Anatomy of an IoT Solution:

How to Cut Costs and Accelerate Time-to-Market

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EXECUTIVE SUMMARY

The Internet of Things (IoT) solutions you develop, sell or deploy internally, drive value by delivering new services and generating new insights from new data in new ways. It is these applications, not the underlying infrastructure, that deliver business value.

Many exciting new IoT offerings are envisioned every day, however the capability to rapidly and cost-effectively build these applications is a significant hindrance. Coordinating the devices, platforms and network services needed to bring IoT applications to life is a significant challenge.

While some businesses struggle to handle the many complexities of building an IoT solution from scratch, others have gained a competitive advantage and increased speed-to-market by opting for turnkey solutions. Sourcing IoT infrastructure from a single trusted partner frees businesses to build these innovative applications. This white paper describes the critical components of an IoT solution and how turnkey solutions reduce costs, improve quality and speed time-to-market.

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IOT SOLUTION ANATOMY

Think of the three components of your IoT solution as its "DNA" – in this case, the *device(s)*, the *network* and the IoT *application*.

The **devices** are the "things" in IoT, and comprise the hardware that collects, gathers, transmits and/or analyzes data – or that takes action based on the analysis of that data. These devices range from an RFID chip on a pallet of products, to a pressure sensor on a gas well, to a network router that provides critical failover capabilities.

The **network** consists of the hardware and software that transmits the data, the analyses of the data or the commands resulting from that analysis to other physical devices. Depending on the needs of the application, the network most often takes the form of cellular or satellite connectivity, but devices can also be connected via wired links, Bluetooth or Wi-Fi.

The **application** is the data and business logic that enables a person, application or device to take action. Sample business use cases for such applications include:

- Automatic tracking of perishable goods shipments, including tracked location and temperature of containers and application of rules to that data, triggering email alerts of possible problems. For one logistics firm, this prevented tens of thousands of dollars of lost or ruined shipments.
- Gathering and analyzing data from "smart shelves":
  - Tracks when customers look at a shelf or pick up a product, or collects data from near field communications and RFID sensors to adjust inventory levels in real-time.
  - Assures perishable products nearing expiration are tagged or marked down.
  - Simplifies payment processing.
  - Provides customer data to guide merchandising, pricing, and product placement.
- Cellular delivery of landfill monitoring data:
  - Delivers vast quantities of data more reliably, at lower cost, than traditional landline-based systems.
  - Improves landfill management and prevents pollution-causing accidents.

TRUE COSTS OF THE IOT DEVICES AND NETWORKS

Of these three DNA components, the application is the one that generates the most value, and deserves the most of your time, attention and resources. A successful IoT application requires an understanding of the industry you're serving and the specific needs of its users. It's where you differentiate yourself through superior design, workflow or capabilities, and it represents your (or your customers') "face" to the market.

The other two components – the devices and the networks – comprise the enabling infrastructure. In the past, building an IoT solution often meant sourcing the required devices and network connectivity as standalone offerings and learning how to successfully integrate the components. This also incurred additional costs in evaluating, certifying, testing, and implementing components. Managing and assuring the performance, reliability, and security of a variety of networks were also key considerations.

Further, it involved training your staff on multiple management platforms and calling various support lines (and dealing with finger pointing among vendors) to solve problems. It also required tracking and paying multiple invoices and billing cycles, while coordinating multiple contractors and shipments. And perhaps the greatest costs were the lost sales or customer satisfaction while waiting for your in-house staff, or multiple vendors, to design, deploy, and troubleshoot IoT solutions.

Today, all of these services can be provided by specialized IoT partners more quickly, at a lower cost, and with higher quality. Acquiring the devices, network connectivity, and the associated services from a single trusted partner is a more efficient, quicker way to implement your IoT infrastructure.

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BENEFITS OF AN INTEGRATED TURNKEY SOLUTION

How you source your IoT infrastructure is as important as what you outsource. An integrated solution can:

- Provide network services from multiple wireless carriers from a single source, making it easier to assure proper coverage to dispersed locations.
- Provide a single, robust management platform, reducing training costs, simplifying monitoring and troubleshooting of connected devices, and allowing automatic provisioning of services, as well as reporting and control of data costs.
- Deliver implementation, testing and support for all hardware and networking services and for hardware delivery, testing, kitting, and provisioning.
- Reduce the cost of your IoT infrastructure, while improving service quality and slashing time to market

IOT BUNDLING MUST-HAVES

Consider each of these key elements when planning your IoT solution and sourcing a partner:

- **Flexibility:** Do they offer wide range of hardware and network services that meet the specifications of your application and assure connectivity for remote locations?
- **Supply Chain Simplification:** Do their bundles include everything you will need, from SIM cards to equipment to professional and IT services?
- **Reduced Time to Market:** Do they have the capability to offer "plug and play" delivery of your IoT solution, with services such as kitting, testing, and provisioning?
- **Ongoing Management:** Is their platform robust enough to assure the performance and reliability of your IoT network and devices?
- **Optional Professional Services:** Do they have the certification, site surveys, and testing capabilities to assure timely, reliable, and secure service?

BUSINESS CASES FOR BUNDLED IOT INFRASTRUCTURE

- **Wireless for remote areas:** Retail kiosks, ATMs, small businesses and IoT devices in remote areas that may lack reliable, cost-effective wired broadband. A bundled IoT solution may include a wider range of options ranging from Wi-Fi to Bluetooth to LTE to meet any need.
- **Wireless failover with out-of-band management (OOBM):** Another challenge at remote, dispersed locations is restoring service when the network goes down. OOBM makes it easier to troubleshoot and resolve outages without the need for expensive or difficult site visits. This can be especially useful for the retail and hospitality, financial services and healthcare markets.
- **Electronic Logging Devices (ELD):** Bundling tablets, wireless connectivity, device management, software and security can help fleet managers cost effectively prove truckers aren't driving more hours than they are legally allowed.



KORE POWER SOLUTIONS

KORE Power Solutions integrate connectivity, managed services, applications, hardware, and professional services to reduce costs, increase efficiencies, and deliver IoT solutions to market more quickly and easily.

KORE Power Solutions include:

- A vast portfolio of equipment including routers, gateways, and tablets from vendors such as Digi, Cradlepoint, Apple, and Samsung.
- Your choice of wireless local and wide area connectivity from leading providers including AT&T, Verizon, and Rogers.
- PRiSM*Pro* comprehensive and robust connectivity management platform.
- KORE's world-class customer support.

Additional, value-added options include:

- **Managed Services:** Site surveys, installations and monetization solutions that provide powerful billing capabilities and payment engines for our customers.
- **End-to-End Network Monitoring:** To the customer premises or application.
- **Device Management:** Including deploying, securing, monitoring, integrating, and managing mobile devices.
- **Applications:** Such as wireless failover without of band management (OOBM) to ease troubleshooting and recovery if the primary network fails.

The IoT market is changing much too rapidly to be held up by delays in selecting, implementing, testing or managing your IoT infrastructure. Choosing the right bundled IoT infrastructure solution can reduce costs, increase quality, and speed time to market. Most importantly, it lets you and your customers focus on what you do best – delivering innovative IoT solutions that drive business value.

Click here to learn more about KORE Power Solutions

ABOUT KORE

KORE provides the connectivity and services that make the Internet of Things possible. Founded in 2003, KORE is the world's largest managed network services provider specializing in Internet of Things (IoT) and Machine to Machine (M2M) markets. KORE provides the critical wireless connectivity empowering application, hardware and wireless operator partners to rapidly bring new IoT and M2M innovations to market, with millions of active on-network units in more than 180 countries.

KORE delivers choice, reliability and global native coverage through multi-carrier and Tier 1 carrier cellular and satellite network services – including LTE, GSM and CDMA - as well as advanced applications to easily manage IoT connected devices. KORE's Position Logic software provides seamless location-based services (LBS) for businesses. KORE's recent acquisition of Wyless makes the company one of the six largest providers of M2M/IoT services globally, inclusive of carriers.

For more information, visit
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Want to find out how KORE can help your business?

Contact one of our connectivity experts today.

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