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Lenovo

# Certified Solution Partners

ICONICS IoTWorX™ -Edge Compute Solution for IoT

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## ICONICS IoTWorX™ -Edge Compute Solution for IoT

### Introduction



IoT and Industry 4.0 represent the advent of connecting devices, or “things,” with cloud-based systems to harvest hidden information faster than ever before, pushing processing closer to the edge, improving responsiveness, decreasing latency, supporting new operating models, driving business value by providing new services, and serving as the bridge between the two technologies of IT (Information Technology) and OT (Operational Technology). The value to organizations, line of business applications and customers may be attained in the form of cost reduction, new revenue streams, or an improved customer experience. Connectivity is key to achieving these business values.

There's one device that is key to tying Internet of Things systems together: the IoT gateway. The importance of IoT gateways is understandable when you consider the explosion in connected “things” that has occurred over the past few years. With scores of protocols, connectivity models, energy profiles, high-end security requirements, and the highly dispersed nature of IoT systems, gateways are needed to aggregate, manage and control these complex environments. Since relatively few devices actually have the capability to connect to the Internet, achieving these benefits requires integration of low-cost IoT gateways into the IoT solution. The solution of ICONICS IoTWorX™ software suite combined with Lenovo's M90n-1 Nano IoT gateway, creating the IoTWorX gateway, achieves these benefits and more.

### Challenges



Manufacturers today are pressured to increase production, lower costs, reduce downtime and improve overall quality. Operational Excellence introduces the use of lean manufacturing solutions to achieve overall productivity and plant asset utilization. The Internet of Things (IoT) is changing the way many companies do business and can serve as the enablement for companies to maximize operational effectiveness through operational intelligence. But challenges still remain. How do you get started? How do you integrate your existing infrastructure? How do you secure your data? And what is the return on investment?

### Solution



IoTWorX installed onto Lenovo's M90n-1 Nano IoT gateway is an easy, cost-effective solution for any organization that needs to start implementing IoT solutions across their enterprise. The IoTWorX gateway connects your buildings, factories, and equipment through secure TLS encryption and popular cloud platforms, such as Microsoft Azure and Amazon Web Services. Access your data from anywhere through pub/sub architecture for real-time visualization of KPI data at the edge. IoTWorX gateway delivers an efficient, secure connection to the cloud through bi-directional AMQP for Microsoft Azure, as well as MQTT, REST, and WebSockets for third party cloud providers. With ICONICS in the cloud, your data is more intelligent than ever.

### Features/Results



The ICONICS and Lenovo partnership is driven by a common goal, enabling and helping customers embrace the internet of Things (IoT) to implement use cases, driving several operational effectiveness outcomes, including increased productivity, improved plant efficiency, asset uptime and quality, reduced operational risks, overhead costs and changeover times. ICONICS IoTWorX, installed onto Lenovo's M90n-1 Nano IoT gateway, provides the bridge between an on-premise communications network and a cloud-based communications network. The IoTWorX gateway offers several key IoT technologies, including rich connectivity to things (OPC, OPC UA, SNMP, Modbus, Ethernet I/P, MQTT Broker and Web Services ), secure cloud communications (AMQP, MQTT, HTTPS), store and forward of collected data, and built-in real-time visualization and analytics. With simple setup and configuration, users can easily create remote monitoring and analytics solutions that meet their innovative business requirements for collaboration and shared insight across widely dispersed assets.

Through this working partnership, ICONICS and Lenovo provide a full-fledge edge computing platform for IoT applications for the energy, smart buildings and industrial automation markets, delivering ready-to-go communications infrastructure and reduced costs.