PENGUIN SOLUTIONS

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Stratus ztC Endurance™

Evolutionary predictive, fault-tolerant computing delivering protected, serviceable performance for sustainable, next-generation operations.

Penguin Solutions® Stratus ztC Endurance™ platform enables organizations to run critical applications in edge and data center environments without downtime or data loss. The platforms feature intelligent, predictive fault tolerance based on Penguin Solutions' proven redundant hardware architecture, hardened drivers, and Stratus Automated Uptime Layer with Smart Exchange™ (AUL - Smart Exchange).

Across industries, organizations rely on the continuous availability of mission-critical applications to successfully meet the demand of "always-on" operations. For these essential processes and operations, any unplanned downtime can significantly impact productivity, revenue, reputation, and safety. As a result, failure recovery is not enough. These organizations need continuous availability of data and applications as well as a modern infrastructure designed for failure prevention.

Both operational technology (OT) and information technology (IT) teams face the challenge of delivering this reliability to both centralized and distributed locations across operations. Some organizations may lack the on-site technical staff needed to maintain complex infrastructures. Platforms running critical applications must be easy to deploy, manage, and service regardless of location.

Key Benefits

- **Seven nines availability for critical applications:** Built-in computing fault tolerance delivers 99.99999% availability for critical applications.
- **No data loss:** Redundant computing architecture combined with intelligent automated management prevents in-flight data loss and ensures data integrity.
- **"Zero-touch" management and support:** Modular design, proactive remote health monitoring, and self-healing together simplify system management and serviceability for both IT and OT teams.
- **Rapid modernization and workload consolidation:** Modernize infrastructure and streamline operations by leveraging virtualization to consolidate multiple software workloads onto a single platform.
- **Multi-layered security:** Supports multi-layered defense-in-depth approaches, with a focus on both process and product security guidelines to ensure maximum protection.
- **Lower total cost of ownership (TCO):** Reduce IT footprint and purchase fewer software licenses on a highly reliable platform with an expected lifespan of seven to 10 years.

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Stratus ztC Endurance provides continuous availability and ensures data integrity for mission-critical applications running at the edge, in operations centers, and in data centers. Delivering seven nines (99.99999%)[1] uptime, the Stratus AUL - Smart Exchange software provides continual proactive health monitoring and automatically takes action to maintain system availability and protect against data loss when needed. Coupled with the platform's modular design of hot-swappable customer replacement units (CRUs), Stratus ztC Endurance makes it easy for OT and IT teams to manage and support.

Stratus ztC Endurance delivers the processing power and performance to host dozens of software applications as virtual machines (VMs), dramatically reducing the number of PCs and/or servers required for OT and IT teams to manage and maintain.

Stratus ztC Endurance features

The Stratus ztC Endurance enables organizations to modernize IT infrastructure, maximize reliability, simplify manageability, and increase efficiency at speed with minimal risk. Several key features help make the platform easy to deploy, manage, and service, whether at the enterprise data center, in an operations center, or at an edge location.

Intelligent, predictive fault tolerance

Stratus ztC Endurance delivers built-in fault tolerance that is transparent to applications without any scripting or modification. Stratus AUL - Smart Exchange software automatically manages system resources to ensure continuous availability while providing a single system image to operating systems, applications, and users. Stratus AUL - Smart Exchange also monitors nearly 500 alarm points to predict and avoid potential failures by taking action before operations are impacted.

Proactive health monitoring

Stratus ztC Endurance delivers automated self-monitoring, alerting, self-diagnosing, and remediation capabilities. Penguin Solutions' partners and customers can receive platform health information and alerts via the Stratus ActiveService™ Network (ASN) or an organization's existing monitoring methods. In most cases, the Stratus AUL - Smart Exchange identifies and resolves potential issues before they occur—all while keeping the appropriate teams informed at all times.

Modular design with redundant CRU modules

Each Stratus ztC Endurance platform has four pairs of identical CRU modules—two compute modules, two storage modules, two I/O modules, and two power supply modules. When combined with the Stratus AUL - Smart Exchange, these redundant CRU pairs act as a single system capable of maintaining 99.99999% availability.

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Industry-standard components

Stratus ztC Endurance is engineered with the highest quality industry-standard components—Intel chipsets, RDIMMs, I/O cards, network cards, and NVMe drives. The platforms run standard shrink-wrapped operating systems and hypervisors and support industry-standard application programming interfaces (APIs) and cybersecurity software for ease of management, open interoperability, remote management, and security. Penguin Solutions strengthens this product family with hardened drivers and built-in fault tolerance.

Connectivity to critical infrastructure

Stratus ztC Endurance provides the highest levels of computing reliability, enabling acquisition of critical data and connection to enterprise systems whether in the data center or at the edge. The platform ensures fast, secure access to crucial data in your Storage Area Network (SAN) with reliable Fibre Channel connectivity. Stratus ztC Endurance enables single pane of glass visibility into an organization's industrial automation infrastructure with OPC-UA Server, providing standards-based interoperability and secure connectivity with digitized sensors, industrial equipment, and industrial software applications.

Workload consolidation

Stratus ztC Endurance gives organizations the ability to run critical applications on bare metal—with the choice of industry-standard operating systems from Microsoft or RedHat—or to consolidate workloads with the hypervisor of your choice—whether VMware vSphere or Microsoft Windows Server with Hyper-V . Built-in virtualization enables teams to easily consolidate multiple servers and devices onto a single, fault-tolerant platform, allowing them to run more applications, improve performance, reduce total IT footprint and costs while ensuring application availability and uptime.

Advanced capabilities to drive AI Inferencing applications

The Stratus ztC Endurance platform enables you to leverage the advanced AMX capabilities of the fifth generation Intel Xeon processors for your edge-based AI inferencing applications. Deliver real-time insights for AI workloads such as image classification without compromising performance, serviceability, or availability.

Manageable and serviceable by OT and IT

Stratus ztC Endurance simplifies manageability with remote monitoring capabilities and management APIs that are interoperable with standard systems. The platform is also easily serviceable without the need for specialized IT skills or tools. The platform features four pairs of hot swappable customer replaceable unit (CRU) modules. When a CRU module is replaced, the system automatically returns the module to operation, making Stratus ztC Endurance ideal for environments with limited IT resources.

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Stratus ztC Endurance models

Stratus ztC Endurance platforms are easy to deploy, manage, and service. With four models to choose from, Stratus ztC Endurance can meet the specific workload needs, environmental constraints, and budgets of today's application-dependent enterprises and edge locations.

Stratus ztC Endurance 3110

Affordable performance for stable, fixed, standalone applications in remote offices, branch offices, or shopfloor locations

Stratus ztC Endurance 5110

Versatility and flexibility for rapidly growing or evolving applications in regional offices, remote plants, or regional data centers

Stratus ztC Endurance 7110

High performance for high-volume data- or transaction-intensive applications in large remote plants or corporate data centers

Stratus ztC Endurance 9110

The ultimate in performance for compute-, data- or transaction-intensive applications in corporate data centers or large plants

Stratus ztC Endurance System Specifications	3110	5110	7110	9110
Compute Module				
Processor(s)	1 x Intel® Xeon® Silver 4510 processor 2.4 GHz	2 x Intel® Xeon® Silver 4510 processor 2.4 GHz	2 x Intel® Xeon® Gold 5520+ processor 2.2 GHz	2 x Intel® Xeon® Gold 6548N processor 2.8 GHz
Max Turbo Frequency	4.1 GHz	4.1 GHz	4.0 GHz	4.1 GHz
Intel® Hyper-Threaded Cores	12 per processor/ 12 per compute module	12 per processor/ 24 per compute module	28 per processor/ 56 per compute module	32 per processor/ 64 per compute module
Threads	24 per processor/ 24 per compute module	24 per processor/ 48 per compute module	56 per processor/ 112 per compute module	64 per processor/ 128 per compute module
Min/max memory	64 GB / 256 GB DDR5 RDIMMS	128 GB /512 GB DDR5 RDIMMS	256 GB/ 1024 GB DDR5 RDIMMS	1024 GB DDR5 RDIMMS
Intel UPI speed	16 GT/s	16 GT/s	20 GT/s	20 GT/s
Maximum memory speed	4400 MT/s	4400 MT/s	4800 MT/s	5200 MT/s
USB Port	2 USB 3.0 (non-redundant) per compute module			

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Stratus ztC Endurance System Specifications	3110	5110	7110	9110
I/O Module				
Integrated PCIe® adapter slots	5 PCIe 4x8 per I/O module			
10 Gb Ethernet ports	4 / 2 per I/O module			
1 Gb Ethernet management ports	2 / 1 per I/O module			
10 Gb dual-port Ethernet server PCIe adapter (fiber & copper)	Up to 5 optional per I/O module[2]			
25 Gb dual-port Ethernet server PCIe adapter (fiber & copper)	Up to 5 optional per I/O module[2]			
100 Gb dual-port Ethernet server PCIe adapter (fiber & copper)	Up to 5 optional per I/O module[2]			-
32 Gb Fibre Channel PCIe adapter	Up to 2 optional per I/O module			
Storage Module				
Internal system drive bays	6 per storage module NVMe PCIe Gen 4			
Internal 2.5" drives	Please visit https://www.penguinsolutions.com/en-us/products/stratus-ztc-endurance#system-specs for a complete list of supported disk drives			
Manageability				
Alerts & Notifications	SNMP support, email alerts, RESTful API, and ActiveService Network (ASN)			
Baseboard management controller	Standard			
Virtual Technician Module (VTM)	Standard			
Graphics adapter	1 VGA port per system			
USB ports	1 USB 2.0 (redundant) per system			
Serviceability				
Hot-swappable components	Compute module, storage module, I/O module, PSU, drives, RDIMMS			
Operating System[3]				
Microsoft	Windows Server with optional Hyper-V® virtualization			
VMware	vSphere			
Red Hat	Enterprise Linux			

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Stratus ztC Endurance System Specifications	3110	5110	7110	9110
Power and Packaging				
Input voltage	100-127, 200-240 VAC; 50 Hz, 60 Hz	100-127, 200-240 VAC; 50 Hz, 60 Hz	200-240 VAC; 50 Hz, 60 Hz	200-240 VAC; 50 Hz, 60 Hz
System dimension (H x W x D)	87.1 mm/3.43 in. (2U) x 446 mm/17.6 in. x 910 mm/35.83in			
Weight (fully loaded including rails)	34 kg (75 lbs)	35 kg (78 lbs)	35 kg (78 lbs)	35 kg (78 lbs)

[1] Seven nines (99.99999%) availability of the Stratus ztC Endurance computing platform is based on requirements that customers use parts authorized for Stratus ztC Endurance, maintain an active Penguin Solutions Support contract, and perform system updates recommended by Penguin Solutions.

For information about model availability , contact your local distributor.

[2] VMware vSphere allows no more than three dual-port Ethernet server PCIe adapter cards per I/O module.

[3] Support for optional KVM virtualization with Red Hat Enterprise Linux will be available in a future release. Please visit our Penguin Solutions support page for a complete list of supported operating systems

Penguin Solutions Support Services for Stratus ztC Endurance

Penguin Solutions offers a range of certified support options—from basic plans to value-added managed and professional services—designed to meet the demands of both enterprise and edge computing environments. As with all our platforms, these services ensure your systems stay up-to-date and operate at peak efficiency, with expert help available whenever you need it. Total Assurance and Extended Platform Support managed plans are available for a variety of applications, environments, and use cases.

Read More

Contact Us

For sales or demo inquiries please contact sales@wavelink.com.au

To learn more about Stratus ztC Endurance and other Penguin Solutions products, please visit: www.wavelink.com.au/vendors/penguinsolutions

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