smart
systems
design

developing new growth opportunities and businesses at the intersection of smart systems, services and the internet of things

SmartSphere Player Profile: IoTium

2017

Harbor Research

IoTium *Secure network infrastructure as a managed service for Industrial IoT applications*

Player Type:

Technology Supplier

Technology Tags:
Network Services
Cloud Services - SaaS
Security & Encryption
Virtualization Software

Market Tags:

Industrial
Oil & Gas
Power Generation & Grid
Infrastructure
Resources
Transportation
Healthcare
Supply Chain

Headquarters:
Santa Clara,
California, USA

Founded:
2014

Employees:
11-50

Status:
Private

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Organization Description & Offering Overview

Founded in 2014, IoTium provides a software defined network infrastructure as managed service for industrial and other mission critical connected device deployments. Headquartered in Santa Clara, CA, the company raised a Series A in 2017 and has already seen significant traction for its technology. The company is led by Founder and CEO Ron Victor.

IoTium offers a virtual overlay network-as-a-service for connected equipment and devices in industrial environments. The company's technology sits on top of legacy control and information systems within mission critical environments, securely transporting the data to and from the cloud or on-premise data center. The company's offering allows customers and partners to securely access remote devices and deliver application functions to edge devices enabling real-time analytics and data filtering. Its technology allows for multi-tenancy use of the network and the data generated and collected from networked devices, opening a wide range of possible applications for customers.

IoTium's network as a service makes sure that the asset is never visible to the internet, that the data leaving the source is only available where its being sent and is not susceptible to DDoS, re-routing or even employee tampering (due to the lack of usernames and passwords). The offering also isolates the OT network from the IT network, and within the OT network, every data stream is isolated, such that if someone were to gain access to one part of the network, it wouldn't compromise the rest of it.

Overall Strategy & Value Proposition

IoTium is taking the complexity out of the Industrial Internet of Things by providing a software-defined network as a service that sits on top of legacy systems. The company's services enable Smart Systems applications in mission critical environments by offering zero-touch device onboarding, ensuring security from the point of data collection to the point of data use, and allowing 1-click mass deployment of applications to the edge of the network to facilitate real-time analytics and decision making with millisecond latency. The company has employed a partner-first approach, demonstrating the value of its service to the application providers and equipment and service providers that stand to benefit from additional access to customer devices and data.

IoTium's virtual overlay network can be deployed on any existing or new network, and can be set up and running within minutes with zero on-prem configuration and no in-person commissioning required, reducing truck rolls and expensive field visits for IT personnel. IoTium manages the network and applies link-layer and application-layer quality of service policies, also, and because this network is separated from existing control and information, no changes to IT firewall or proxy settings are required, approval of which can take 2-6 months. With this network in place, customers can manage devices and access to the data coming from devices, without the need for usernames and passwords. Further, IoTium's solutions allow for completely data transfer for each device, not only from other information and control systems,

Competitive Position

IoTium sits in a unique market position. It is the only company that offers a software-defined managed network service that is device-, network- and cloud-agnostic. There are, however, some close substitutes provided by both large and small vendors, and IoTium's biggest competition comes in the form of would-be customers trying to build solutions internally.

Companies like VMware provide virtual overlay networks, but not as a managed service. Cisco, Juniper and other network hardware suppliers provide software-defined network services, but these must be provided on top of their own hardware, and are difficult to retrofit on top of existing networks, especially at scale. Further, these companies target enterprise environments first and foremost, as opposed to mission critical environments as does IoTium.

The two closest competitors to IoTium are Tempered Networks and Cradlepoint, both of which offer software-defined managed networks as a service. These vendors, however, still fall short. Tempered Networks only provides these services on top of its own hardware, while Cradlepoint requires data coming through its virtual overlay network to go through its cloud before being passed on to another service providers' cloud, making the data more vulnerable and making the solution less attractive to other service providers.

Business Model

IoTium offers a virtual overlay network-as-a-service to smart buildings, industrial automation, and other mission-critical industries. The company charges a recurring monthly fee for the use of its technology on a per-instance basis.

The company targets mission critical industries with an installed base of control and information systems that are already collecting data, offering customers in these industries the ability to gain visibility into their assets and network without significant installation time. The company has set up its product to be inherently secure, ensuring no changes required to existing enterpsie IT network firewalls that require signoff from the IT department and significant setup type, as well as eliminating the need for passwords and usernames that are more easily hacked. The company boasts a zero-touch setup process, and advanced identity management capabilities that let the same piece of data be used by multiple parties and applications as needed and allowed.

IoTium goes to market through a number of channel partners that exist in three buckets: application providers, systems integrators & OEMs, and network hardware providers. IoTium's product lets applications be deployed on the edge using containerization tools like Docker, while letting systems integrators and OEMs offer their customers secure remote monitoring and asset management services securely.

Growth Prospects

IoTium has significant room to grow. It's offering is purpose-built to be installed as a retrofit network to enable Internet of Things and Smart Systems applications. The service removes the complexity and significant time required in commissioning nodes onto a network, allowing hundreds or thousands of nodes to be connected in minutes and hours as opposed to days or weeks. As such, its total available market is large and continues to grow as more factories are built and oil platforms are deployed. The company can also deploy its offering in greenfield opportunities in conjunction with other data collection devices, so as the market for connected devices grows, so to do the prospects for IoTium. The company's offering is network operator-agnostic and can be deployed across multiple linking networks easily while keeping the data secure.

In targeting legacy mission-critical environments with its product, IoTium is positioning itself well to be the go-to for operations managers who are becoming more comfortable with the idea of allowing the data from their assets to be collected and monitored. These managers are coming to understand the value and benefits of smart systems, but are hesitant to adopt technology due to safety and security concerns. IoTium's focus on the security aspect of its offering helps to dispel these concerns.

Because the offering does not need a command line interface or a truck roll to set up, the network is easily installed, integrated and scalable across public, private and hybrid cloud environments, offering opportunities for growth even within existing customers.

Strength of Ecosystem

IoTium has focused on ecosystem development since its inception as it looks to compete with established competitors and new entrants alike. While the company's offering is valuable in and of itself for device management and connectivity, the secure transport of information and overall network visibility, the company understands that most of its value is as an enabler for deploying applications at the edge of networks to facilitate real-time analytics and reactions to data coming from mission critical systems. As such, the company has focused on developing relationships with application providers such as SkyFoundry, Tridium Niagra, DGLogik, PTC/Thingworx, Enlighted, and others.

The company has also developed a strong and growing ecosystem of systems integrators who want to provide managed remote monitoring services to their customers. It has started to look to OEMs for similar relationships, working with Emerson, GE Transportation and Stanley Black and Decker to enable these services for their customers.

A third leg of the IoTium's ecosystem focuses on network hardware providers that deploy IoTium's operating system on their gateways to make setup and configuration simple and automatic.

As the company continues to expand its reach into its target markets, it will benefit from specialists who help deliver its technology into their customers, be it through an OEM, SI or application provider.

WHAT ARE SMART SYSTEMS?

A new generation of computing systems and information architecture that when combined with artificial intelligence, machine learning and Internet of Things technologies are breaking away from today's information, computing and telecom (ICT) paradigms to enable intelligent real-world physical systems to be integrated onto networks and the data from machines, sensors, video streams, maps, people, news-feeds and more to become an integral part of all information systems. This new paradigm is driving all information systems and, more importantly, their interactions towards real-time, state-based, context-sensitive capabilities that integrate people, processes, physical equipment and knowledge to enable collective awareness and better decision making.

ABOUT HARBOR RESEARCH

An internationally recognized research, technology, and business development consulting firm, Harbor Research has predicted, tracked, and driven the development of the Internet of Things since our inception in 1984. While our history is long, our strategy is simple: capture and create value by combining accurate data discovery and analysis with creative systems-thinking. It is this mindset that has given us the privilege of working with some of the greatest companies in the world. Today, we continue to work with C-level executives and top management of some of the world's most consistently successful companies and innovative startups. In the same way that the market has flexed and grown over the years, our services and experience have grown to make us the premier service organization you see today. We work with clients in a variety of ways including consulting, advisory, research and content development, thought leadership and workshop facilitation.

THOUGHT LEADERSHIP

We provide our clients with rigorous analysis and insight to support critical new business design and development decisions. Our research, content and modeling provides an ideal context for discovery, ideation and planning.

UNIQUE PROCESSES

As much as we would like to say there is a simple "linear" process to drive new smart systems innovation, the nature and complexity of the Internet of Things, there is no one best way to design an innovation process to design new systems.

VIBRANT COMMUNITY

Building new ventures for the Internet of Things requires new and very different modes of design and development – organizations will need to push the boundaries of collaboration to include many new and unfamiliar participants.

If you or your colleagues would like to learn more:

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