Stratus® ztC™ Edge

Zero touch computing for machine builder advantage

Smart manufacturing requires smart equipment

Your customers today are demanding smarter, more innovative solutions to help increase productivity. They know that digitizing their factory can help them improve efficiency, deliver consistent quality, and respond faster to changes—all at lower costs.

But making your equipment smarter is more than just adding computer hardware and software. Your embedded computing systems must meet stringent performance requirements and operate reliably, typically under adverse conditions, to provide greater visibility and continuous control.

What's the best way to do this, especially if you're not staffed with that many computer experts? What would be ideal is a turnkey computing platform—one that's reliable and easy to integrate—so that you can quickly incorporate it into your machine or production equipment. A secure, highly automated platform that's specifically designed for the unique requirements of industrial edge computing. One that's easy to manage and maintain, reducing your field service costs and dependence on skilled IT resources, and allowing you and your customers to focus on the business of running their plants—not their computers.

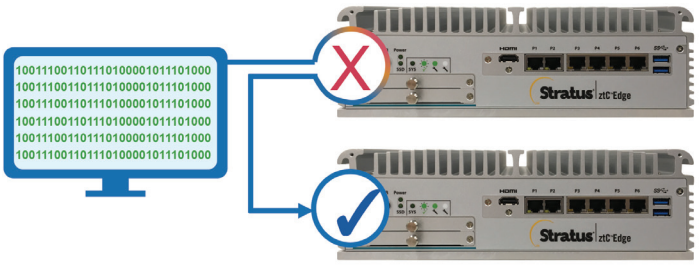
Consider ztC Edge

With Stratus ztC Edge, you can quickly incorporate highly-reliable, easily-maintainable, efficient computing systems, directly onto your production equipment. Easily differentiate your solutions from those of other machine and equipment builders. Rely on Stratus's expertise in reliable, manageable computing systems to make your machines and people more productive, and focus your time and effort on extending your equipment's core capabilities.

Designed specifically for OT environments, ztC Edge is a versatile, secure, highly-automated industrial computing platform that helps machine builders digitize their platforms while reducing their dependence on IT and lowering downtime. A redundant pair of rugged hot-swappable nodes, with built-in virtualization, automated recovery, and cloud-based systems health management services, ztC Edge delivers virtualized industrial IoT and control applications quickly and reliably. ztC Edge is easy to integrate, easy to manage, and easy to service. Accelerate time to market while lowering costs at every stage of your product's lifecycle—from design, development, delivery, operation, and support—by using Stratus ztC Edge for your machine's computing needs.

Key benefits

- **Greater efficiency**: With virtualization host pre-loaded, automated VM and data protection, and hot swappable nodes that synchronize themselves, ztC Edge simplifies and shortens the time it takes to digitize your production equipment, saving you time and effort
- **Improved security**: With restricted USB ports, default secure communication settings, trusted boot, active directory integration, and easy-to-configure host-based firewall, you don't need to be a security expert to secure your ztC Edge system.
- **Less downtime**: ztC Edge's self-monitoring and self-protecting features help reduce unplanned downtime. Because its virtualization host software can be updated while the system is still running (without requiring a system reboot), your customers experience less planned downtime also.
- **More flexibility**: ztC Edge's rugged, compact, industrial form factor performs equally well in the control room, control panel, or directly on your machine, giving you more choice. Its automated capabilities make it suitable for unmanned stations or remote, decentralized locations with limited resources.



Automated recovery

Key features

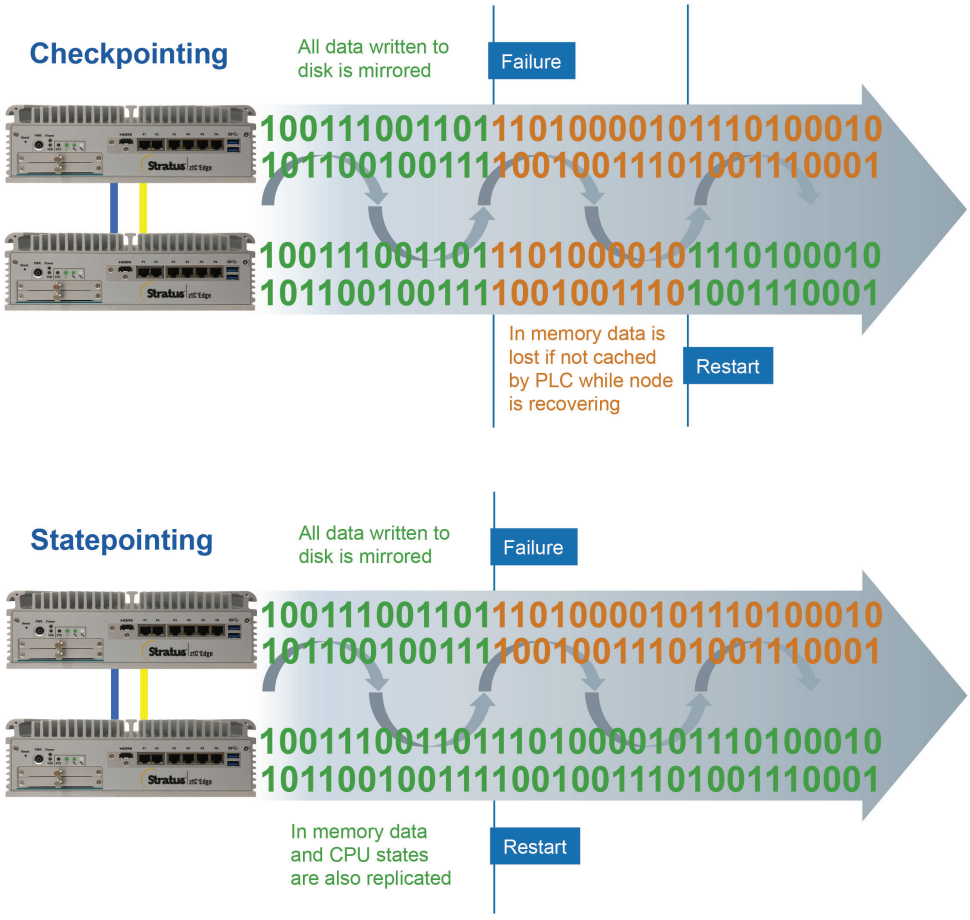
Stratus ztC Edge systems include many integrated and automated capabilities, designed to save you and your customers time and effort, and eliminate the need for specialized IT skills.

Built in virtualization: ztC Edge ships with an integrated virtualization platform and availability engine called Stratus Redundant Linux. As a virtualization host, it supports both Windows and Linux guest operating systems, and OVF appliances, including vSphere images. An intuitive management console makes it easy for your staff to set up, configure, import and manage virtual machines.

Redundant solid state nodes: ztC Edge is comprised of two compact, rugged, redundant nodes that act as a single system. Designed for harsh, industrial environmental conditions, ztC Edge nodes can be installed in the control room, control panel, on the shop floor, or on your machine.

Automated restart and data protection: With live migration and data replication, ztC Edge provides instant protection for your VMs and data. The system can proactively move VMs from one node to the other, to help ensure applications are available. If it detects a networking or disk failure on one node, it automatically re-routes traffic or uses data on the other node, without any operator intervention.

Automated local site recovery: Individual ztC Edge nodes can be deployed in different physical locations, as long as there's a direct network connection between them. In the event of a catastrophic node failure, VMs that are running in one room, floor, or building, can resume in another location, with minimal interruption of service, and without operator intervention, providing local site area disaster recovery.



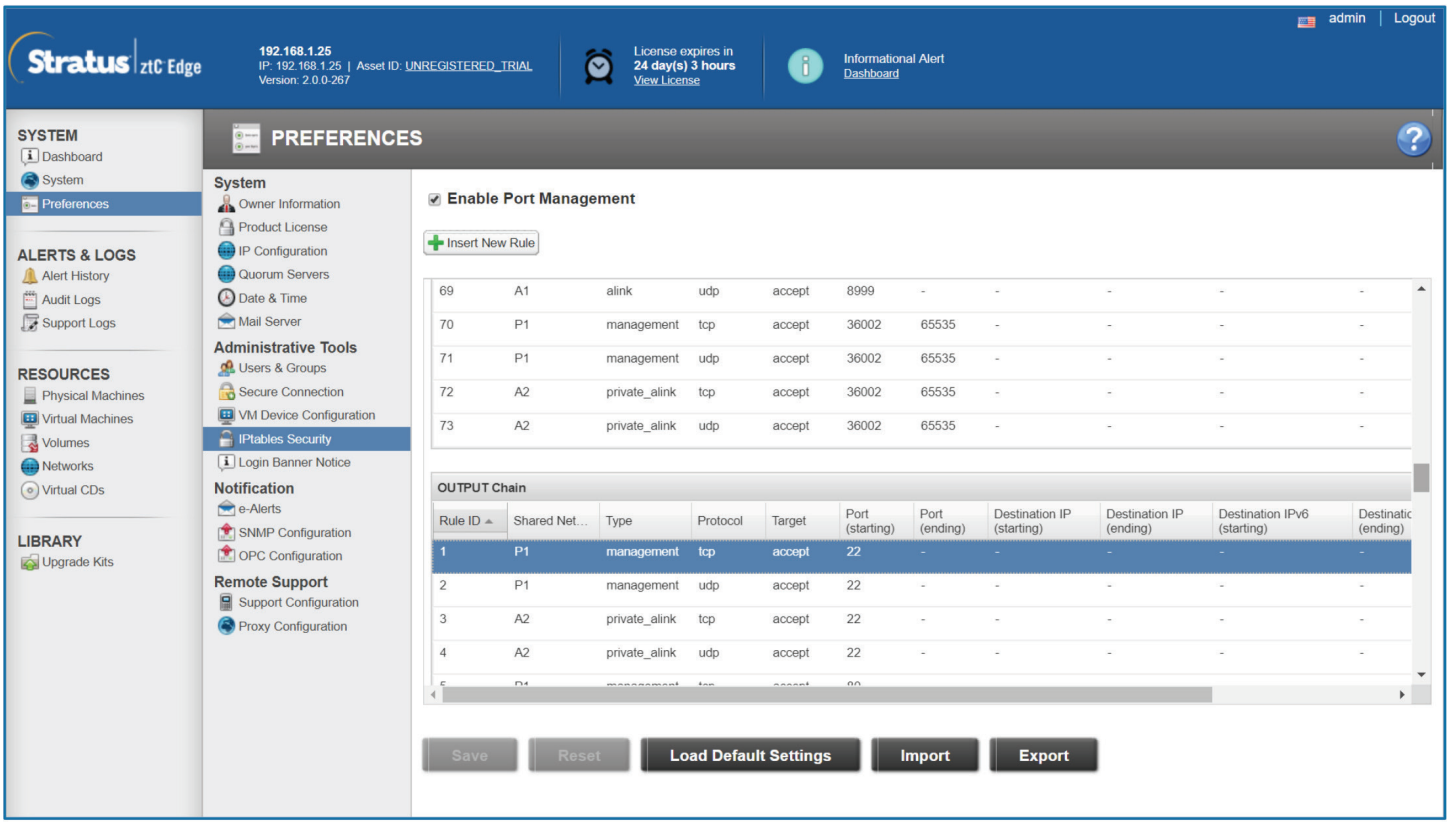
Data protection

Simplified security: ztC Edge is designed to help you more easily secure your edge computing environment. A host-based firewall, restricted USB ports, role-based access controls with active directory integration, and secure boot, all work together to minimize your security exposure.

Customizable availability: ztC Edge systems can be configured to support both fault tolerant (FT) or highly available (HA) workloads, giving you and your customers more choice, and allowing you to match the level of availability to the criticality of your application.

Industrial interoperability: ztC Edge supports common industrial protocols, making integration into existing industrial automation environments easier. SNMP requests and traps can be used to configure notifications and alarms. Your customers can use OPC UA attributes, or a REST API, to present relevant system data within most third party systems management tools and dashboards.

OT maintainability: ztC Edge nodes are hot swappable, auto-detecting, and auto-synchronizing, making repairs quick and easy. Maintenance or repairs on individual nodes can be done to a running system (without a system reboot) to help ensure service continuity. This allows system repair to be planned, scheduled, and serviced when its convenient for you and your customers, without having to depend on skilled IT resources.

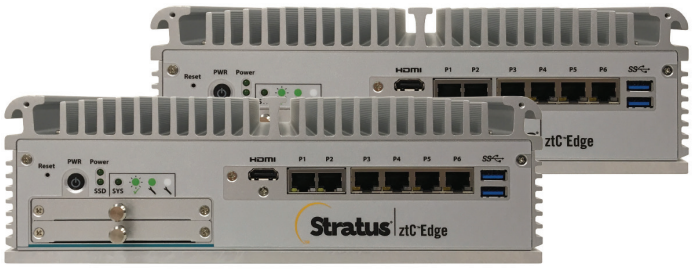


Simplified security

Optional system health monitoring and managed support services

Available with ztC Edge are optional system health monitoring and managed support services. These services help ensure that critical workloads continue to run with minimal customer effort. Stratus takes care of your ztC Edge systems so that you don't have to, letting you focus on more value-added activities.

Service level	Feature
System Support	24/7/365 web or phone support with 30 minute critical response SLA
	3-day advance parts exchange
	Root cause problem determination
	Security patches and updates
	Access to service history and knowledgebase through secure self-service portal
System Health	Everything in System Support
	24/7/365 health monitoring
	Alert triage
	System log file review
	Predictive failure analysis
	Media retention



ztC Edge 110i system

Technical specifications

ztC Edge is available in two models, the 100i and 110i. Both systems are IP40 rated, can be wall or DIN rail mounted, and offer a solid state design. The 110i is a more powerful system, to support FT workloads, and those requiring more storage.

	ztC Edge 100i	ztC Edge 110i
Compute	Intel i7-6700TE, 2.4 GHz, 8 MB cache, 4 HT cores	Intel i7-8700T, 2.4 GHz, 12 MB cache, 6 HT cores
Memory	32 GB DDR4 2400	32 GB DDR4 2400
Storage	512 GB SSD	2 TB SSD
Networking	2 x 1 GbE (for a-links) 2 x 1 GbE (for plant networks)	2 x 10 GbE (for a-links) 6 x 1 GbE (for plant networks)
Temperature	-40 – 140 °F	-4 – 140 °F
Humidity	10 – 95% (non-condensing)	10 – 95% (non-condensing)
Shock and vibration	50G, 11 ms 3 Grms @ 5 – 500 Hz	50G, 11 ms 3 Grms @ 5 – 500 Hz
Input power	9 – 36V (DC) 24 Vdc 5A 120W (AC)	24V (DC) 24 Vdc 5A 120W (AC)
Dimensions	11.02 in x 7.48 in x 2.99 in	11.02 in x 8.26 in x 3.42 in
Weight	10.1 lbs (20.2 lbs for system)	13.5 lbs (27 lbs for system)
Certifications	FCC, CE and others[1]	FCC, CE and others[1]
Host OS support	Stratus Redundant Linux 2.0, 1.3, 1.2	Stratus Redundant Linux 2.0
Guest OS support	Windows and Linux[2]	Windows and Linux[2]
Availability support	High availability	Fault tolerance and high availability

[1]https://www.stratus.com/services-support/customer-support/platform-support/ztc-edge-certification

[2]https://www.stratus.com/services-support/customer-support/platform-support/ztc-edge-guest-operating-system-support/

Other edge computing solutions

In addition to ztC Edge, Stratus offers ftServer, a rack mount fault tolerant server that's designed to run larger scale tier 1 mission critical workloads. Supporting 30+ VMs, ftServer delivers continuously available manufacturing operations and centralized control applications. For more information about ftServer, please visit **www.stratus.com/ftserver**

For more information

For more information about ztC Edge, and other reliable industrial computing solutions from Stratus, please contact your local sales representative, or visit **www.stratus.com/ztc-edge**

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