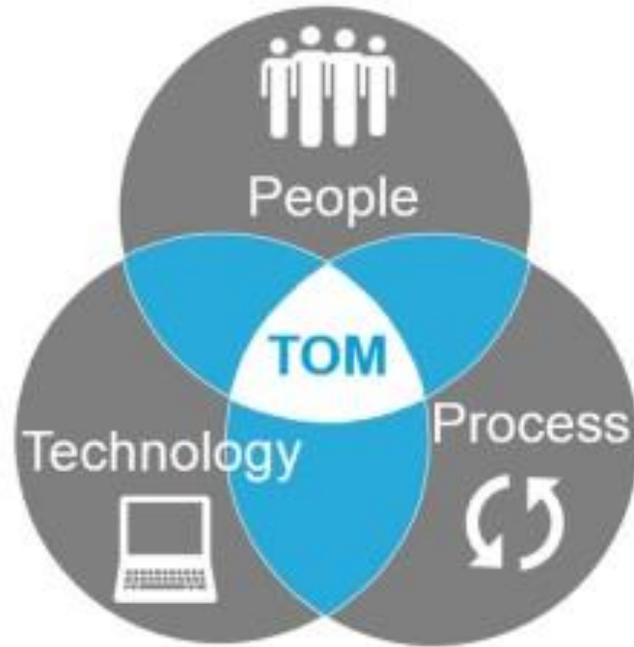
- Risk Management is no longer an optional program
  - *Margin losses can stack into the millions of dollars in a matter of days*

- Mechanization, and leveraging **cloud** support, will make this achievable

- Upcoming Virtualization and Software-Defined Networks will require this mode of operation

Succeeding in the Digital World
Leveraging the power of the ROC and ROC Cloud

Partner/Cost Management

IoT Security

Billing and Revenue Management

Telecom Operational Ecosystem

Fraud and Security

Big Data and Analytics

Network Assets and Capacity

Key business operations all managed within one safe, secure environment

ROC partner settlement

ROC route optimization

ROC capacity management

ROC revenue assurance

ROC fraud management

ROC asset assurance

One suite. One cloud. One ROC.

Thank you
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Please come visit Subex at Booth 40!