



2025 Next Generation
Industrial Automation Roadshow

Server Infrastructure For Industrial Environments

Intelligent & Predictive Fault Tolerant Computing Delivering 99.99999% Availability

Gary Fort – Consulting Channel Support Engineer
February 2025

Who is Stratus?

We build the most reliable computing on the planet

We're big at the Edge


Treat
2 billion
gallons
of water annually


Transport
1.5 billion
passengers
by air annually


Serve
45 million
passengers
by rail daily

We've been around



44+
Years In
Business



12,000
Active Customer
Systems

Our customers trust us



4 of the 5 largest global credit card networks use Stratus solutions



FORTUNE
100

Half of the Fortune Global 100 are Stratus customers



Half of the world's 10 largest retailers are Stratus customers



5 of the world's 10 largest beverage companies



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Stratus ftServer



ztC Endurance



Stratus ztC Edge



| Stratus Platform Portfolio



ztC Endurance



Stratus | ztC Edge



everRun

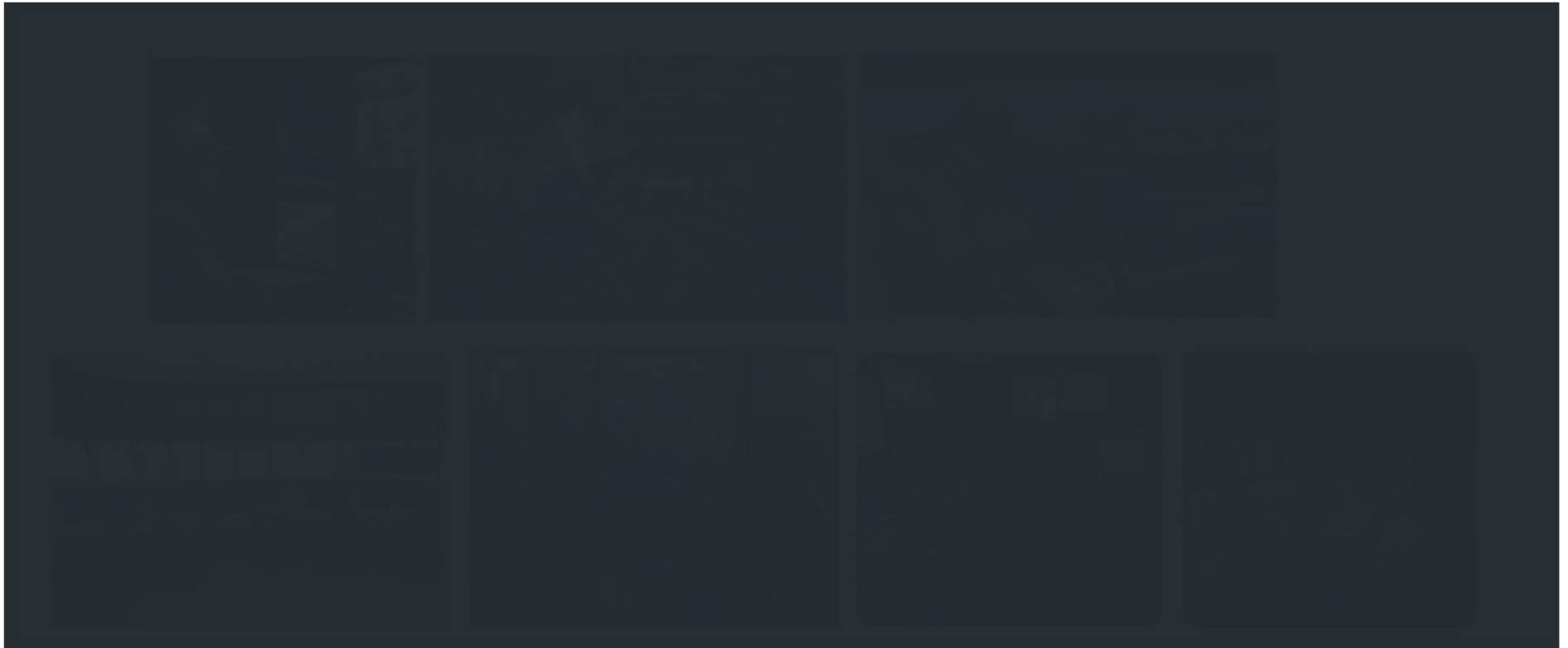
Value Propositions

- ✓ Highest availability for applications
- ✓ License Savings
- ✓ Easy to support with limited IT skills
- ✓ Long life span (15+ years)

How important is it to have visibility to your control(s) Application(s)

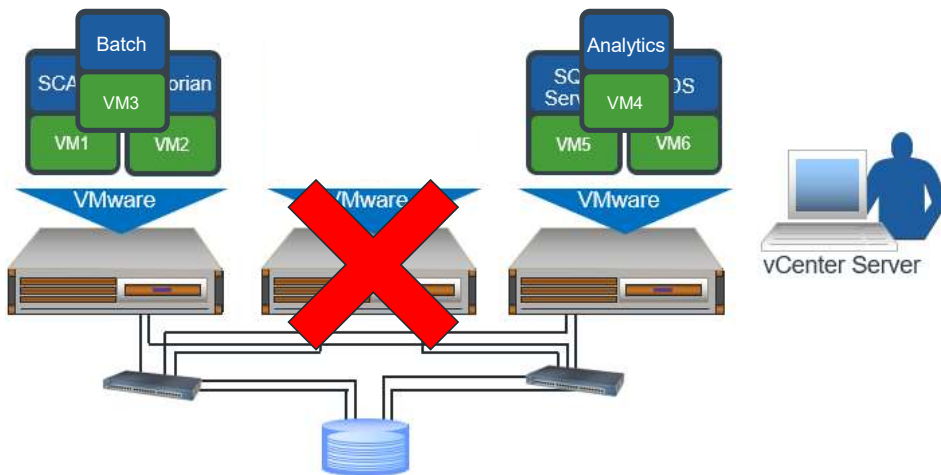


Stratus Servers can protect you from this based on a Server/Component Failure

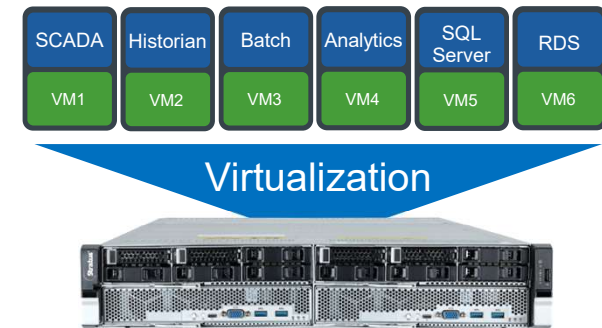


Traditional Virtualization vs Stratus Fault Tolerance

Traditional High Availability Cluster



Stratus Fault-Tolerant Server



NO Application Down Time

When you put all your eggs in one basket, that basket needs to be strong

Application Protection: None vs. High Availability vs. Fault Tolerance

- **Fault tolerance vs. High availability:**

The difference between **fault tolerance** and **high availability** is that a **fault tolerant** environment has no service interruption, while a highly available environment has a service interruption

- **Simply Put:**

- High Availability (HA) - Failure Recovery

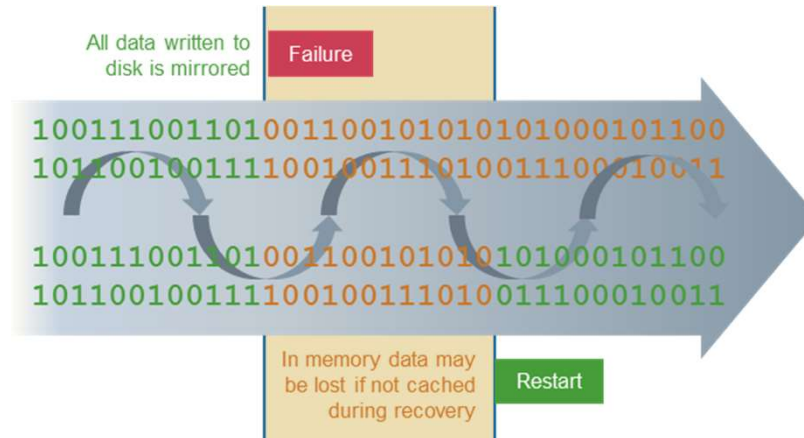
- The ability to recover from a component/server failure, restart (power-on) of a virtual machine(s),

- Fault Tolerant (FT) - Failure Prevention

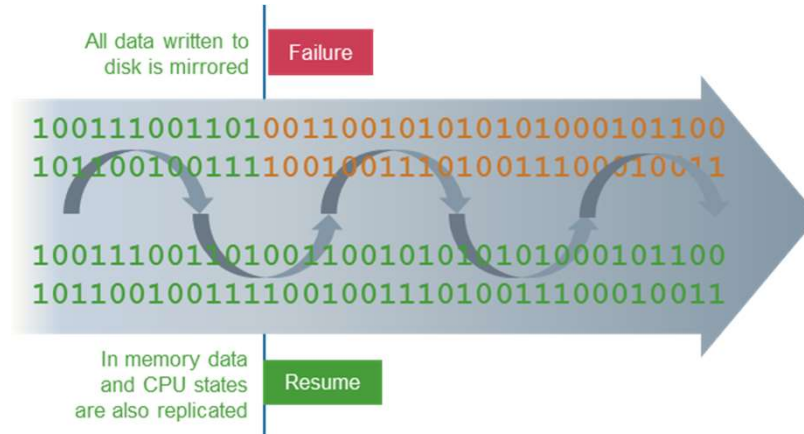
- The ability to continue to operate without interruption regardless of component/server failure, no virtual machine restart.

HA vs FT

High Availability (HA)



Fault Tolerance (FT)



Stratus Zero-Touch Computing Platforms: Edge to Enterprise



Production Line; Smart Machine;
Retail/Branch Location

Enterprise Data Center; Command Room;
Operations Center

Stratus ztC Edge 250i



<10,000 I/Os
<4 VMs
<20 thin clients
HA or FT
Stratus Redundant Linux (built-in virtualization and availability)
CID2, IP40

Status ftServer



10,000 – 100,000+ I/Os
10 - 30+ VMs
20+ thin clients
>99.9999% availability
VMware® vSphere, MS Windows Server® with or without Hyper-V, Red Hat Enterprise Linux
Data Center, MDC

Stratus ztC Endurance



<1,000,000 I/Os
12 – 40+ VMs
20+ thin clients
>99.99999% availability
VMware® vSphere, MS Windows Server® with or without Hyper-V, Red Hat Enterprise Linux
Data Center, MDC

ftServer Technology Overview

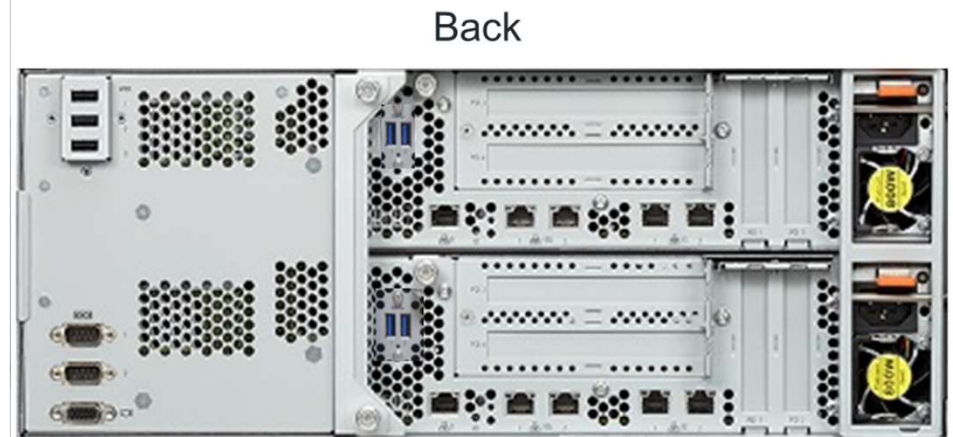


Stratus ftServer Platform

- Built with two Customer Replaceable Units locked together to form a single server
- Service with hot-swappable components
- Prevents application downtime and data loss
- Single System = Single License = Single Administration
- Pro-Active Health monitoring and 24/7/365 Support
- 99.999% Availability
- System Life 12+ Years

Worldwide uptime meter of
Stratus servers

99.99998%



ftServer Product Family



ftServer System Specifications	2920	4920	6910R2	6920
Processors	1 x Intel® Xeon® Silver 4210R processor	2 x Intel® Xeon® Silver 4210R processor	2 x Intel® Xeon® Gold 5220 processor	2 x Intel® Xeon® Gold 6241C processor
Cores/Threads	10 Cores/20 Threads	20 Cores/40 Threads	36 Cores/72 Threads	44 Cores/88 Threads
Min/max memory	32 GB/256 GB DDR4	64 GB/640 GB DDR4	64 GB/1280 GB DDR4	64 GB/1280 GB DDR4
Max internal storage	19.2 TB	19.2 TB	19.2 TB	19.2 TB
Ethernet ports	2 x 1Gb	2 x 1GB, 2 x 10 Gb	2 x 1GB, 2 x 10 Gb	2 x 1GB, 2 x 10 Gb

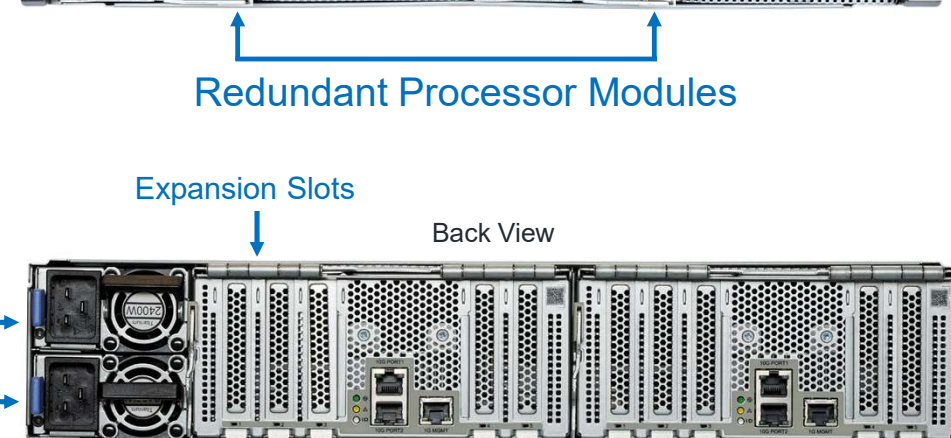
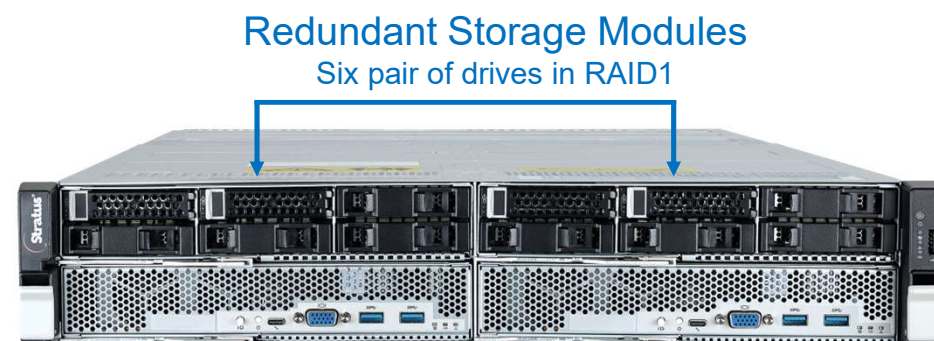


ztC Endurance Technology Overview

Stratus ztC Endurance Platform

NEW! the Next Generation Fault-Tolerant Platform

- Built with four pairs of Customer Replaceable Units locked together to form a single server
- Service with hot-swappable components
- Prevents application downtime and data loss
- Single System = Single License = Single Administration = Single Active Application(s)
- Health monitoring and 24/7/365 Support
- System Life 12+ Years
- 99.99999% Availability
- What's New? A Big Performance Boost!
 - ~60% performance increase over ftServer
 - Latest Intel processors (up to 96 vCore)
 - Fast NVMe SSD Storage
 - Large capacity drives for up to 38TB of internal storage
- Smaller 2U formfactor allowing greater density



Redundant I/O Modules



Stratus ztC Endurance Platform Family



Specifications	3100	5100	7100
Sizing	Up to 12 VMs	Up to 24 VMs	40 VMs and up
Processors	1 x Intel® Xeon® Silver 4410Y 2.0 GHz 3.9 GHz max (Turbo)	2 x Intel® Xeon® Silver 4410Y 2.0 GHz 3.9 GHz max (Turbo)	2 x Intel® Xeon® Gold 5418Y 2.0 GHz 3.8 GHz max (Turbo)
Cores/Threads	12 Cores/24 Threads	24 Cores/48 Threads	48 Cores/96 Threads
Min/max memory	64 GB/256 GB DDR5	128 GB/512 GB DDR5	128 GB/1024GB DDR5
Max internal storage	38.4 TB NVMe	38.4 TB NVMe	38.4 TB NVMe
Connectivity	1 x 1GbE, 2 x 10 GbE	1 x 1GbE, 2 x 10 GbE	1 x 1GbE, 2 x 10 GbE
Expansion slots	Up to 5x PCIe Gen 4 Cards	Up to 5x PCIe Gen 4 Cards	Up to 5x PCIe Gen 4 Cards
Ethernet ports	1 x 1GbE, 2 x 10 GbE	1 x 1GbE, 2 x 10 GbE	1 x 1GbE, 2 x 10 GbE
OS Support	VMware® vSphere, Microsoft Windows Server® with or without Hyper-V, Red Hat Enterprise Linux*		

ztC Edge Technology Overview

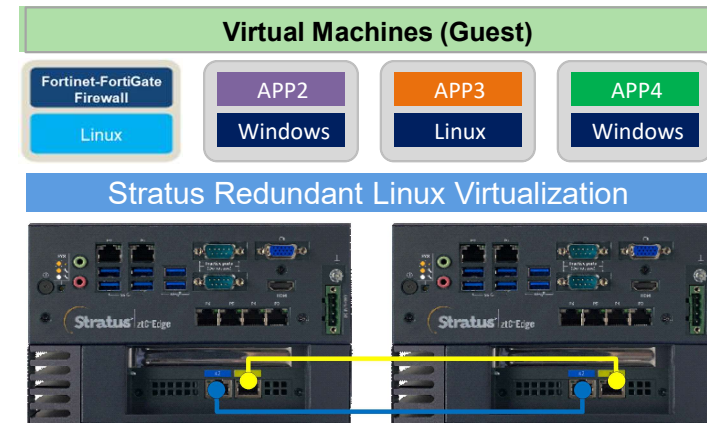
Stratus ztC Edge

Secure, rugged, highly automated computing platform delivers reliable edge applications quickly and easily, improving productivity and reducing risk

- Rugged, compact server
- 12+ year system life
- Built-in virtualization
- Server class Xeon processors up to 20 vCore
- Deploys in <30 minutes
- DIN rail and wall mountable
- Automatically protects applications and data
- Can be remotely managed
- Pair units now or later



ztC Edge 250i



ztC Edge 250i



ztC Edge 250i

	ztC Edge 250i
Compute	Intel Xeon W-1290TE, 1.8 GHz, 20 MB cache, 10 HT cores (20 vCore)
Memory	64 GB DDR4 2666 (ECC)
Storage	2 TB SSD (NVMe)
Networking	2 x 10 GbE (for a-links) 6 x 1 GbE (for networks)
Temperature	-20 to 60 °C (-4 to 140 °F)
Humidity	95% @ 40 °C (non-condensing)
Shock	10G, 11 ms
Vibration	1.5 Grms @ 5 - 500 Hz
Input power	9V - 36V (DC)
Dimensions	230 x 192 x 127 mm (9.1 x 7.6 x 5.0 in)
Weight	4.6 kg (10.2 lbs.)
Installation	Wall or DIN rail mount
Certification	CE , UL , FCC, CE, and others
Availability support	HA and FT

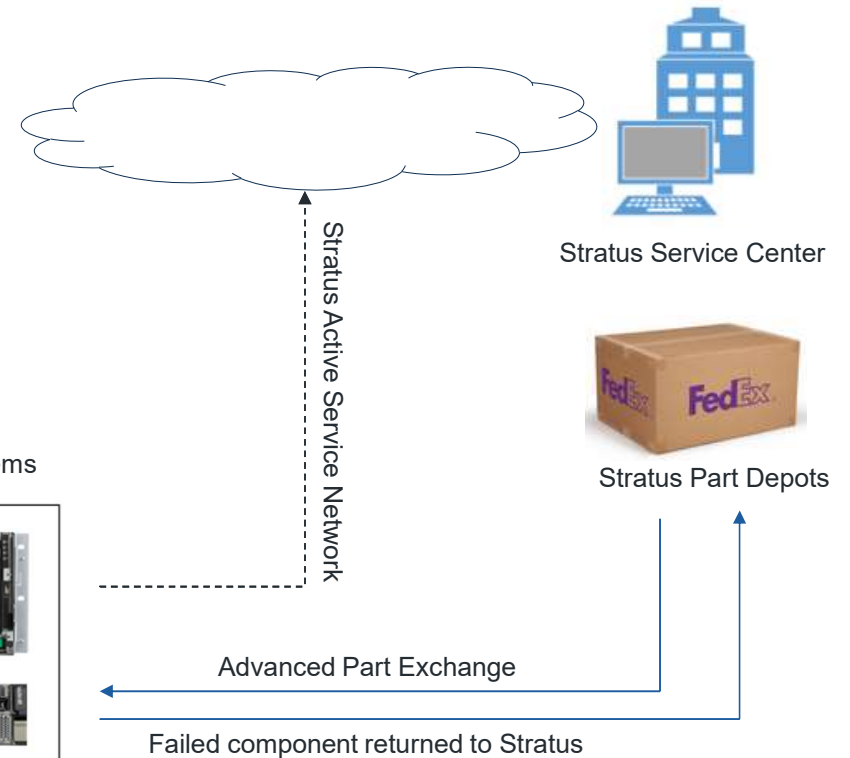
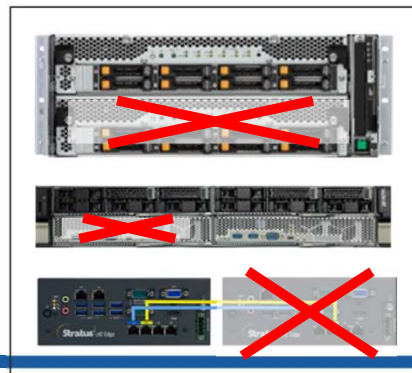
Stratus Field Support Model



Example OPC-UA Health Notifications

- Local health alert options
 - OPC UA
 - Email SMTP
 - SNMP and APIs
- Systems can be securely monitored by Stratus
- Hot swappable part exchange
- 12+ year support life

Site A Customer Systems



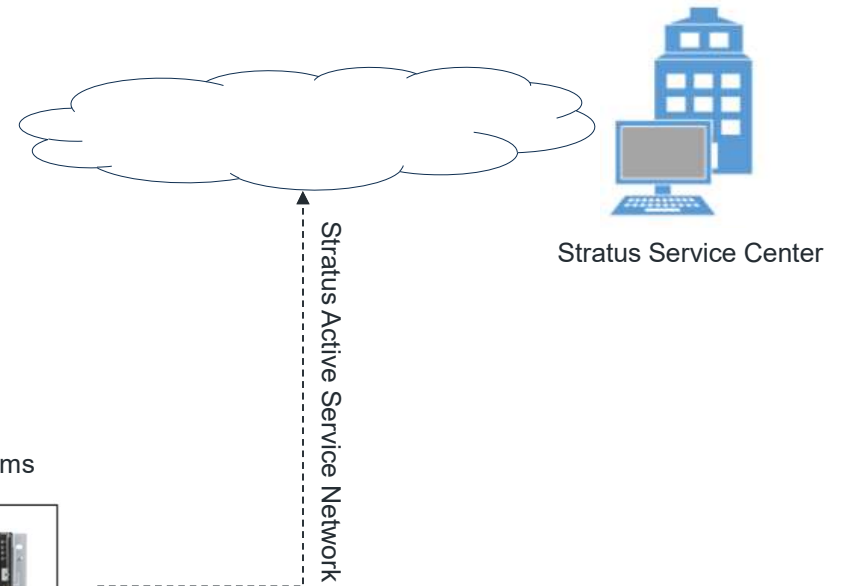
Stratus Field Support Model



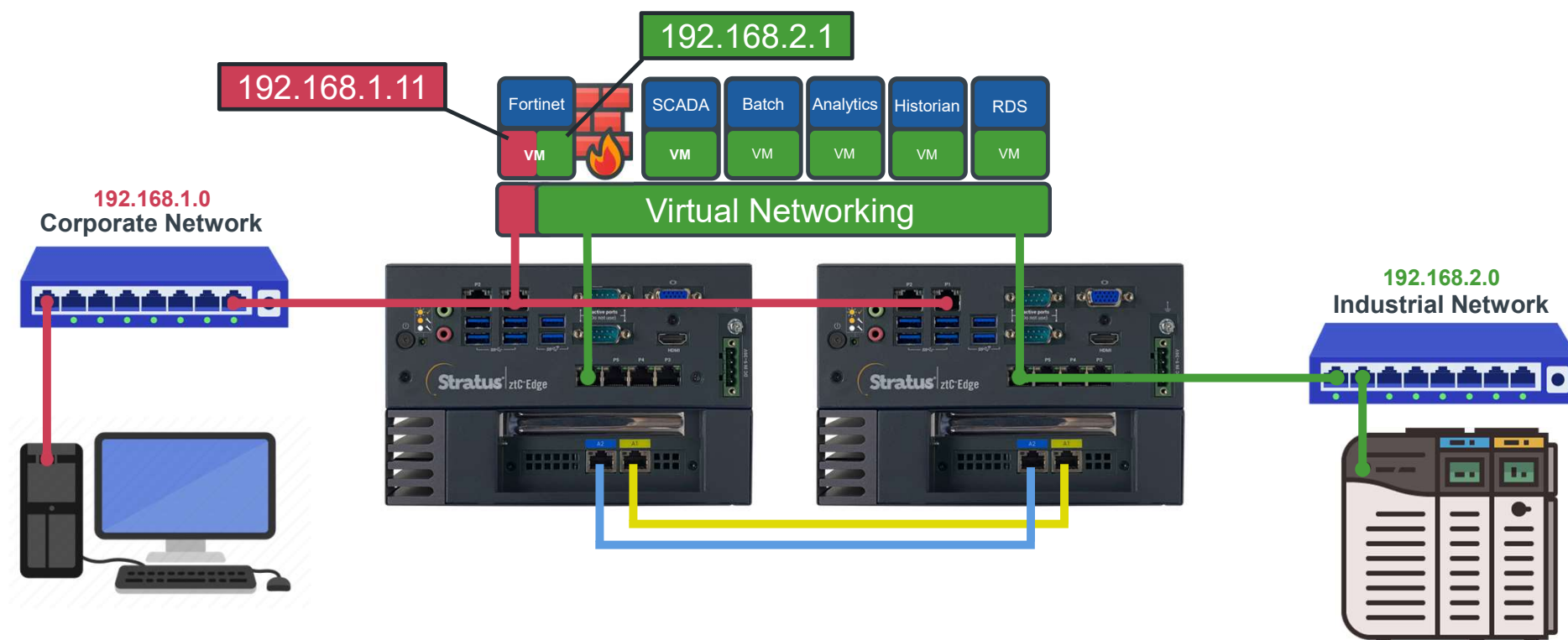
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Site A Customer Systems



Virtualized Industrial Automation On ztC Edge



ztC Edge for Network Function Virtualization



Firewall



VPN



Router



Unified Threat Management



WAN Optimization

Convert to Virtual Network Functions (VNF)

- Streamlined network operations
- Fewer hardware appliances
- Improved agility



- Enhanced efficiency
- Reduced need for proprietary solution skills
- Reduced Cost

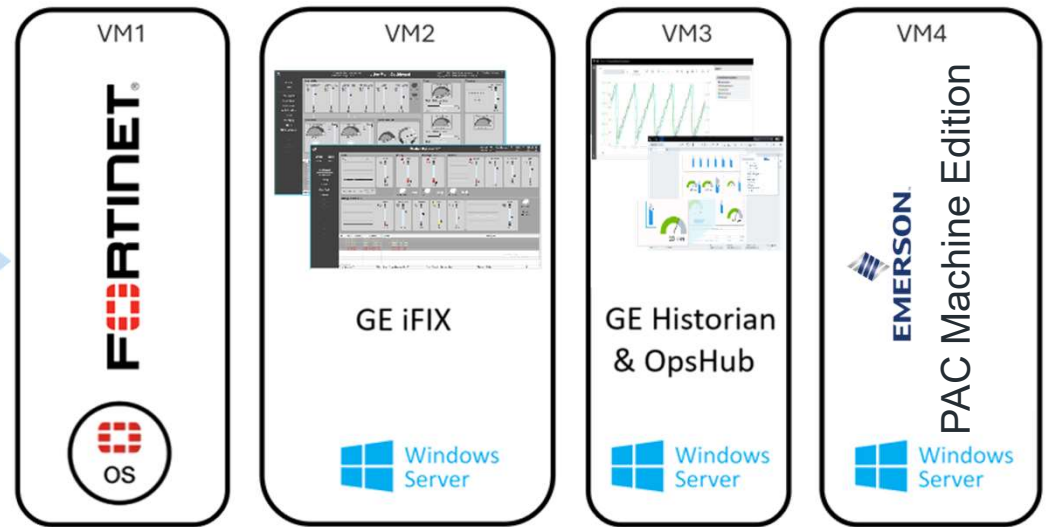


Field Infrastructure Consolidation - NFV

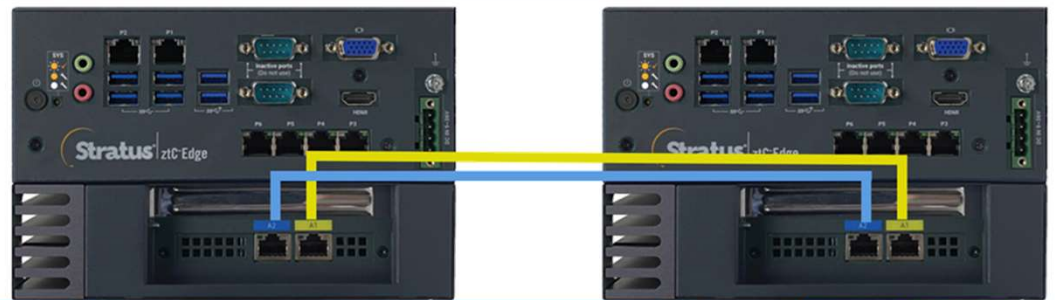
Network functions virtualization (NFV) replaces network appliance hardware with virtual machines.

Benefits of NFV on Stratus Platforms:

- Less hardware
- Lower cost (25-50% less for Palo Alto)
- Stratus redundancy eliminates 2nd NFV device
- Stratus platform (Xeon processors) outperforms the FortiGate hardware

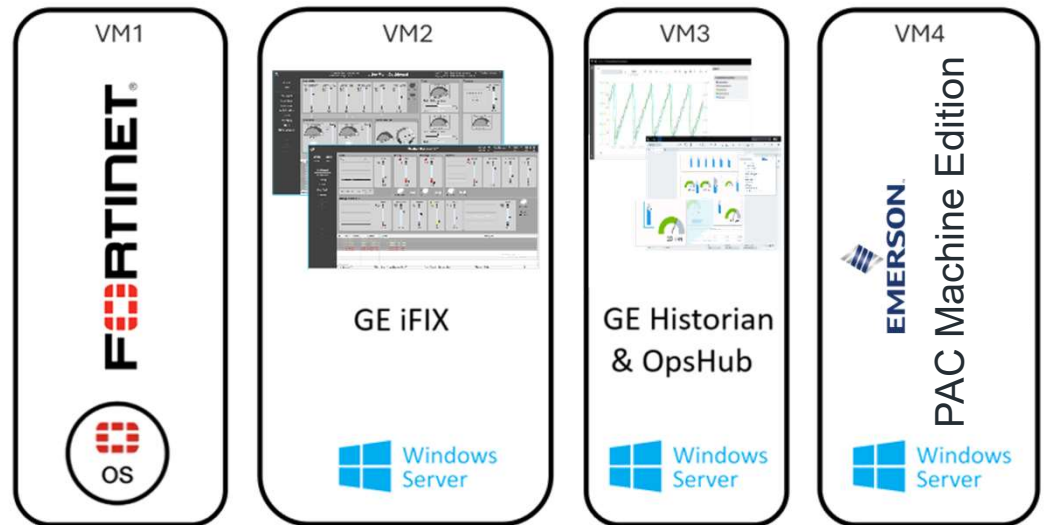


Stratus Redundant Linux Virtualization



Field Infrastructure Consolidation – THE GOAL

- Reduce the number of devices
- Simplify lifecycle management
- Prevent downtime
- Lower cost of support



Stratus Redundant Linux Virtualization



| What's in your Box?



Stratus Can Help Create A Boxed Solution for Fast, Multisite Deployment

Example Projects

Water Districts/Municipalities



Food & Beverage and Life Sciences



43 Sites

“Hours and perhaps days of downtime have been eliminated by removing the unsupported PCs and replacing them with Stratus.”

Eric Miller, Engineering Manager
Dairy Farmers of America



Why Stratus Wins

- No IT skills required
- No unplanned downtime
- Predictive monitoring
- Standardized and open
- Low TCO
- Long Life Cycle

Simple-Protected

**It's worry-free computing
and peace of mind!**



| TC Energy – Compressor Stations



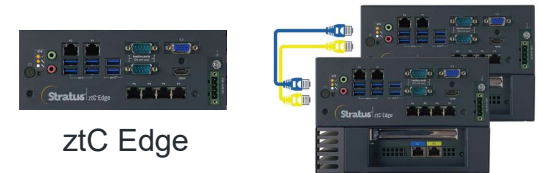
Terminal Automation (land and sea)

Project Description

Buckeye Partners terminal automation refresh project. The project includes modernizing computing architecture using virtualization to combine standalone servers. Ease of use, consistent hardware and software interface, and remote monitoring and notification were key selection criteria.

Locations: 130+ Terminals

Applications: Terminal Management Solution, SCADA, Fuel Management



Why we won

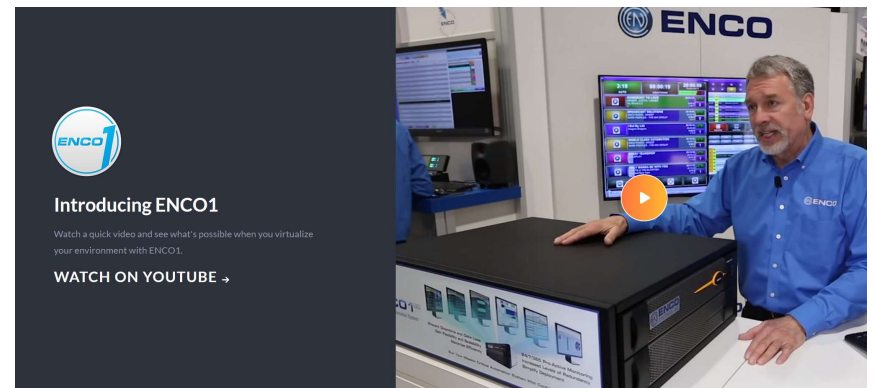
- Simplicity to stand up and support the ztC Edge solution compared to others
- Virtualization and ease of future growth
- Combination of Windows and Linux based applications



Retail



Broadcast



<https://www.enco.com/products/enco1>

VMS and Access Control



MIRASYS 

Johnson
Controls 

tyco

 milestone

BCD™

Schneider
Electric 



Thank You