

# Capitalizing on The Internet of Things: A Primer



## Executive Summary

WHEN EVERY  
PRODUCT YOU SELL  
IS CONNECTED ANY  
TIME, ALL THE TIME,  
IT FUNDAMENTALLY  
CHANGES HOW YOU  
OPERATE, HOW YOU  
INTERACT WITH  
YOUR CUSTOMERS,  
AND HOW YOU  
MAKE MONEY.

The Internet of Things—described aptly as “the extension of the Internet to the physical world”—will reshape the way business is done across every sector of the economy and every industry. It will bring previously offline businesses and processes online. It will reconfigure companies’ entire business models, their relationships with their customers, and the structures of their organizations.

The “things” are just a means to an end. They are the tools that help businesses establish a direct, always-on connection between themselves and the rest of the world.

# It means evolving your business into a **connected service business.**

When every product you sell is connected any time, all the time, it fundamentally changes how you operate, how you interact with your customers and how you make money.

When you build an IoT business, one-time product sales become a thing of the past. Now, when those products leave the store, showroom or warehouse, the customer who buys them expects and demands the added value of connected services.

And you are responsible for every part of the connected service experience, throughout its entire life. Customer has a question? You'd better be ready with the answer. Connectivity hiccups? They're counting on you to know why and to fix it, now! Plus, you have brand new sources of revenue to manage.

Navigating this kind of transition requires major shifts in mindset, processes, people, and skills. It means creating new business models, operating structures, and management functions.

## **It means evolving your business into a connected service business.**

Connected services businesses present different operational challenges. When offering a connected service, you'll need to be prepared to answer challenging questions in new ways:

- How will we deal with connected products when they don't work in the field?
- How will we charge customers on a recurring basis?
- How will we deliver on the demanding service-level agreements and quality-of-service expectations that come with connected services?
- How will we handle calls from customers about billing questions?
- How will we scale our connected service around the globe?

## **The answer to all of these questions is Service IT.**

Service IT is the software and systems required to launch, manage, and monetize a connected service business.

This includes, but is not limited to:

- Applications that enable you to manage and monitor everything from the connectivity and data output of every device to the complex sets of billing relationships that result.
- Deep integration into the transport layers that devices use to communicate with the network and each other: 3G/4G, Wi-Fi, Bluetooth, etc.
- A set of APIs that enable you to integrate everything seamlessly with your existing IT infrastructure.

This paper will:

- Explore the challenges and opportunities companies face when launching new initiatives on the Internet of Things.
- Demonstrate why Service IT is essential to the success of connected businesses.
- Share success stories of leading companies using Service IT to create new lines of business, evolve existing products, and innovate business models today.

A story on  
The Internet  
of Things:  
How GM is  
transforming  
the connected  
vehicle  
experience.



General Motors (GM)—the world's second largest car company—is on the leading edge of connected vehicle experiences and new business models. In 2015, its entire fleet of vehicles in North America will come equipped with 4G LTE, and the company recently announced that they are set to offer automated driving technology in 2016. These are just two of the latest innovations among their portfolio of high-value, in-vehicle services.

GM is truly transforming the connected vehicle experience across the board, recognizing that today's consumers not only want a reliable, comfortable vehicle, but also demand a full array of services to enhance experiences for both driver and passenger—from safety to entertainment, to integration of other applications and devices.

To meet that demand, they are continuously innovating—offering connected services that includes communication, security, emergency assistance, turn-by-turn navigation, remote diagnostics, plus a range of infotainment services, including streaming audio and video for backseat passengers. In addition to the fast and reliable 4G LTE connections that will ultimately be made available worldwide, GM is transforming millions of its cars and trucks into Wi-Fi hotspots.

And, as part of its complete in-vehicle mobile experience, GM now offers a wide selection of applications—many created through their dedicated app developer program—that are deeply integrated into the vehicle's sensors and telematics systems through the connected car APIs.

GM has long been at the vanguard of the IoT trend, identifying it early on as a route to transforming their industry, its business models and the experiences they create. Today, the company is executing the strategies they've been developing for years on a mass-market scale, defining the next chapter in automotive history.

# The benefits and challenges of connecting your business to The Internet of Things.



For the world's most innovative product minds, the benefits of connecting to The Internet of Things are becoming increasingly clear.

## The three core benefits of The Internet of Things.

When your company and all of the devices you sell and manage are connected to your customers at all times, your business transforms in three fundamental ways:

### **You create and deliver a host of new experiences for your customers, enabling you to:**

- Offer new services, like GM, which turns its connected cars into wi-fi hotspots complete with connected entertainment offerings like Netflix, Spotify, and Pandora.
- Enhance existing products, like Garmin does with Garmin Traffic—a subscription add-on to their GPS devices that helps drivers avoid traffic, construction, and other delays in real-time.
- Build entirely new ways of doing business—like Konica Minolta did when they made it possible to remotely monitor usage and address copier performance issues, both vital to usage-based billing models.

Connecting your business to The Internet of Things touches every part of your company and **reshapes it for the better.**



**You automate previously manual processes and drastically reduce response times for critical operations, letting you:**

- Run remote diagnostics, like Alarm.com now does with every home-automation and security system on their network, enabling them to monitor the status of every device and respond instantly to reported incidents.
- Deliver pro-active, real-time support, like GE Aviation does with its connected jet engines. The engines automatically transmit flight data to maintenance crews on the ground, triggering service calls when necessary and ensuring that the right people with the right skills and the right parts are ready and waiting at the gate when the plane arrives.
- Manage physical assets, like John Deere does with its JDLink service, enabling farmers and construction companies to track, control, and limit where and when each piece of equipment gets used.

It brings you much closer to your customers, giving you a deeper, richer understanding of what makes them tick.

**You understand the state of your business in real-time and make more accurate predictions about where it is going.** With tons of new, actionable data coming in from the world in real-time, you'll be able to make dramatically more-informed decisions about what to do right now, and what to do next. You'll be able to:

- Protect and enhance your brand, like Heineken does in Europe with its connected kegs, which enable the beer company to manage its inventory and ensure the quality of its beer by monitoring every keg's volume, temperature, and age.
- Tailor your product offerings with historical and real-time data about your customers' behavior, like Allstate does with its Drivewise program. Drivewise collects data every time a customer drives their vehicle and rewards safe drivers with preferred rates.
- Understand how your customers use your products (or not), like AirLiquide does with its Servitrax connected cylinders. The bar codes on every cylinder enable customers to track and manage their use, status, and location at every stage from initial delivery to return to manufacturer. Is that product you sold getting turned on? Where in the world is it being used? Is the customer getting the most of all of its features? Which ones? You'll know, and be able to respond accordingly.

Indeed, connecting your business to The Internet of Things touches every part of your company and reshapes it for the better.

It brings you much closer to your customers, giving you a deeper, richer understanding of what makes them tick. It automates previously manual processes, making you more agile and responsive, and letting you focus on the most valuable parts of your operation. It brings new revenue streams, efficiencies, and pricing strategies to your business model, moving you from sales of individual products that pay once to sales of ongoing, connected services that pay again and again.

**But with these substantial benefits come a host of significant challenges.**





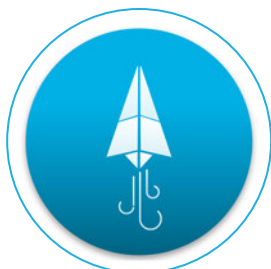
# The **big challenges** of building a business on The Internet of Things.



Companies new to The Internet of Things face three main challenges. To build a profitable business (or line of business) around connected devices, you have to:

**Launch your connected service.** Once you have identified a business model that leverages the power of The Internet of Things for your business, you'll have to:

- Enable devices to connect to the wireless Internet.
- Integrate into mobile operator networks, anywhere and everywhere in the world.
- Define use cases and map out business and operational requirements for every stage of your product lifecycle.
- Integrate your new Internet of Things business with your existing infrastructure.
- Configure application programming interfaces (APIs) to meet your unique business needs and the requirements of each and every mobile operator you work with.
- Deliver the new applications and services to the market.



Launch



Launch.  
Manage.  
Monetize.



Manage



Monetize

**Manage your connected service.** To actually run this Internet of Things business you've launched, you'll need ways to:

- Monitor your connected devices in real-time, tracking data usage, connectivity, etc.
- Run diagnostics to identify and troubleshoot issues on any device, anywhere at any time.
- Define the events that trigger each device's activation and deactivation.
- Set up real-time controls that give you visibility into every deployed device and let you manage data usage.

**Monetize your connected service.** Monetizing your connected service and ensuring that it is profitable also involves getting a handle on a complex range of moving parts. You must:

- Set rates for each type and level of service you offer and define how those plans will be managed over time (e.g. free trial periods, introductory discounts, subscriptions of different lengths, renewal plans, split billing, etc.)
- Handle billing, charges, and payments to and from customers, operators, OEMs, partners, suppliers, etc.
- Establish data usage thresholds and cost controls.
- Gather intelligence from all the data you're now gathering and use it to create new revenue streams, optimize processes, build new products, and improve existing ones.
- Analyze and optimize your supplier costs in real-time.
- Automate every stage of the billing process.

Given all of the above complexity, building connected services and applications can seem overwhelming.

**Fortunately, there is Service IT.**

## A primer on the emerging category of Service IT.

Service IT is shorthand for all of the communications technologies, carrier relationships, software applications, and APIs that you need to launch, manage, and monetize a connected service business.

Service IT ties together all of the components you need to launch new products, services, and applications on The Internet of Things. It brings your connected devices online. It integrates deeply with the transport methods (e.g. 3G/4G, Bluetooth, Wi-Fi). It enables the new connected applications and processes to merge seamlessly with your existing IT infrastructure. Unlike that wide-eyed hype about smart refrigerators and toothbrushes, Service IT is right now. It is here today, and thousands of the most forward-thinking companies in the world are already relying on Service IT to connect with customers, launch new products, and transform their businesses on The Internet of Things.

Once you're ready to launch your connected service business, Service IT empowers you to manage and run it, enabling you to run remote diagnostics, monitor connectivity, measure data usage, control device activations, set and manage policies specific to your business, and automate all of the complex operations that result.

Most importantly, Service IT enables you to monetize your connected services and make them profitable: managing and automating complex billing relationships among carriers, customers, partners, and suppliers; simplifying cost controls; and giving you the data you need to make sense of everything.

On the frontier of The Internet of Things, every company is going to have a unique set of challenges. With few established models to emulate, everyone will need to test and learn, iterating quickly to find the business models that work.

Without Service IT, the costs of getting up and running on the Internet of Things and creating, testing, and optimizing new business models would be prohibitive.

**With Service IT, embracing The Internet of Things in new, innovative, profitable ways becomes not only possible, but simple.**



Jasper is the  
ON Switch  
for The Internet  
of Things.



In the near future, every business will run on The Internet of Things. To reap the many rewards that come, every business will have to transform into a connected service business, becoming more aware, more responsive, and more attuned to customers as a result.

To make this transition, every connected service business will need Service IT.

Jasper is the leader in Service IT and the only company that delivers Service IT in the cloud.



In partnership with mobile operator groups worldwide representing over 100 network affiliates, Jasper has already enabled more than 1500 companies on six continents—including GE, GM, ABB, Garmin, Allstate, Vivint, and John Deere—to capitalize on the promise of The Internet of Things today.

Since 2004, Jasper has delivered the real-time visibility and control that companies need to launch, manage, and monetize a successful IoT service business, all in a single, turnkey, cloud-based solution.

Unlike one-size-fits-all offerings from traditional IT vendors, Jasper's platform has been built from the ground-up for The Internet of Things. Our platform gives you exactly the features you need to enable seamless integration between The Internet of Things and your existing infrastructure, including mobile service management, real-time engagement, support diagnostics, billing, and business automation—all of it configurable to meet your company's precise needs.

An ever-increasing number of industries are choosing Jasper to manage their IoT initiatives and enable capabilities critical to their business success.

Today, the Jasper Platform powers the IoT initiatives of more than 1500 of the world's most innovative companies and top brands, including Alarm.com, Air Liquide, Allstate, Audi, Boston Scientific, Coca-Cola, Ford, Garmin, General Electric, General Motors, Honeywell, John Deere, Konica Minolta, Nissan, Securitas, and many others.

**Are you ready to capitalize on The Internet of Things?**