# DATASHEET



# Zero touch computing for your critical edge applications.



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## ztc Edge



## **1. Introduction**

Companies undergoing digital transformation are finding it difficult to upgrade computing infrastructure at the edge of their corporate networks.

Why? Harsh environmental conditions, and the lack of skilled resources, make deploying, managing, and maintaining computers at remote plants or branch offices especially challenging.

As more data gets generated by Internet connected devices and processed at these edge locations, **companies need advanced computing infrastructure** that's simple to use, easy to protect, and more autonomous.

#### ztC Edge is the answer.

**ztC Edge is a secure, rugged, highly automated computing platform** that helps understaffed organizations improve productivity, increase operational efficiency, and reduce downtime risk at the edge of their corporate networks.

**Designed for OT** (operational technology), yet suitable **also for IT** (information technology), **ztC Edge is easy to deploy** and secure, easy to locally and remotely manage, and easy to maintain and service.

#### Self-monitoring, self-protecting, and self-synchronizing,

ztC Edge saves companies time and money. With its built-in virtualization, automated protection, industrial interoperability, OT manageability, and field serviceability, ztC Edge enables the quick, easy delivery of both highly available and fault tolerant virtualized edge applications.



# 2. Key benefits

## **Greater efficiency**

With built-in virtualization host, industrial interoperability, and field serviceability, **ztC Edge simplifies and shortens** the time it takes to deploy, manage and maintain your critical edge applications, saving you time and effort.

### Simplified security

With restricted USB ports, secure communication protocols, secure and trusted boot1, role based access controls, and easyto-configure host-based firewall, **you don't need to be a security expert to secure your ztC Edge platform.** 

### Less downtime

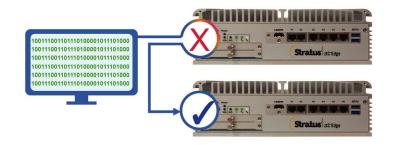
ztC Edge's self-monitoring and self-protecting features help reduce unplanned downtime. Because its operating environment can be updated while it's still running (without requiring a system reboot), customers experience less planned downtime also.

### More flexibility

ztC Edge's rugged, compact, industrial form factor performs equally well in the control room, control panel, or shop floor, giving customers more choice. Its automated capabilities make it suitable for unmanned stations, or remote, decentralized locations with limited resources.to secure your ztC Edge platform.











# 3. Key features

Stratus ztC Edge is a secure, rugged, highly automated

**computing platform t**hat enables the rapid and efficient delivery of reliable business-critical applications in remote, understaffed locations at the edge of corporate networks. Features like its built-in virtualization, simplified security, industrial interoperability, OT manageability, rugged redundant nodes, automated protection, field serviceability, and optional services, **help companies increase productivity**, while minimizing downtime risk.

## **Built in virtualization**

**ztC Edge ships with its own operating environment called Stratus Redundant Linux**. It contains a virtualization host that supports both Windows and Linux guest operating systems, and OVF files and OVA images, including third party templates. An intuitive management console makes it easy for local and remote staff to set up, configure, import and manage their virtual machines.

### **Built in virtualization**

ztC Edge is **designed to help OT more easily secure their edge computing environment**. A host-based firewall, restricted USB ports, role-based access controls with Active Directory integration, secure communications protocols, and secure and trusted boot1, all work together to minimize your security exposure.

#### Industrial interoperability

ztC Edge **supports common OT and IT protocols**, making integration into existing industrial automation environments easier. SNMP requests and traps can be used to configure notifications and alarms. **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** manageability

ztC Edge ships with its own tool, **the ztC Edge Console**, that simplifies system and software management. With it, administrators can remotely access their systems, set thresholds and alerts, check for updates, backup and restore system settings and preferences, and easily manage their VMs.

#### Rugged redundant nodes

Designed for the harsh conditions typically found in industrial locations, ztC Edge nodes can be deployed in the control room, control panel, or on the shop floor, closer to your devices that are generating data. More durable than standard servers or workstations, ztC Edge offers customers greater reliability and deployment flexibility.



## ztc Edge

#### Automated protection

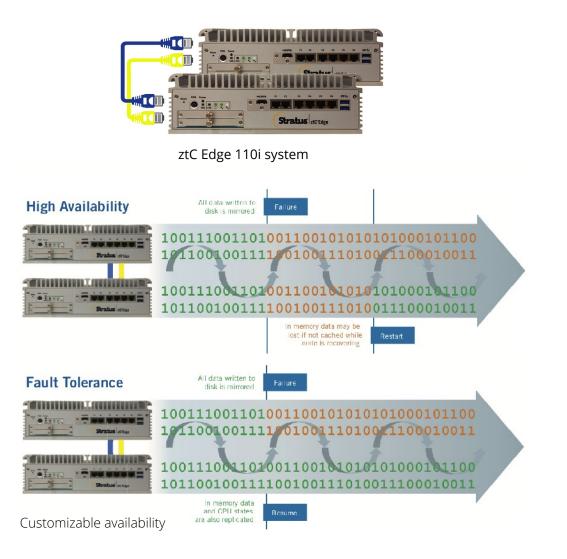
When deployed as a redundant pair, **ztC Edge provides instant protection for your workloads**. Data is automatically replicated across nodes. VMs running on one node will automatically restart (High Availability mode) or resume (Fault Tolerant mode) on the other in the event of a failure.

**If ztC Edge 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. Nodes can even be deployed across physical distances, for automated local site recovery.

#### **Field serviceability**

When deployed as a redundant pair, **ztC Edge nodes are hotswappable and auto-synchronizing,** making field 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 and completed when its convenient for OT or IT staff.





SYSTEM		S										
Preferences ALERTS & LOGS	System Owner Information Product License IP Configuration	Enable Port Management Insert New Rule										
Alert History	Quorum Servers	69	A1	alink	udp	accept	8999	12		20	~	22
Support Logs	Mail Server	70	P1	management	tcp	accept	36002	65535	-	-	17	
RESOURCES	Administrative Tools	71	P1	management	udp	accept	36002	65535	-	-	~	
Physical Machines	Secure Connection	72	A2	private_alink	tcp	accept	36002	65535		ē.	-	81
Urtual Machines	VM Device Configuration  IPtables Security  Login Banner Notice	73	A2	private_alink	udp	accept	36002	65535	-	- :		-
<ul> <li>Networks</li> <li>Virtual CDs</li> </ul>	Notification	OUTPUT Chain										
-	e-Alerts	Rule ID 🔺	Shared Net	Туре	Protocol	Target	Port (starting)	Port (ending)	Destination IP (starting)	Destination IP (ending)	Destination IPv6 (starting)	Destinatic (ending)
LIBRARY	OPC Configuration	1	P1	management	tcp	accept	22	-	-	-	-	-
opgrade rate	Remote Support	2	P1	management	udp	accept	22	14	-	-		-
	Support Configuration	3	A2	private_alink	tcp	accept	22	1.2			-	~
		4	A2	private_alink	udp	accept	22	(1 <b>2</b> )	2	×	-	
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## 4. Custom Support services

Maximize platform reliability and performance with **System Support** and System Health Add-ons

Stratus provides a **range of Support offerings** with a single focus: to enable continuous platform availability and uptime for customers' critical applications. To fulfill our promise of continuous availability, we've built our **Edge Computing** platforms to be serviced and maintained while in operation, without disruption or downtime.

**Stratus Support** provides the essential set of "wrap around" services—from basic support to proactive uptime monitoring—that ensure the health of Stratus platforms and free customers' resources for other value-add activity.

SUPPORT SERVICES					
Service Level		Features			
System Support	<ul> <li>• 8X5 web-based support.</li> <li>• Root cause problem determination.</li> <li>• Software updates and upgrades.</li> <li>• Secure access to self-service portal.</li> </ul>	$\checkmark \checkmark \checkmark \checkmark$			
System Health Add-ons	<ul> <li>· 24/7/365 web and phone support w/30</li> <li>min. critical response SLA.</li> <li>· Advanced parts exchange</li> <li>· Proactive uptime monitoring: <ul> <li>Alert triage</li> <li>System lof file review</li> <li>Predictive failure analysis.</li> <li>· Media retention.</li> </ul> </li> </ul>	Optional Optional Optional Optional			



# **5. Technical specifications**

**ztC Edge is available in four models**, the 100i, 110i, 200i and 250i. All systems are IP40 rated, can be wall or DIN rail mounted, and offera fan-less, solid state design.

# 6. 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.



	ztC Edge 100i	ztC Edge 110i	ztC Edge 200i	ztC Edge 250i
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	Intel Xeon W-1250TE, 2.4 GHz, 12 MB cache, 6 HT cores	Intel Xeon W-1290TE, 1.8 GHz, 20 MB cache, 10 HT cores
Memory	32 GB DDR4 2400	64 GB DDR4 2400	32 GB DDR4 2666 MHz (ECC)	64 GB DDR4 2666 MHz (ECC)
Storage	512 GB SSD	2 TB SSD	I TB SSD (NVMe)	2 TB SSD (NVMe)
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)	2 x 1 GbE (for a-links) 4 x 1 GbE (for networks)	2 x 10 GbE (for a-links) 6 x 1 GbE (for networks)
Temperature	−40 to 60 °C (−40 to 140 °F)	−20 to 55 °C (−4 to 131 °F)	−20 to 60 °C (−4 to 140 °F)	−20 to 60 °C (−4 to 140 °F)
Humidity	10 – 95% (non-condensing)	10 – 95% (non-condensing)	95% @ 40 °C (non-condensing)	95% @ 40 °C (non-condensing)
Shock and vibration	50G, 11 ms 3 Grms @ 5 – 500 Hz	50G, 11 ms 3 Grms @ 5 – 500 Hz	20G, 11 ms 3 Grms @ 5 – 500 Hz	10G, 11 ms 1.5 Grms @ 5 – 500 Hz
Input power	9 – 36V (DC) 24 Vdc 5A 120W (AC)	24V (DC) 24 Vdc 5A 120W (AC)	9V – 36V (DC)	9V – 36V (DC)
Dimensions	280 x 190 x 76 mm (11.02 x 7.48 x 2.99 in)	280 x 210 x 87 mm (11.02 x 8.26 x 3.42 in)	230 x 192 x 77 mm (9.1 x 7.6 x 3.0 in)	230 x 192 x 127 mm (9.1 x 7.6 x 5.0 in)
Weight	4.6 kgs / 9.2 kgs (10.1 lbs / 20.2 lbs)	6.1 kgs / 12.2 kgs (13.5 lbs / 27.0 lbs)	3.3 kg (7.2 lbs)	4.6 kg (10.2 lbs)
Avalability Supports	High availability	Fault tolerance (1) and high availability	High availability	Fault tolerance and high avai- lability
Certifications	FCC, CE and others (2)	Class I Division 2 FCC, CE and others (2)	CI D2, FCC, CE and others3	CI D2, FCC, CE and others3
Host Supports	Stratus Redundant Linux (3)	Stratus Redundant Linux (3)	Stratus Redundant Linux4	Stratus Redundant Linux4
Gest OS Supports	Windows and Linux (4)	Windows and Linux (4)	Windows and Linux5	Windows and Linux5

1)Trusted boot and fault tolerant workloads are only supported on ztC Edge 110i systems 2) https://www.stratus.com/services-support/customer-support/platform-support/ ztc-edge-certification 3) https://www.stratus.com/services-support/customer-support/platform-support/ ztc-edge-host-operating-system-support/ 4) https://www.stratus.com/services-support/customer-support/platform-support/ ztc-edge-guest-operating-system-support/



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