

BUILD INTELLIGENCE AT THE EDGE: DELL AND VMWARE

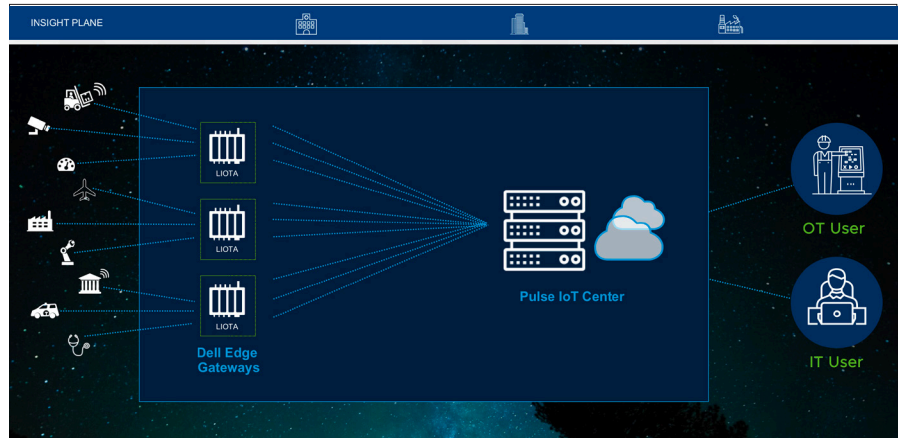
Creating a Consistent and Risk-Free IoT Infrastructure

“There were 12.1 billion IoT endpoints in 2015, and five years later there will be over 30 billion.”

- IDC

“Gartner estimates that in the next few years nearly all IoT projects will use some sort of IoT gateway.”

- GARTNER



KEY BENEFITS

Meets the Needs of Both OT/IT Departments

- An IT-approved solution that meets the needs of your operational technology.

Security and Manageability Built-In

- Be able to control and manage your IoT hardware - edge systems/gateways and things.

Reduce Time to Value

- Speed time to value with bundled hardware and software solutions.

Dell’s IoT gateways and VMware’s Pulse IoT Center provide enterprises with the right IoT infrastructure as well as the means to manage, monitor and secure it. As enterprises adopt IoT, it is imperative they think about the underlying IoT infrastructure required to support these use cases. Irrespective of the use case, you need a hardware and software strategy that is robust, secure, has the flexibility to evolve with your changing business needs, and is built for IoT scale. Dell and VMware with their complementary technologies are here to help.

Engineered for the Extreme

- Dell Edge Gateways have industrial-grade form factors and are made to withstand harsh conditions. Some models offer an operating temperature range of -30°C to 70°C.

Choice of Connectivity

- The I/O on the intelligent device makes it easy to connect your legacy industrial systems and your new mesh networks. The Gateway uses Wi-Fi, WWAN and Ethernet to connect and communicate.

Maintain Business Continuity

- Enjoy complete flexibility in defining and tracking which thing or gateway is updated, when and where, and by whom.

With the advent of IoT, businesses can now unlock hitherto siloed data to uncover actionable insights to drive business decisions in real time. However, most smart sensors are too lightweight to take care of themselves and hence, we need IoT gateways/edge systems to do some of the heavy lifting for them in terms of data aggregation, providing compute power, etc.

Some of the challenges enterprises face when they build their IoT architecture areas include:

1. Connecting both legacy and modern systems with flexible wired and wireless I/O
2. Connecting all sensors, devices and endpoints in a cost effective and secure way
3. Maintaining ongoing device security with minimal process interruption
4. Having control and visibility into what IoT devices are connecting to your networks

DELL EDGE GATEWAYS CURRENTLY CERTIFIED TO RUN ON THE LATEST VERSION OF PULSE IOT CENTER:

Model	Linux OS/Platform
Dell 5000	Ubuntu Core 16.04/x86_64
Dell 3000	Ubuntu Core 16.04/x86_64

Dell Edge Gateway 3000 and 5000 Series

Dell Edge Gateways are intelligent devices designed to aggregate, secure, analyze and relay data from diverse sensors and equipment at the edge of the network. These gateways bridge both legacy systems and modern sensors to the internet, helping you to get business insights from the real-time, pervasive data in your machines and equipment.

- Dell Edge Gateways powered by Intel® Atom® processors have the capacity to perform analytics close to devices and sensors, sending only meaningful data to the cloud or data center.
- Dell Edge Gateways can aggregate single-application data to multi-application data, and both series work in conjunction to provide capabilities lacking in today's harsh environments.
- In addition to USB and Ethernet, Dell Edge Gateways support wireless technologies like WiFi and BLE. The inclusion of cellular capabilities allows connectivity in applications where you want redundancy or need a completely isolated network, or in remote locations where connectivity is a challenge.
- With the right physical I/O and our certified ISV middleware, Dell Edge Gateways can aggregate and normalize virtually any data source, ranging from industry-standard protocols such as BACNet, Modbus and CANbus, to modern wireless mesh networks like ZigBee and 6LoWPAN.
- Dell Edge Gateways utilize proven IT security tools to address common IoT security concerns, including a Trusted Platform Module (TPM) chip for hardware root of trust, Secure Boot and BIOS-level lockdown of unused I/O ports.

LEARN MORE

www.vmware.com/solutions/iot

Blog: www.blogs.vmware.com/pulseiot/

Twitter: @vmwareiot

LinkedIn: @vmware-iot

www.dell.com/us/business/p/edge-gateway

Blog: www.blog.dell.com/en-us

Twitter: @DellEMCOEM

LinkedIn: @Dell-oem-solutions

VMware Pulse IoT Center

As the number of smart things and gateways deployed in your infrastructure grow, you need a simple but powerful way to secure and remotely manage your Dell IoT Edge Gateways and connected things.

VMware Pulse IoT Center is an IoT device management and monitoring solution purpose-built to help you remotely onboard, manage, monitor and secure all edge systems/gateways and things. It helps both OT and IT organizations to:

- Reduce IoT complexity by managing various heterogeneous IoT environments as easily as one.
- Provide accurate and real-time visibility of 'thing' health and act on anomalies as they arise
- Secure IoT infrastructure across things, edge, network, and applications with OTA updates
- Accelerate ROI with a standardized method to onboard IoT devices and make it easy to scale as needs change.
- Visualize all edge systems, connected devices and their relationships (i.e., status, location, dependencies) IoT use case grouping

With VMware and Dell's joint products, customers can now have the advantage of buying complementary IoT hardware and software components that set you up for IoT success and accelerate the return on your investment.

About Dell

Dell Technologies is a unique family of businesses that provides the essential infrastructure for organizations to build their digital future, transform IT and protect their most important asset, information.

About VMware Pulse

VMware Pulse IoT Center is a secure, enterprise grade, IoT device management and monitoring solution that helps both Information Technology (IT) and Operational Technology (OT) organizations to onboard, manage, monitor and secure their IoT use cases from the edge to the cloud.

