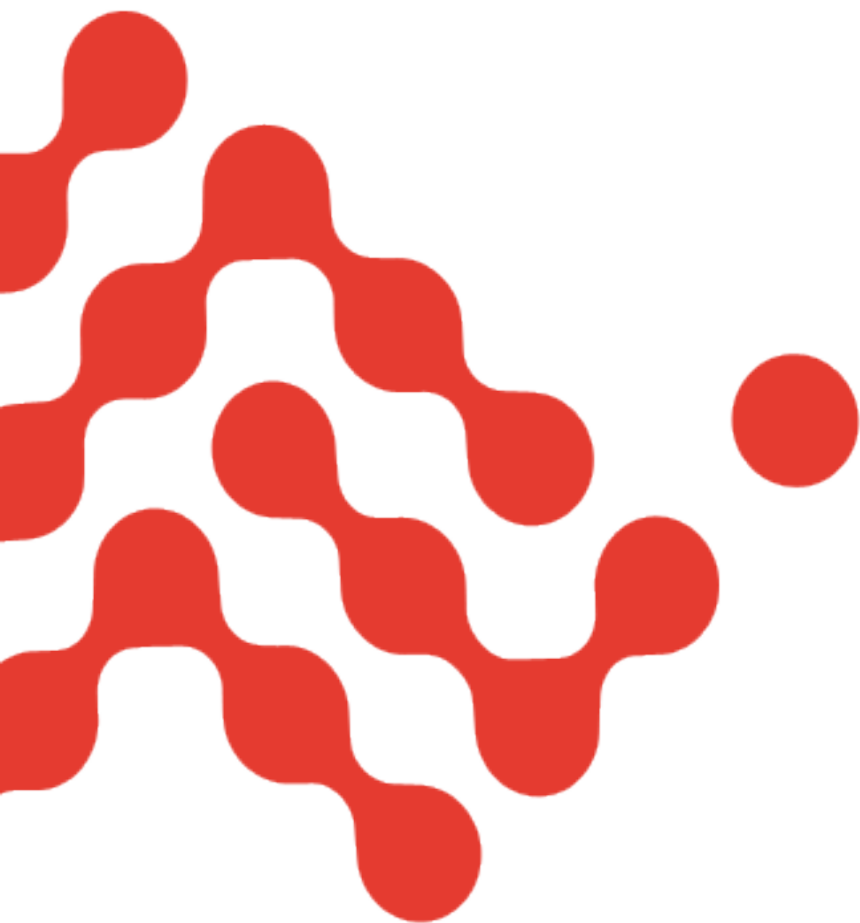


Security in M2M

M2M Forum

Milan ? 14th May 2013



We Are Enabling a Connected World

Through M2M and advanced wireless technology



Becoming an M2M and connected device pure player

On 2nd April 2013, completion of the sale of AirCard[®] business to Netgear, Inc.

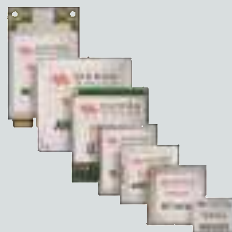
- \$138M cash + approximately \$6.5M in assumed liabilities
- Net proceeds of approximately \$100M after taxes

AirLink™ **AirVantage™** **AirPrime™**

Intelligent Gateways

M2M Cloud

Embedded Wireless Modules



AirPrime™

Embedded Wireless Modules



AirCard®

Mobile Broadband Devices



**Retained business
(Continuing Operations)**

**Divested assets
(Discontinued Operations)**

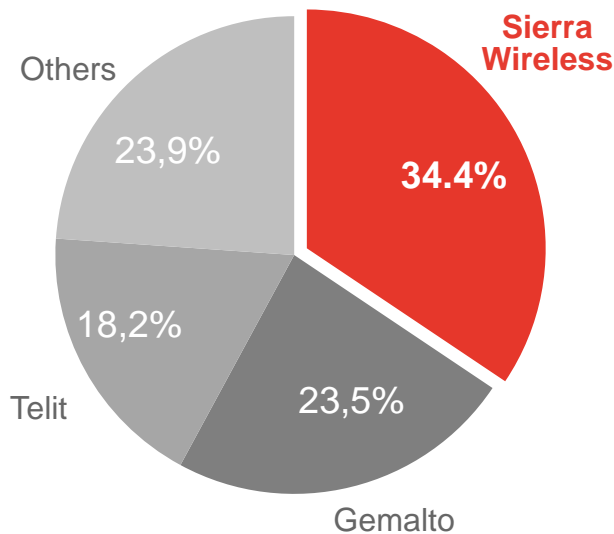
THE NEW SIERRA WIRELESS

Industry leader

- Pure play
- Market leader
- Innovation leader
- \$400M in revenue
- Global capability
- \$160M+ in cash*
- Publicly traded

#1 in machine-to-machine market share globally

M2M Embedded Cellular Devices Market Share in 2011⁽¹⁾







Blue-chip customers



*post closing of AirCard sale

Source: ABI Research.
 (1) Sierra Wireless includes Sagemcom market share

Leading Position in Key M2M Segments

Segment	Typical Applications	Sample Customers	2015 Market* (est. unit shipments)
Automotive	<ul style="list-style-type: none"> Safety Driver assistance Navigation Infotainment 		<p>18M units ?1 -15 CAGR: 58%</p>
Networking	<ul style="list-style-type: none"> Enterprise routers Fixed line replacement 		<p>9M units ?1 -15 CAGR: 12%</p>
Sales & Payment	<ul style="list-style-type: none"> Point-of-sale terminals ATM machines Vending 		<p>4M units ?1 -15 CAGR: 13%</p>
Energy: oil & gas, electricity	<ul style="list-style-type: none"> Smart metering / grid Infrastructure monitoring 		<p>15M units ?1 -15 CAGR: 22%</p>

*Source: ABI Research

We Are Enabling a Connected World

Through M2M and advanced wireless technology



M2M Ecosystem

A full ecosystem of players with a common goal?



...enable a **Connected World.**

Typical M2M deployment

Devices

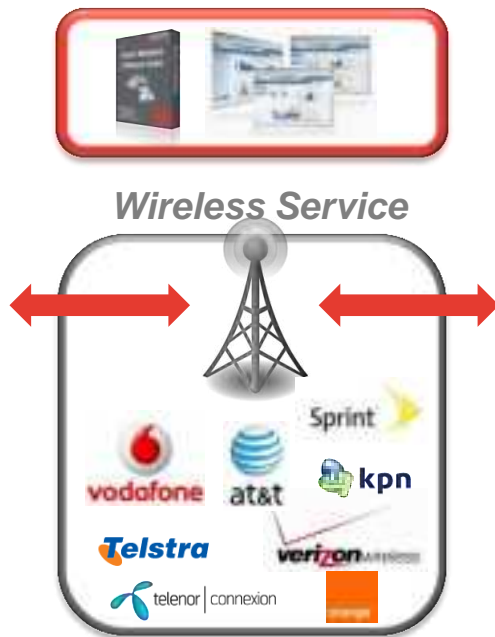
Tools

Server



AirLink™
Intelligent Gateways & Routers

AirPrime™
Wireless Embedded Modules



Wireless Service

Logos: Vodafone, AT&T, Sprint, KPN, Telstra, Verizon, Telenor, Connexion



Applications
Asset Management
Device Management
Subscription Management

AirVantage™
M2M Cloud Platform

Intelligent, Versatile Hardware

Seamless Connections With Operators

M2M Applications & Cloud Services

Making M2M Simple

Key statements about Security in M2M

#0 there no security by default

➤ YOU NEED SOME SECURITY FOR YOUR M2M APPLICATION

#1 no system is 100% secure

➤ Security has to be aligned with the value of the information/system protected.

#2 security means constraints

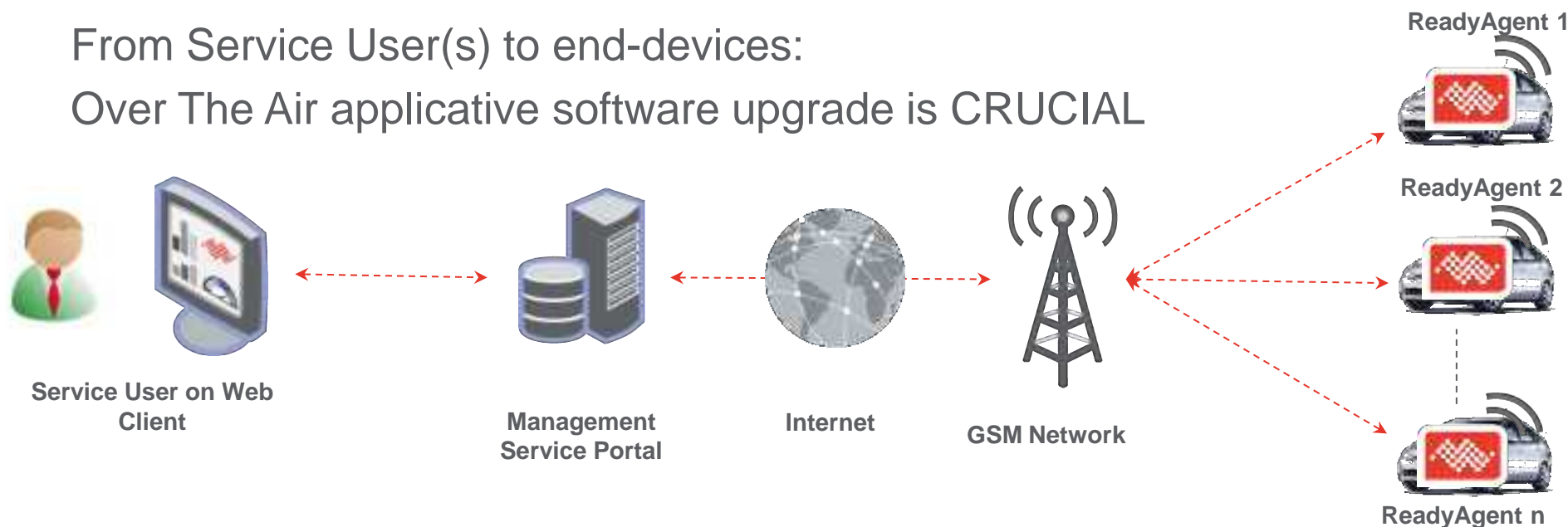
➤ YOU DON'T WANT A TOO SECURED APPLICATION/SYSTEM

#3 the right security level for your M2M application

Security Chain

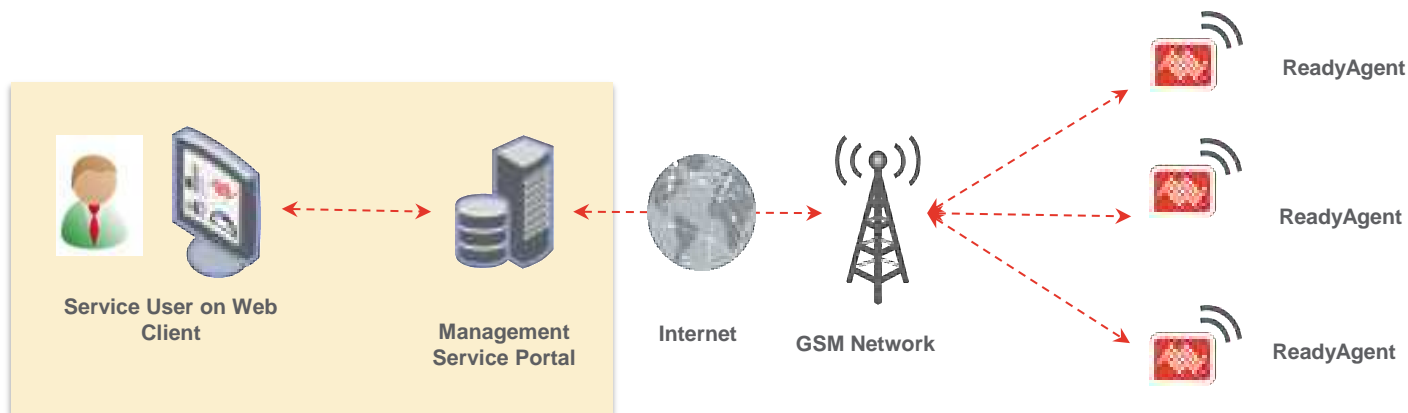
From Service User(s) to end-devices:

Over The Air applicative software upgrade is CRUCIAL



- Each device must be controlled only by authorized people (**authentication**)
- Data flow must not be corrupted (**integrity**)
- Update package must come from a trusted entity(**software signature**)
- Data flow spying must be prevented (**confidentiality**)

Security on Management Platform



User account access protected by:

- **Login**
- **Password**

Communication between Web Client and Management Service Portal: secured through **HTTPS**

Security between Server and Devices

Security based on **credentials** inside Ready Agent:

- *server ID & password*: server identity, password different for each device
- *device ID & password*: device identity
- *nonce*: one-time password, different for each session, prevents any replay attack
- *public keys*

Ready Agent preloaded with default **credentials**.

First connection to server: new **credentials** downloaded from server unique each device.

Device-server **mutual authentication**:

Messages **integrity**: ensured through Message Integrity Digest.

Package content protection:

- **signed** (*public keys*)
- **ciphered**

Key security criteria in M2M

#1 Trust ? Authentication, Authorization

- From device to Cloud

#2 Upgradability (over the air)

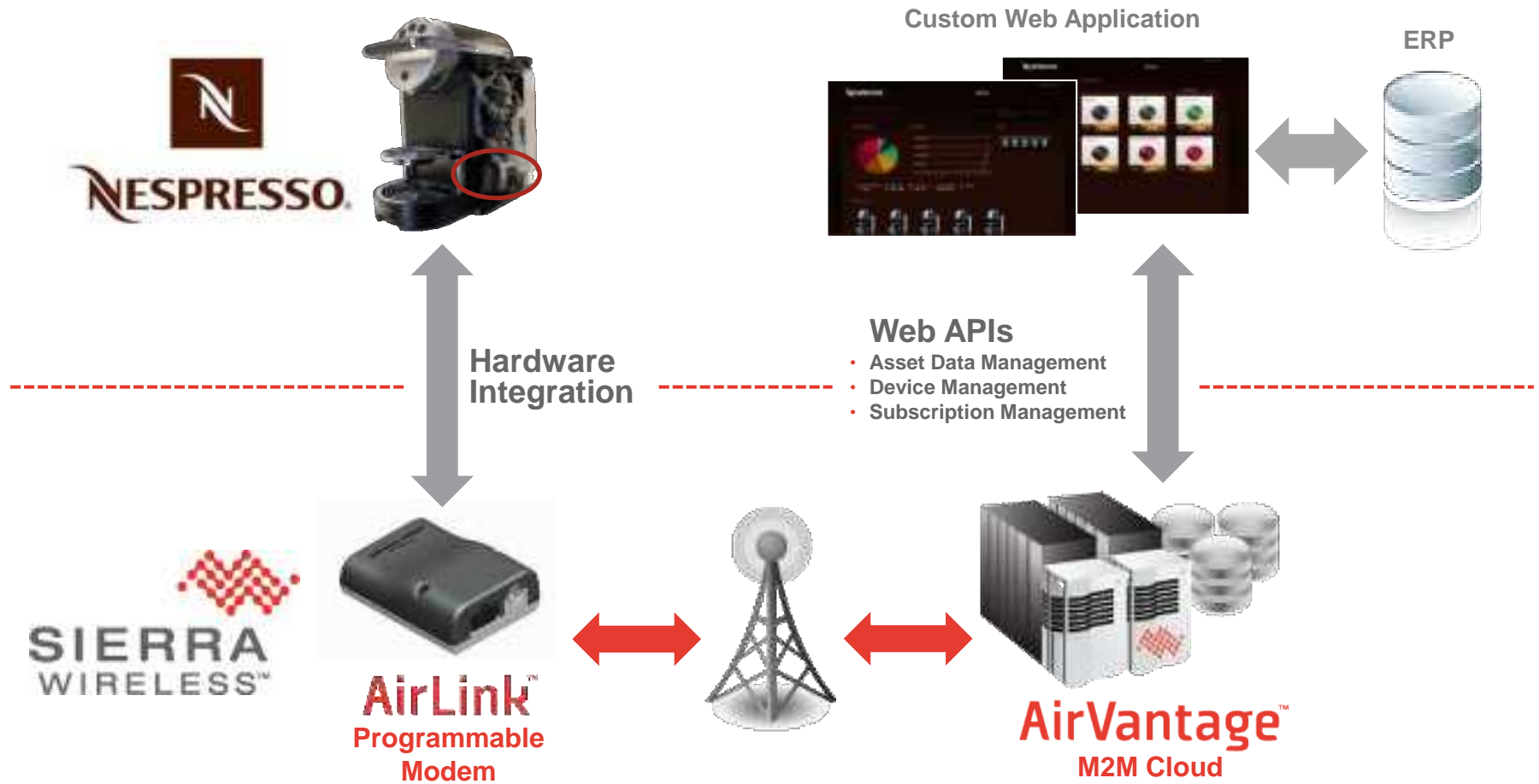
- Because a static system in an ever evolving environment cannot be secure.

#3 Robustness

- In SW, HW, devices and server and their tolerance to faults and attacks
- Capability to diagnose issues in an efficient

#4 Confidentiality

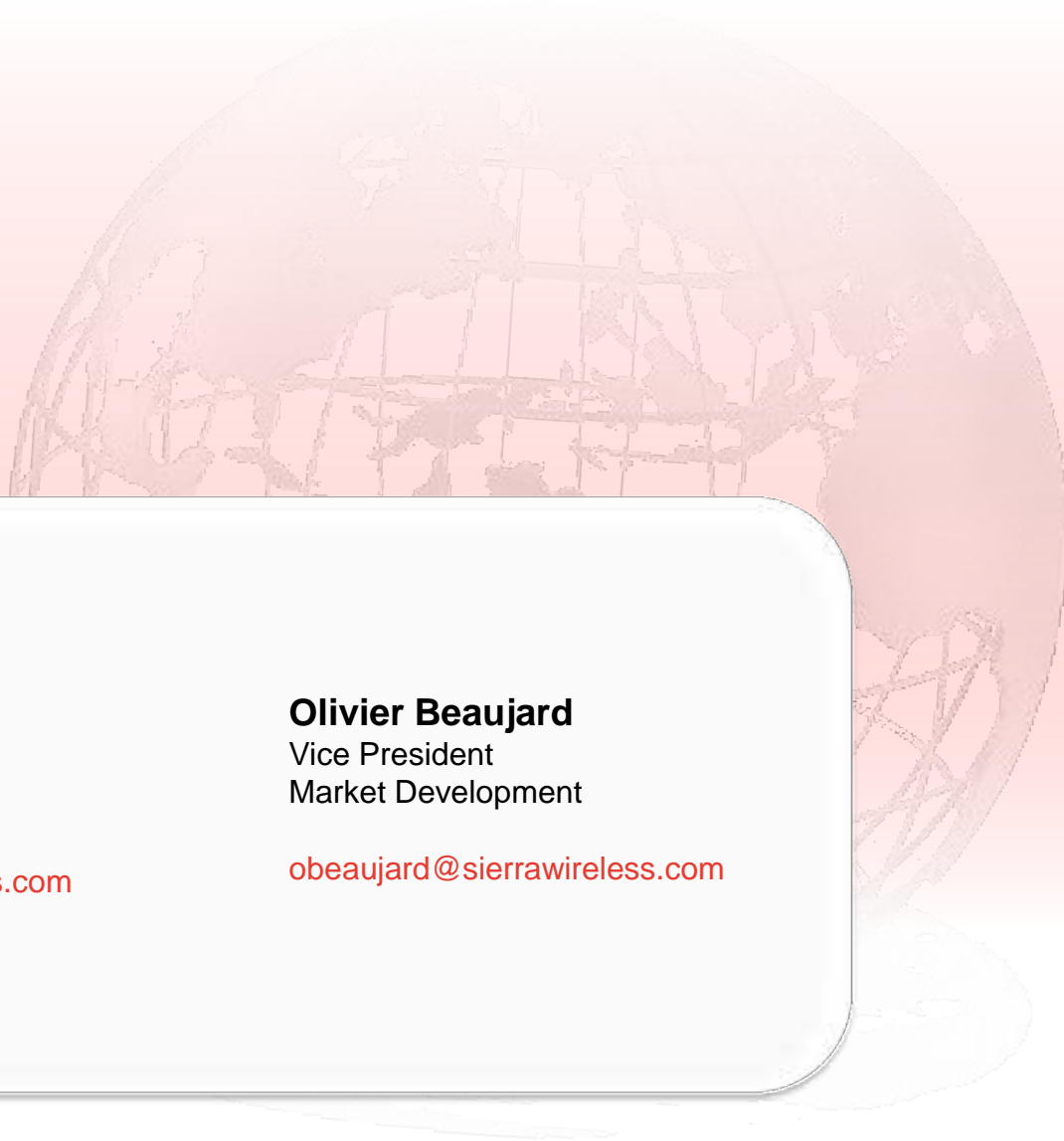
End-to-End Platform Success: Nespresso



Accelerating M2M Application Development & Deployment



Thank you!



Olivier Beaujard

Vice President
Market Development

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