Innovation Summit 2016

SIERRA WIRELESS

Cloud and Connectivity

Cyril Hullin
VP Product Marketing

Global IOT connectivity challenges

TECHNICAL CHALLENGES

COVERAGE

IoT deployments need the broadest possible coverage to ensure machines are always connected.

DATA QUALITY

IoT deployments require a consistent & resilient data connection without human intervention.

OPERATIONAL CHALLENGES

FLEXIBILITY

IoT deployments have long lifespans. Customers need the flexibility to remotely update providers and networks.

SIMPLICITY

Customers connecting products need a single SIM & management platform to simplify global logistics and operations.

TODAY'S CONNECTIVITY SERVICES AREN'T DESIGNED FOR IOT

Global IoT Connectivity Challenges

TECHNICAL CHALLENGES

Coverage

IoT deployments need the broadest possible coverage to ensure machines are always connected.

Data quality

IoT deployments require a consistent & resilient data connection without human intervention.

OPERATIONAL CHALLENGES

Flexibility

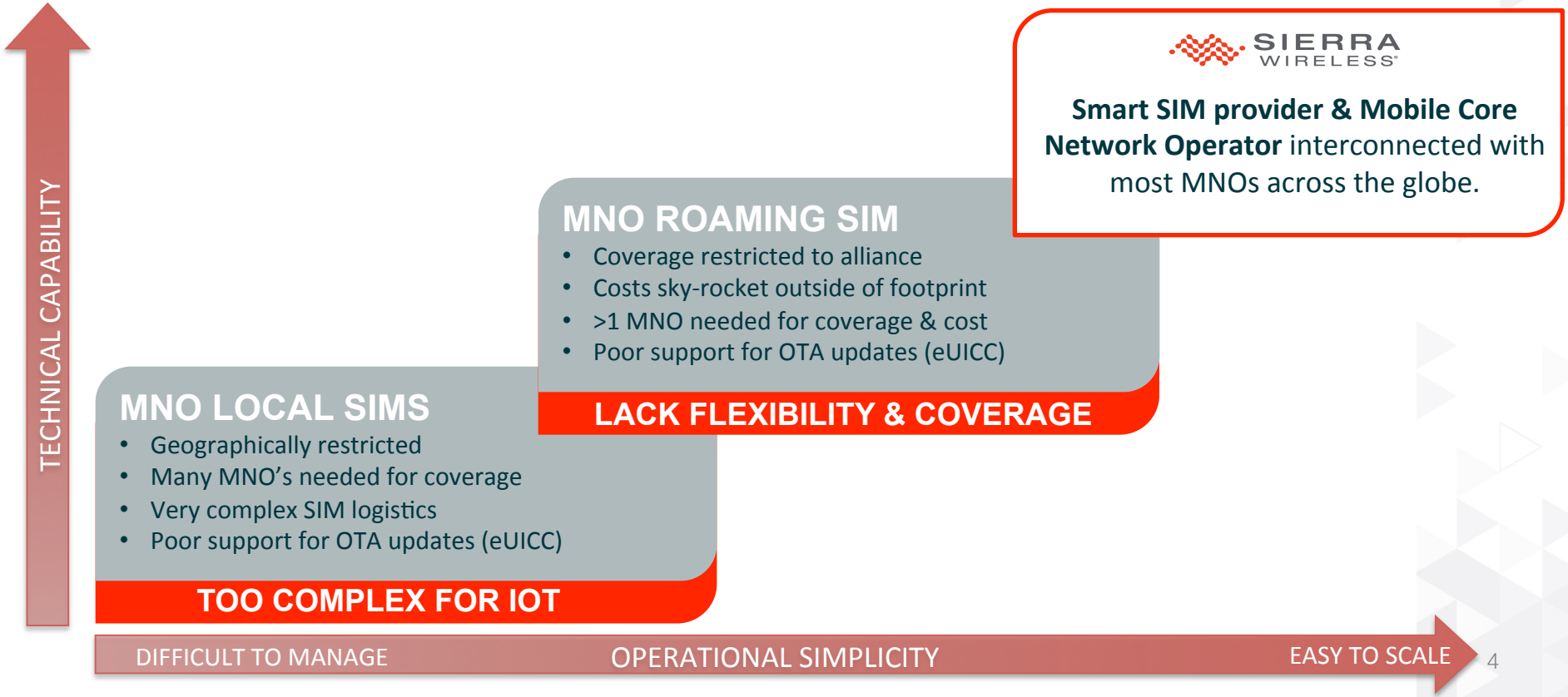
IoT deployments have long lifespans. Customers need the flexibility to update providers and networks.

Simplicity

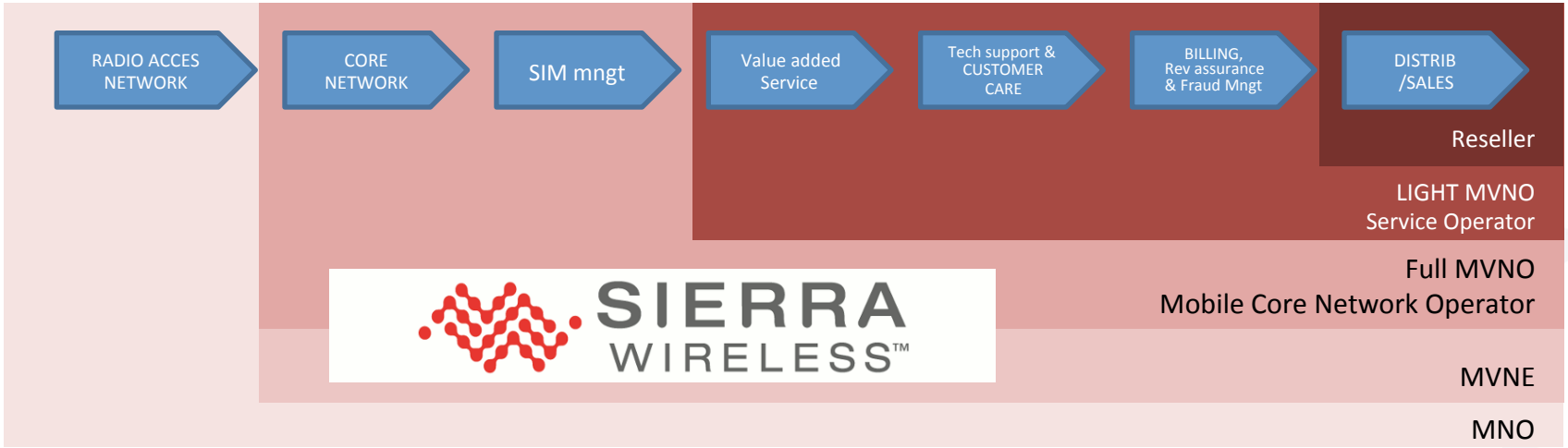
Customers connecting global products need a SIM and tools that simplify logistics and operations.

DEEP INDOORS COVERAGE, RURAL COVERAGE, MULTI-COUNTRY / GLOBAL

Global IOT Connectivity Options



Operator Continuum & SW positioning



Sierra Wireless as a full-MVNO operates it's own core network infrastructure – manages the full technical production chain and solution development, promotion and selling

RAN, MSC, SGSN, IR21, Legal interception	HLR, IMSI, MSISDN management SIM card management IN, SCP, signaling SMSC, USSD, GGSN-P_GW, Carrier interconnection, rating & billing

What makes us different

1 Global Multi-operator Connectivity

Our Smart SIM embarks multiple operator agreements. It can provide access to more MNO networks than any standard roaming SIM. Customers benefit from devices **being connected more often** and a **simplified, more cost effective** single SIM solution for global IoT connectivity
(Coverage & up-time rate)

2 Smart Network Selection

Unlike roaming SIMs, our Smart SIM does not steer toward a preferred partner network with potentially poor QoS, it rather selects the best available network ensuring you are always connected.
(Coverage, up-time rate, use case matching QoS)

3 Resilient to outages

Unplanned network outages or white zones cause significant downtime for roaming SIMs. Our Smart SIM tests for a valid data connection and quickly finds a new network autonomously when an outage occurs.

4 Managed by our IoT Acceleration Platform

All of the global SIM & connectivity management capabilities built into our IoT Acceleration Platform. Combined with industry leading device management capabilities our platform is unique in its ability to manage all aspects of your deployment + legacy third party SIM fleets and eUICC life cycle.

5 Global or Regional Plans

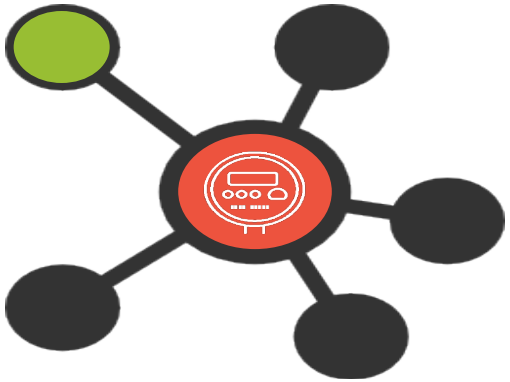
Not every IoT deployment is global from day one. Choose a rate plan that will support a regional deployment with global aspirations in the future or select a global rate plan from day one.
Unlike traditional MNOs with Alliance roaming footprints, we patchwork partners and alliances for best in class coverage in all countries

What does it mean

TECHNICAL CHALLENGES

Coverage

IoT deployments need the broadest possible coverage to ensure machines are always connected.



Most complete coverage across single country, regional or global deployments

1. Minimizes downtime and outages. Less $$ spent on troubleshooting.
2. Simplifies logistics to a single SIM. Less $$ spent on deploying units.

Global IOT Connectivity challenges

TECHNICAL CHALLENGES

Coverage

IoT deployments need the broadest possible coverage to ensure machines are always connected.

Data quality

IoT deployments require a consistent & resilient data connection without human intervention.

OPERATIONAL CHALLENGES

Flexibility

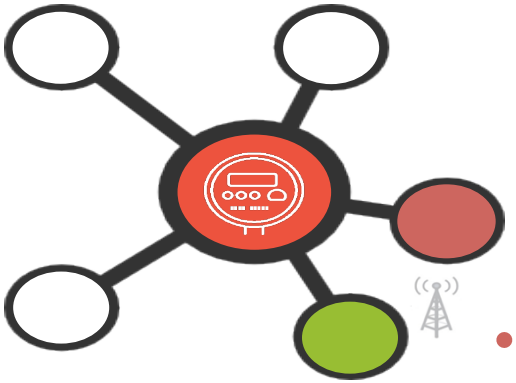
IoT deployments have long lifespans. Customers need the flexibility to update providers and networks.

Simplicity

Customers connecting global products need a SIM and tools that simplify logistics and operations.

NETWORK ATTACHMENT AND VOICE IS FAR FROM DATA AVAILABILITY

Data qualities – what are the issues



1. Network selection not based on network quality
2. No active monitoring of actual data session
3. Fall back to secondary networks only on complete network disconnection

RESULT IS HIGH % OF DEVICE CONNECTIVITY ISSUES. DRIVES UP COST.

A better solution for IOT connectivity

1. Initial network selection based on network quality
2. Actively monitors the data session & network attachment
3. Reselection of network based on failure of either case

RESULT IS SELF MANAGED DATA QUALITY & LOWER COST OF SUPPORT

Global IOT Connectivity Challenges

TECHNICAL CHALLENGES

Coverage

IoT deployments need the broadest possible coverage to ensure machines are always connected.

Data quality

IoT deployments require a consistent & resilient data connection without human intervention.

OPERATIONAL CHALLENGES

Flexibility

IoT deployments have long lifespans. Customers need the flexibility to update providers and networks.

Simplicity

Customers connecting global products need a SIM and tools that simplify logistics and operations.

TECHNOLOGY CONTINUITY, MNO LOCK-IN AVOIDANCE…

2016: Introducing Complementary Connectivity and Platform Services

SW SIM & Connectivity

Third party SIM

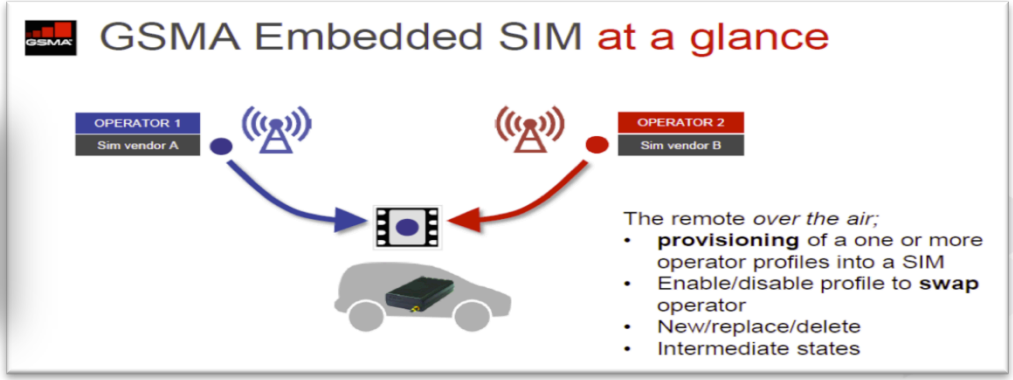
SW eUICC

Services Platform:

- Neutral positioning: bring your own SIM and/or Sierra.
- Open to any bearer: cellular, fixed, sattelite, LPWA
- All you need to connect your machine:
  - Data collection
  - Monitoring
  - Billing
- Simple, Scalable, Secure

eUICC models

Remote OTA profile
- Provision
- Enable / disable
- delete



- **Bootstrap (Connectivity in case of need)**
  - Aimed at OEM manufacturers wishing to perform download and/or switch of pre-installed SIM Profile during or post production of their product.
  - Example: Automotive, like PSA (Gemalto solution)
- **Insurance or batch mode (purchasing strategy)**
  - Aimed at enterprises with installations that will be alive for a long time and where replacement of physical SIM is costly. Purpose to replace MNO or connectivity provider/manager at end of contract.
  - Example: Utilities, like Hafslund (Aidon), Automotive and Healthcare like Tunstall
- **Dynamic (logistics and operations strategy)**
  - Aimed at service optimizers, that want to use business rules to regularly change connectivity provider by downloading and/or switching the pre-installed SIM Profile.
  - Example: Transportation, Point-of-Sale, Automotive

Global IoT Connectivity Challenges

TECHNICAL CHALLENGES

Coverage

IoT deployments need the broadest possible coverage to ensure machines are always connected.

Data quality

IoT deployments require a consistent & resilient data connection without human intervention.

OPERATIONAL CHALLENGES

Flexibility

IoT deployments have long lifespans. Customers need the flexibility to update providers and networks.

Simplicity

Customers connecting global products need a SIM and tools that simplify logistics and operations.

EFFICIENT SIM AND SERVICE LIFE CYCLE MANAGEMENT TOOLS

Sierra Wireless Solution – Simplicity

Best Coverage	**Multi-Operator Connectivity** *Network access is not limited to a single roaming alliance, rather our customers can access every available network.*
Best Quality	**Quality centric and resilient service** *Network selection is based on the best of all available networks and monitors connection quality.*
Most Flexibility	**Carrier-agnostic subscription management** *Centralizes the management of all your Sierra Wireless and legacy SIMs from other operators on a single platform*

Simplicity of a Single SIM for Regional or Global IoT Deployments

Innovation Summit 2016

SIERRA WIRELESS®

Thank you