

# NS2024

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POWER OF PARTNERSHIP



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# Building New Products Around Niagara Containers

A Manufacturers Panel

*Mike Smith, Tridium*

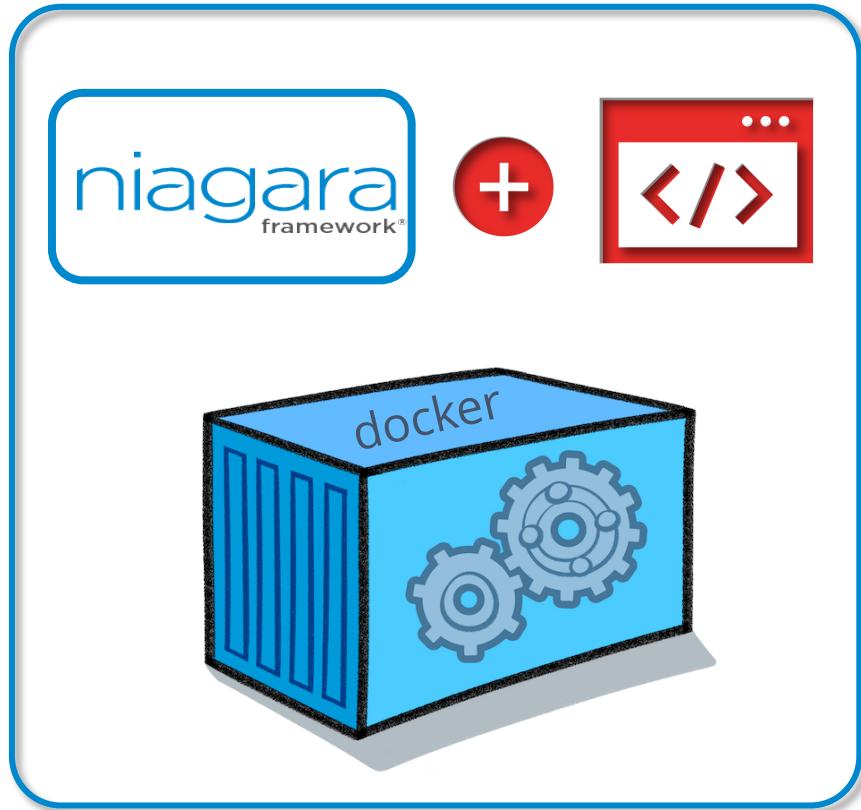
*Robert Lastinger, Distech Controls*

*Nitesh Trikha, View Smart Building Cloud*

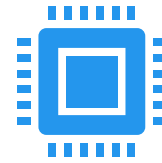
*Tom Stephens, One Sightsolutions*

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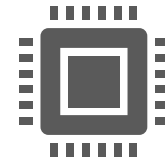
# What is Containerized Niagara?



## Supported Architectures



**ARM 64**



**AMD x86**

## Authorization Models



**File Domain**



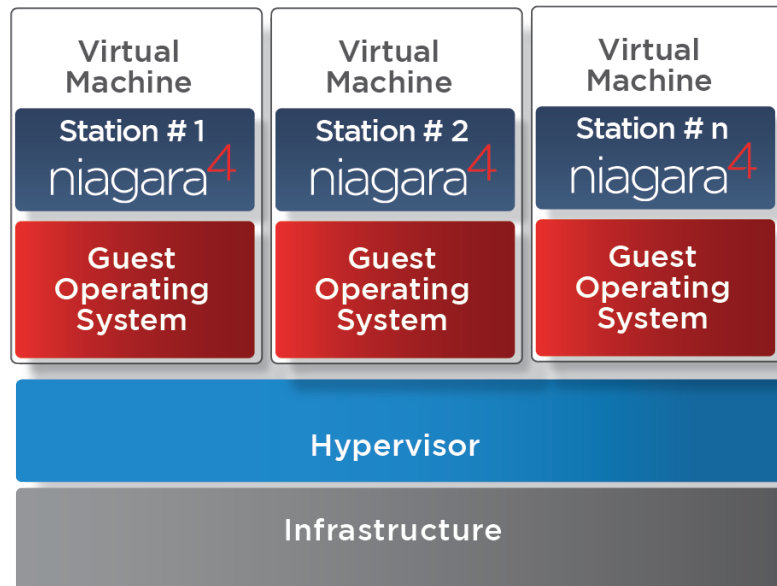
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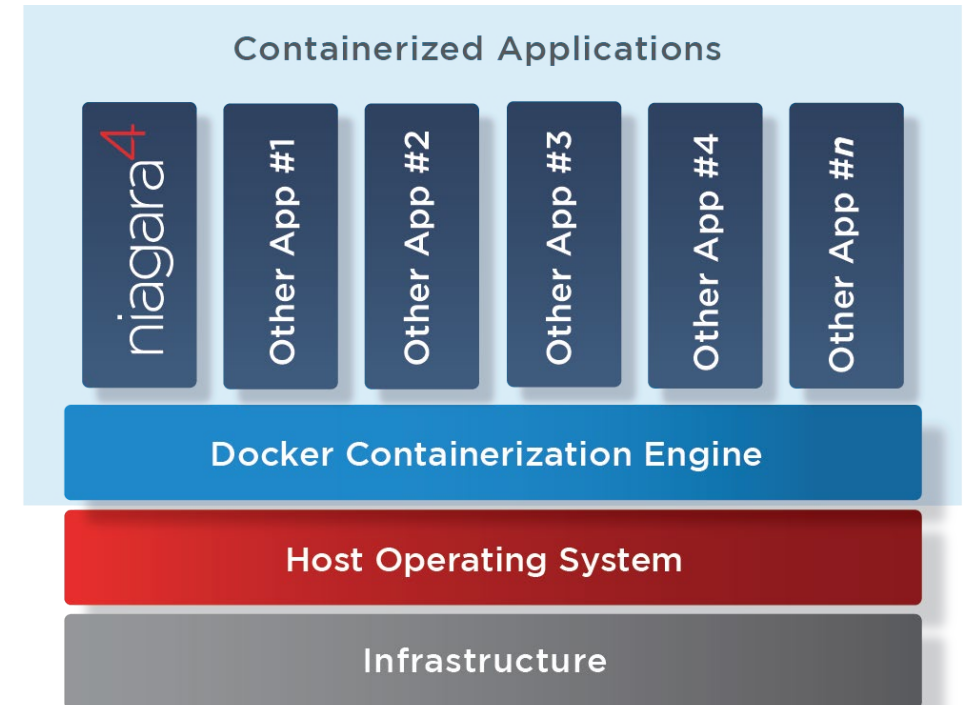
# Why use containers?

Containers are less resource intensive and more portable than Virtual Machines.

Can ease development, deployment, and upgrades.



Formerly Popular for Virtualization



Now Popular for Virtualization

# Use Cases

## CLOUD

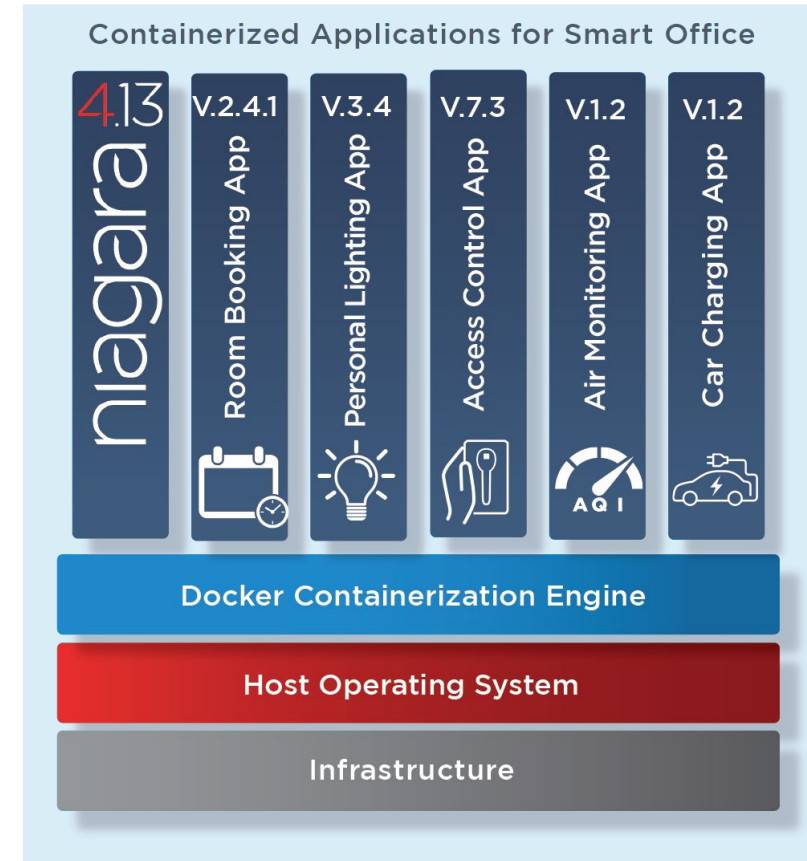
Supervisor deployment in a cloud service

## ON PREMISE

Supervisor deployment on a server device housed locally

## HARDWARE EMBEDDED

Niagara development partner deploys Niagara containers on its own proprietary or a third-party commercial device



Example deployment of Containerized Niagara on a partner-built hub.

# Value and Flexibility

Potential cost savings of running in the cloud

Enterprise solutions at scale

Easier maintenance and upgrades

Customers with strict security requirements



Your hosting platform



Your orchestration platform



# Robert Lastinger



*Distech Controls*  
*Building IT/OT Specialist*

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# Agenda

- Software Development
- Scalability
- Security



# Software Development

- Consistency Across Environments
- Portability
- Isolation of Dependencies
- Fast and Lightweight
- Microservices Architecture
- Continuous Integration and Deployment (CI/CD)
- Version Control

niagara<sup>4</sup>

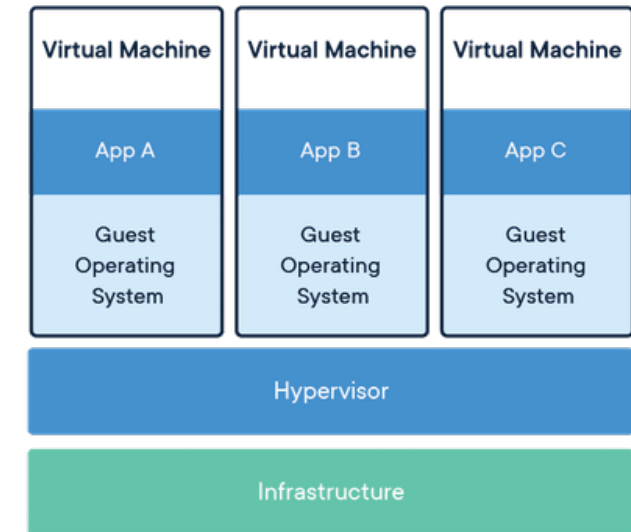
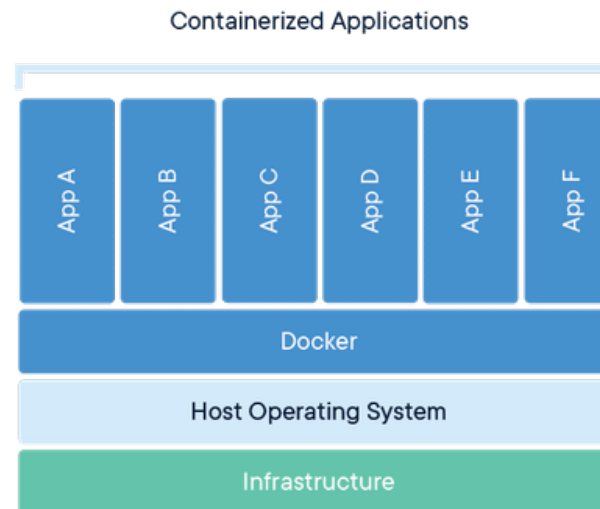


*"Cooling the Code: How Containerization is Revolutionizing HVAC Controls Software"*



# Scalability

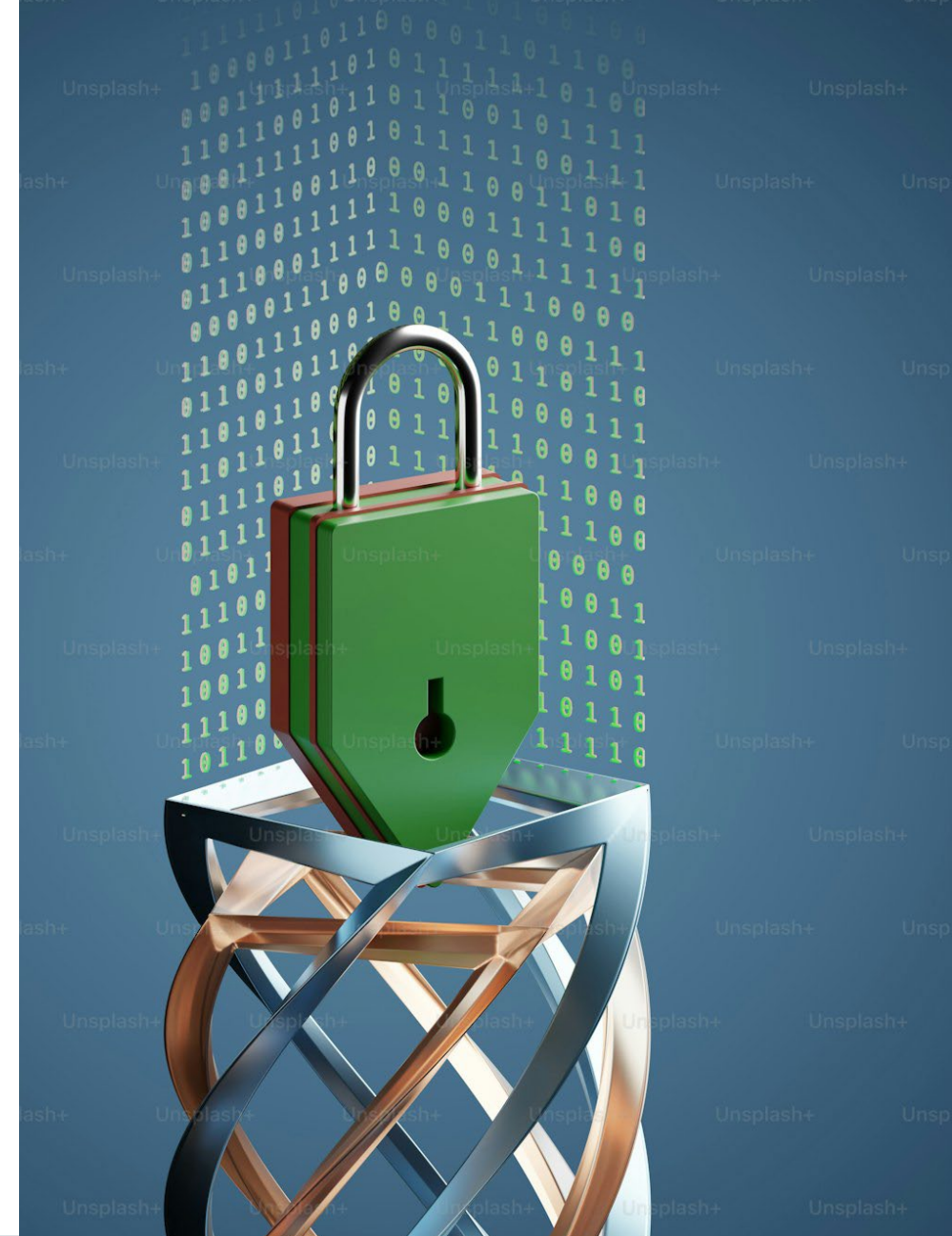
- Consistent Development and Deployment Environments
- Horizontal Scaling
- Resource Efficiency
- Elasticity
- Fault Tolerance and High Availability



*"Climate Control, Containerized:  
Transforming HVAC Scalability with  
Containerization"*

# Security

- Isolation
- Immutable Infrastructure
- Resource Constraints
- Image Scanning and Security Patching
- Network Segmentation
- Privilege Separation
- Security Policies and Access Controls
- Auditing and Logging



# Nitesh Trikha



*View, Inc*  
*Chief Product Officer*

*View Smart Building Cloud*  
*General Manager*

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# Current State of Building Technology

Unsecured networks  
and devices

**57%**

of all IoT devices are  
vulnerable to attacks of  
medium or high-severity.

VPNs and Desktop Sharing

**93%**

of ransomware incident  
response engagements revealed  
insufficient controls on privilege  
access and lateral movement.

Multiple vendor  
managed application  
servers

**80-90%**

of all ransomware  
compromises originate  
from unmanaged devices.

# How we solve it

## Secure Edge



Cybersecure networks  
Security policies, end-to-end encryption,  
threat detection and network segmentation

**100%**

of all networks and devices hidden from public  
networks and listing sites like shodan.

Secure remote & cloud connectivity  
Connect your building systems to the  
cloud securely with end-to-end encryption  
and provide remote access for users.

**95%**

reduction of risk through zero-trust architecture  
and secure remote access.

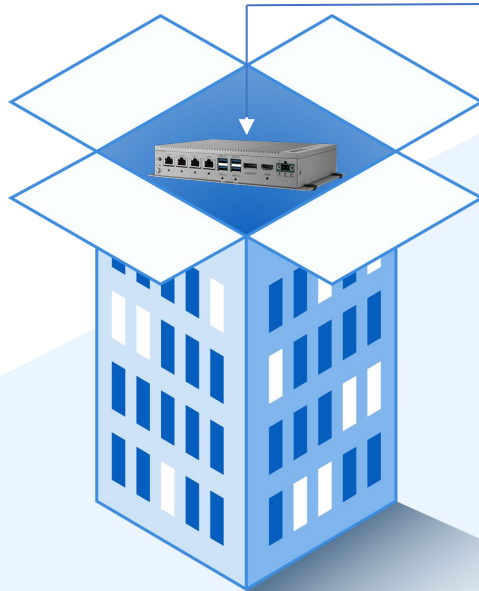
Consolidated hardware & management  
Run leading smart building applications  
on a resilient, low-latency and cloud managed  
environment right in the building

**85%**

fewer personnel to manage and 75% less hardware.

# View Secure Edge – Your “Building in a Box”

A unified solution to secure building networks and devices, connect buildings to the cloud, and deploy edge applications for real-time processing, insights, and optimizations.



## Cybersecurity

Secure and monitor your operational technology and devices to reduce cyber risk.

## Cloud connectivity

Connect your building systems to the cloud securely with end-to-end encryption and provide remote access for users.

## Intelligence at the edge

Run leading smart building applications on a resilient, low-latency and cloud managed environment right in the building.

View Smart Building Cloud<sup>SM</sup> – Confidential



# Managed Enterprise grade Security for Building OT systems

## Secure Edge best security practices

- Employ zero-trust architecture
- Encrypt all traffic
- Isolate data in the building and to the cloud
- Use a book-ended architecture with certificates
- Eliminate VPNs and screen-sharing applications
- Employ continuous threat intelligence
- Use containerization to secure and manage edge compute

## Verified secure by 3<sup>rd</sup> party groups



ISO 27001 Certified. Comprehensive system for implementing, maintaining, and continuously improving information security management.



SOC2 Type 2 Compliant. Comprehensive approach to protecting data privacy and integrity.



Compute platform has been 3<sup>rd</sup> party penetration tested by experienced, ethical hackers.



View's cloud infrastructure meets Google's device certification for digital buildings.



View is an RECC approved technology.



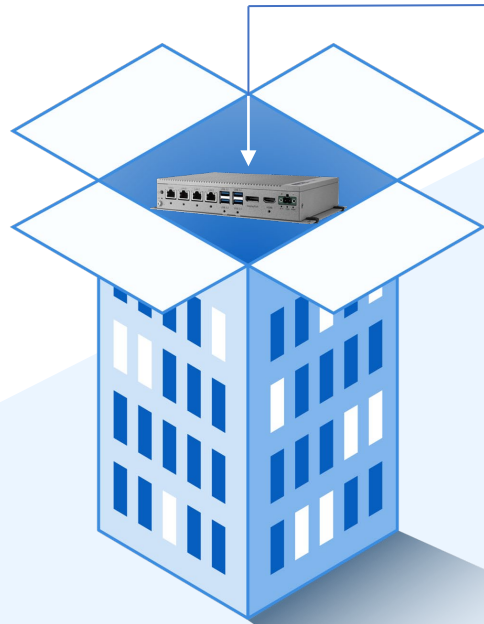
Certified since 2021. Up to 40 UF credits.



Industry leading code analysis and runtime checks, delivering software that meets the highest standards of excellence.

# Turn Key Innovation – View Secure Edge Application Environment

A unified solution to secure building networks and devices, connect buildings to the cloud, and deploy edge applications for real-time processing, insights, and optimizations.



## Cybersecurity

Secure and monitor your operational technology and devices to reduce cyber risk.

## Cloud connectivity

Connect your building systems to the cloud securely with end-to-end encryption and provide remote access for users.

## Intelligence at the edge

Run leading smart building applications on a resilient, low-latency, cloud managed environment on prem and/or in the cloud

**NANTUM**  
prescriptive data

**MAPPED**

**facilio**

**TRIDIUM**  
niagara<sup>4</sup>

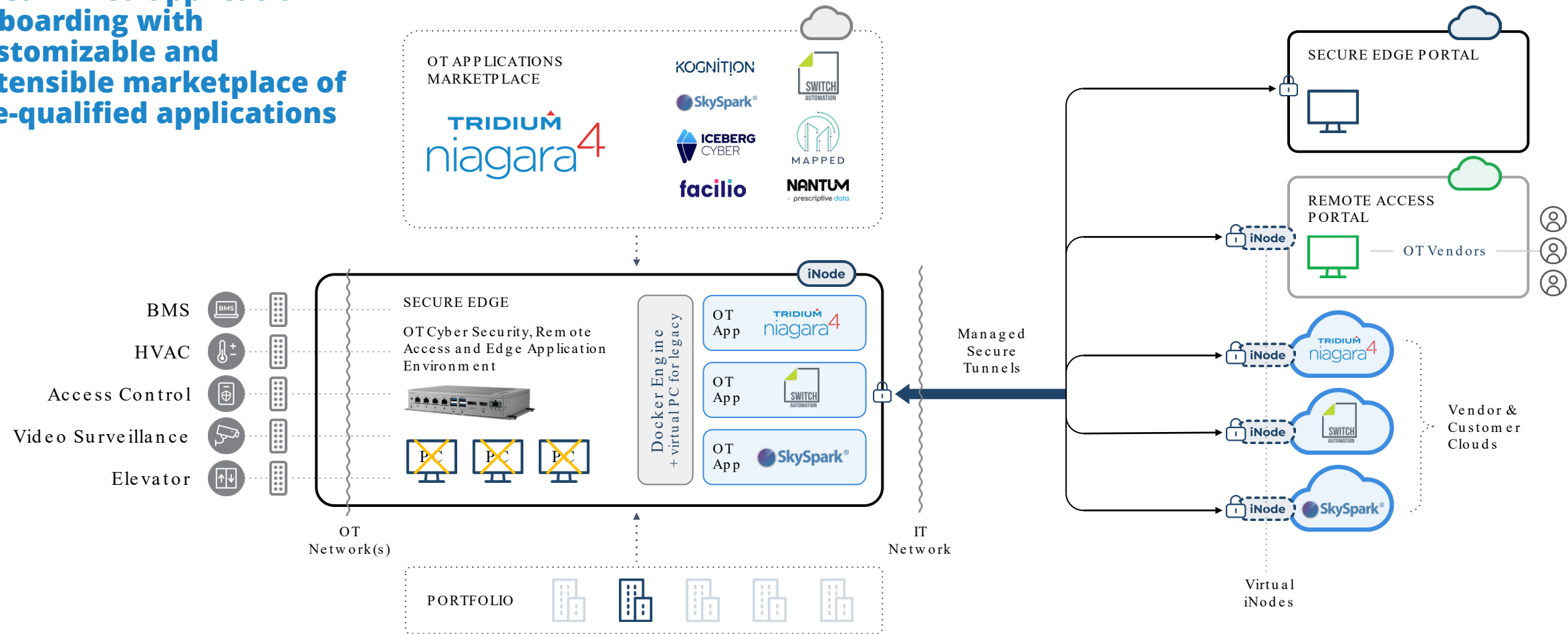
**KOGNITION**

**ICEBERG**  
CYBER

View Smart Building Cloud<sup>SM</sup> – Confidential

# Secure Edge smart building application deployment architecture

Streamlined application onboarding with customizable and extensible marketplace of pre-qualified applications





# Containerized Niagara use cases on Secure Edge

## 1 Serverless Niagara

Plug and play secure edge with OS & Niagara supervisor

No need to learn containers

Resilient: managed updates, failover, shared across sites

## 2 Construction to in-service

Simple and secure remote access for all commissioning teams

Resell as value add via service agreement to owner/occupier

Or move to enable the next project site

## 3 Turn-key edge applications on Niagara

Edge analytics applications that push data to cloud instances

One-click provisioning from Marketplace to Secure Edge

Enable try and buy with no new hardware or network provisioning

# Benefits of Niagara Container on Secure Edge



**TRIDIUM**  
niagara<sup>4</sup> 4.13

- **Multiyear subscription contracts** with high renewal rates since Secure Edge becomes foundational infrastructure.
- **Lower upfront costs**, no hardware purchase and once installed, a smaller hardware footprint.
- **Simplified management** with managed service including hardware refresh, remote access, and container management.
- Automatic extension of **best security, data privacy and access** practices to all OT applications and tools.
- A vibrant **ecosystem of pre-certified applications and tools for turn-key install** based on modern edge-cloud standards for APIs and security.

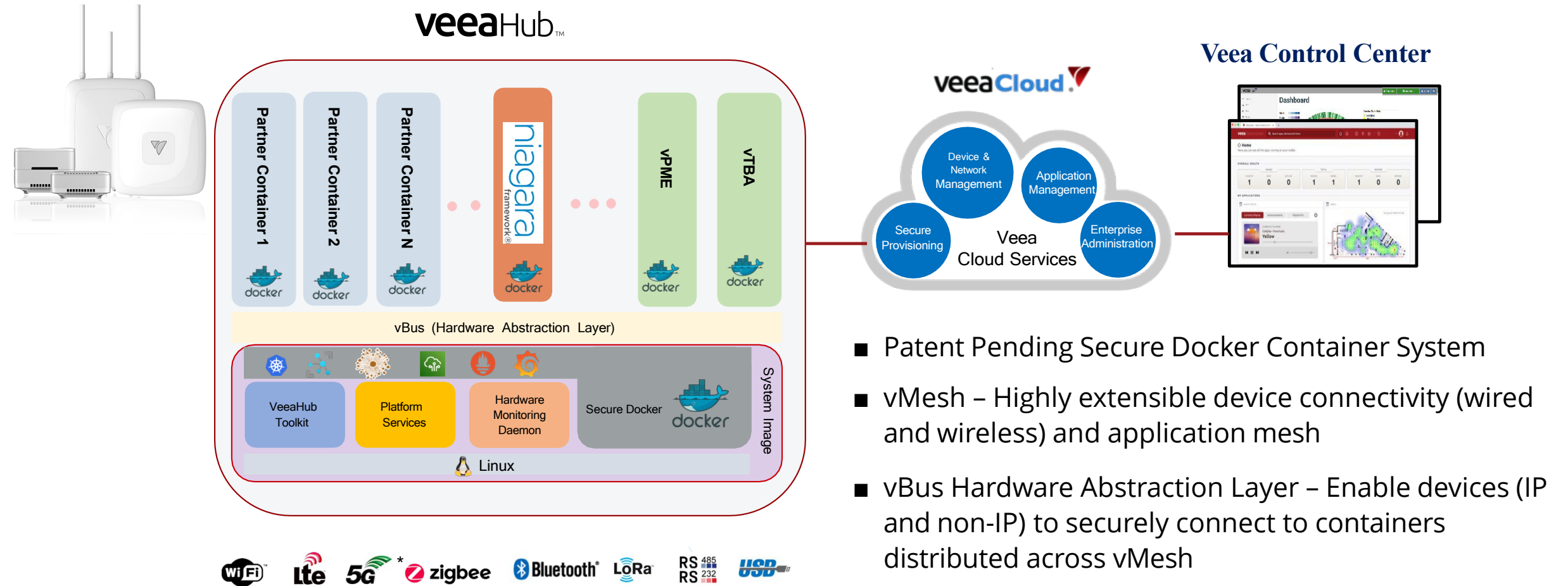
# Tom Stephens



*One Sightsolutions  
Technical Director*

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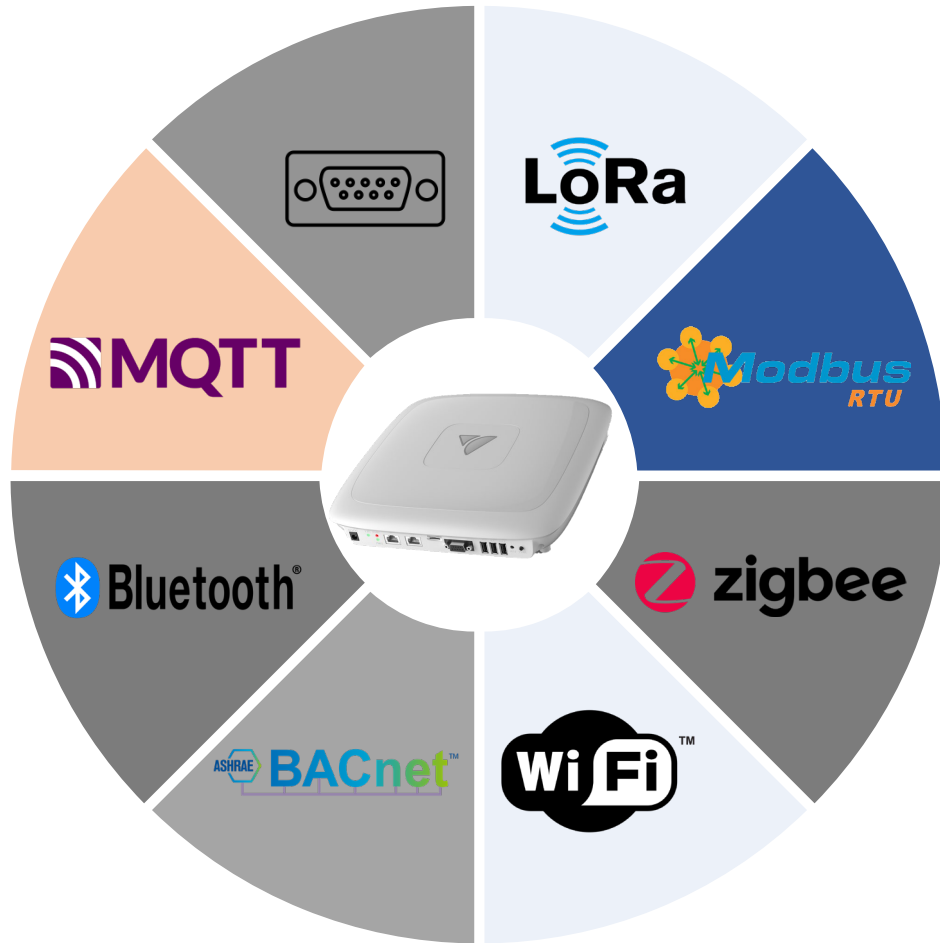
# Veeva Edge Platform & Containerized Niagara



- Patent Pending Secure Docker Container System
- vMesh – Highly extensible device connectivity (wired and wireless) and application mesh
- vBus Hardware Abstraction Layer – Enable devices (IP and non-IP) to securely connect to containers distributed across vMesh
- veevaCloud – Orchestration and Management, Remote Management of VeevaHubs & Niagara



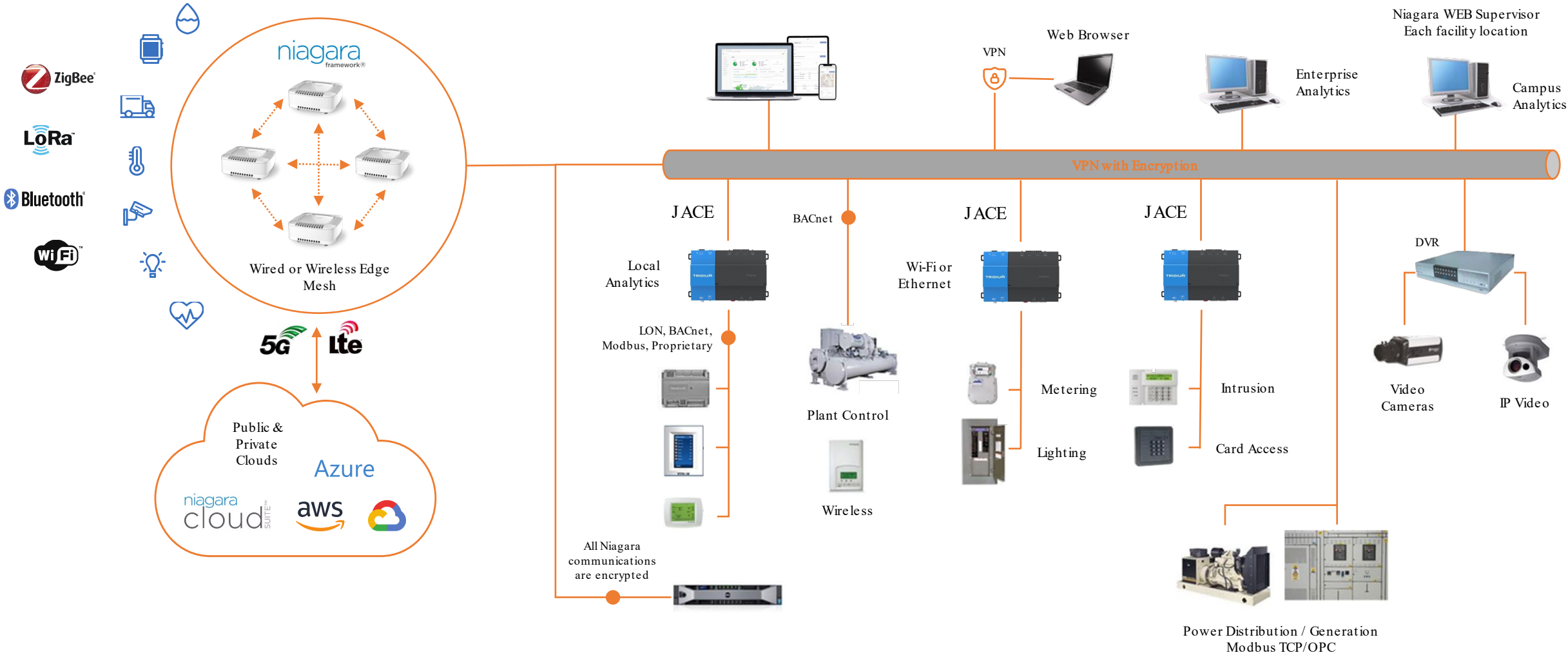
# Veeahub Extends Niagara



**By design, the Veeahub receives and sends data over a variety of built-in protocols:**

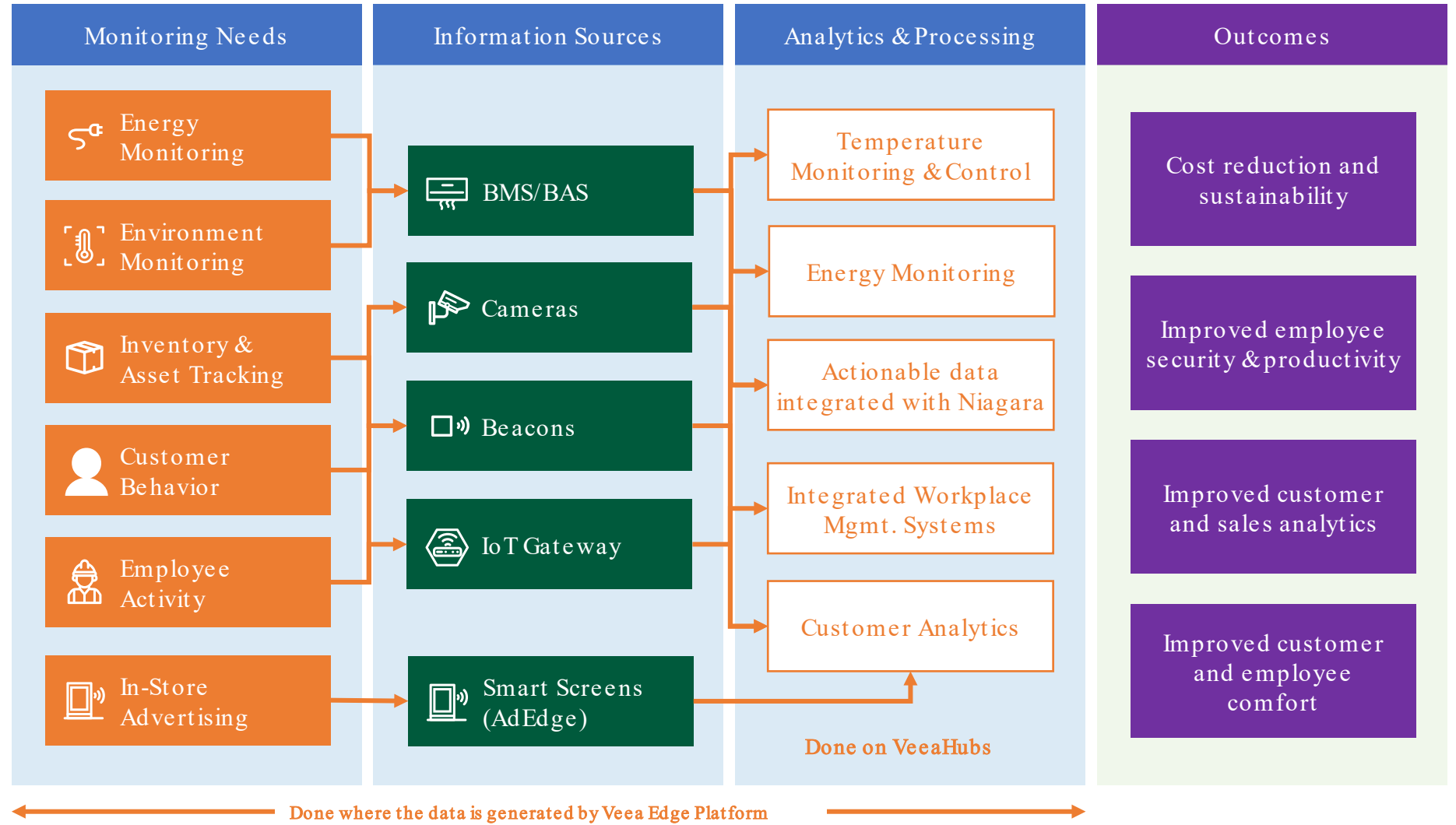
- Modbus RTU and BACNet MSTP Gateways
- Wi-Fi
- Bluetooth
- LoRa-WAN to MQTT Service
- Zigbee

# Veea / Local BMS Solution Integration



# Example Deployment: Retail

In-store retail experiences are enhanced through edge connectivity and IoT solutions such as: Energy reduction, increased sustainability and improved supply chain efficiency.



# Q&A

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# Thank You!

