Enhancing Passenger Experience:

Mission Critical Edge Computing for the Rail Industry

SOLUTION BRIEF

Mission Critical Edge Computing for Rail Operations

In the rail industry, real-time operations and safety are paramount. Mission critical Edge Computing can play a vital role in ensuring that rail operations are efficient, reliable, and secure. By bringing computing capabilities closer to the rail network, Edge Computing can support real-time monitoring, data analysis, and decision-making, enabling rail operators to optimise their operations and ensure the safe and efficient transport of passengers and goods.

Overcoming Challenges

- Reliability and availability
- Interoperability
- Scalability
- Connectivity
- Maintenance and support
- Security
- Harsh environment

Benefits of Mission Critical Edge Computing

Real-time data processing
Edge Computing allows data to be processed closer to the source, rather than being sent to a central location for processing. This enables real-time decision making and can improve the efficiency and safety of rail operations.

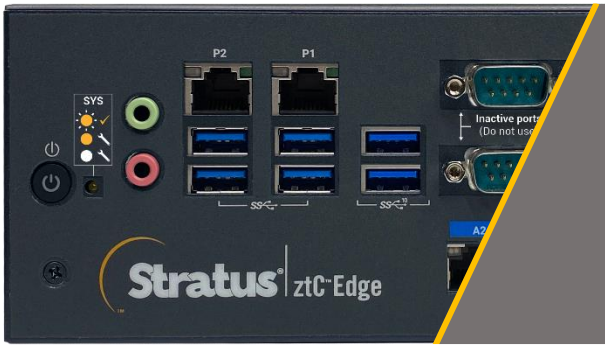
Reduced latency
By processing data at the edge, the time it takes for data to be analysed and acted upon is greatly reduced, which can be crucial for time-sensitive applications such as train control and monitoring.

Resilience and Availability
Edge Computing can help to improve the reliability of rail systems by enabling the use of multiple, distributed processing nodes. This can help to ensure that systems continue to operate even if one node fails.

Improved security
Edge Computing can help to improve the security of rail systems by enabling data to be processed and stored closer to the source. This can help to reduce the risk of data breaches and other cyber threats.

Cost savings
By processing data at the edge, data transfer costs and the need for large data centres can be reduced, which can help to lower the overall cost of rail operations.

Offline operation
Edge Computing allows for data processing to take infrastructure may be limited or unreliable in certain areas, allowing for continued operation and maintenance even in remote or offline area.



Protecting critical operations at the edge, where speed and efficiency meet.

Use Cases for Edge Computing

Train control and monitoring: Processing sensor data from trains in real-time, allows for fast and accurate decision making improve the safety and efficiency of operations.

Predictive maintenance: Analyse sensor data from trains and infrastructure in real-time, allowing for the detection of potential equipment failures before they occur. This can help to improve the reliability of rail systems and reduce maintenance costs.

Intelligent signalling: The processing of sensor data from trains and infrastructure in real-time, allowing for the optimisation of signalling systems. Improves the efficiency of rail operations and reduce delays.

Passenger information systems: Improve the effectiveness of passenger communication and customer service by processing data from passenger information systems, such as passenger counts, in real-time.

Security & Video surveillance: Monitor the buildings and tracks to improve the safety of rail operations and protect infrastructure.

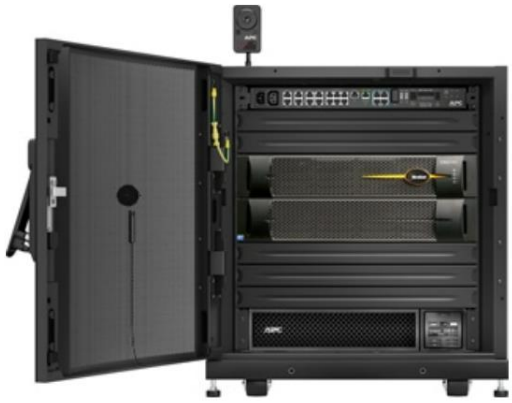
Remote monitoring and control: Remotely monitor and control various aspects of rail operations and infrastructure, such as track switches, signals, utilities, power and level crossings, to ensure smooth and safe operations.

Critical communications and collaboration: Next-generation unified command centres can improve collaboration between control rooms and train crews by allowing faster and easier real-time communication.

Not all Mission Critical Computing Platforms are Equal!

Our secure, rugged, highly automated computing solution delivers redundant virtualised industrial applications quickly and easily, improving productivity and reducing risk.

- Integrated virtualisation and availability
- Redundant server design
- Automated protection and recovery
- Industrial interoperability
- OT maintainability
- Health monitoring and fully managed support



About Stratus

Stratus ensures the continuous availability of business-critical applications for the most demanding environments. For over 40 years, we have provided reliable and redundant zero-touch computing, enabling organisations to turn data securely and remotely into actionable intelligence at the Edge, cloud, and data center – driving uptime and efficiency.

Our Service offering:

- System design and sizing
- Proof of Concept and testing
- Full solution stack deployment
- Site commissioning
- Education and certifications
- Fully managed services

Expand your knowledge.
Talk to us today!

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