



CASE STUDY

SpaceTech Enhances AI Enabled Property Management Efficiency with Ampere® Altra® Cloud Native Processors

INTRODUCTION

SpaceTech, the largest property management service provider in APAC, sought to enhance operational efficiency across its properties. Their legacy infrastructure struggled to dynamically allocate resources for security monitoring and building management.

According to SpaceTech's internal research, adopting Ampere® Altra® Cloud Native Processors led to a 1.5x performance improvement¹. Additionally, internal tests with Ampere Altra Max revealed a 2.6x performance boost¹, highlighting future scalability opportunities for more demanding AI workloads.

This transition allowed SpaceTech to streamline operations, reduce power consumption, and enhance real-time data processing without overhauling their existing infrastructure.

AMPERE PRODUCTS USED

- Ampere® Altra® Processors
- Ampere® Altra® Max Processors (planned for future scaling)

ENGINEERING SOLUTION

Dynamic Core Scaling Implementation: Introduced real-time core allocation algorithms to balance workloads dynamically, ensuring optimal performance during peak and off-peak hours.

Parallel Processing Optimization: Integrated workload-specific tuning, leveraging Ampere's high-core density to speed up AI-powered analytics tasks such as security video analysis. Use of Ampere Optimized AI Software integrated in open source frameworks added additional performance.

Power-Efficient Server Deployment: Deployed Ampere's energy-efficient CPUs to reduce power draw by adjusting performance profiles based on operational demand, cutting cooling costs.

Seamless Migration from x86 to Arm: Utilized Ampere's compatibility layers and cloud-native software stacks to facilitate an efficient transition with minimal downtime.

BENEFITS

Faster AI Response Times: Achieved a 1.5x¹ increase in processing efficiency, leading to quicker insights for security and operational systems.

Operational Cost Reduction: Reduced overall infrastructure expenditure by eliminating the need for dedicated GPUs and cutting cooling costs.

Lower Energy Footprint: Decreased power usage by optimizing performance-per-watt, contributing to both sustainability goals and budget efficiency.

Improved Scalability: Gained the ability to scale operations efficiently across multiple properties without requiring additional compute resources.

COMPANY DESCRIPTION

SpaceTech is a pioneer in intelligent urban management and space technology. By combining AI, IoT, and sustainability-focused solutions, SpaceTech transforms how communities and buildings are managed. Their expertise includes integrating advanced systems for seamless operations, optimizing energy efficiency, and addressing the complexities of large-scale urban properties.

Ampere® Computing / 4655 Great America Parkway, Suite 601/ Santa Clara CA. 95054 / amperecomputing.com

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CHALLENGES

- **Rigid resource allocation:** The existing Intel + Huawei (GPU) solution lacked flexibility, preventing efficient scaling and leading to resource underutilization during low-traffic periods.
- **Performance limitations:** The previous system struggled to maintain processing speeds for real-time monitoring and data analysis, impacting response times for security operations.
- **High operational costs:** SpaceTech experienced rising expenses due to the system's high power consumption and cooling requirements from GPU based solutions, especially in multi-property deployments.

About Ampere

Built for sustainable cloud computing, Ampere Computing's Cloud Native Processors feature a single-threaded, multiple core design that's scalable, powerful, and efficient. [Learn more](#)

See our solutions for a variety of demanding workloads: amperecomputing.com/solutions

Visit our Developer Center: amperecomputing.com/developers

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References

1. The original yolov5 inference result provided by SpaceTech versus their original x86 + AI accelerator solution.