Case Study

Telecommunications

Real-Time Call Record Tracking

Powering the Future of Global Operators: Telarix Partners with Intel, dbSeer, and AWS to Deliver Next-Generation Cloud Services with Unmatched Performance and Scalability

By migrating to Intel optimized AWS EC2 r7i instances, Telarix accelerates performance—delivering measurable ROI and long-term scalability.

Telarix, a telecommunications solutions company, processes hundreds of millions of critical call detail record (CDR) files every month, which requires a robust infrastructure to handle memory-intensive operations and high-throughput processing. Telarix has partnered with AWS, dbSeer, and Intel to evolve its application suite by refactoring the workload from SQL to Python, to deliver unmatched performance and scale to operators worldwide.

The solution involved transitioning from traditional and legacy on-premises servers to Amazon EC2 r7i instances optimized for memory-intensive workloads, and transitioning from fixed infrastructure costs to AWS's agile commercial model, which will deliver significant performance enhancements and unprecedented scale on demand. Additionally, Intel engineers collaborated with AWS to optimize CPU usage, providing actionable recommendations and identifying two optimized instance types tailored to Telarix's specific requirements.

Key results:

- **Enhanced Scalability and Flexibility**: The cloud-native infrastructure provided scalability and flexibility to meet growing customer demands.
- **Faster Data Processing**: Optimized compute resources enabled faster data processing and improved efficiency.
- **Significant Commercial Benefit**: Transitioning from r5.xlarge to r7i.large instances enabled great commercial flexibility
- **Performance Improvement**: Processing time was drastically reduced, with high throughputs, the performance gain can be measured in term up to 25x reduction in time taken to complete vast workloads

Challenge

Telarix solutions empower telecom providers by processing hundreds of millions of daily call detail records (CDRs), which are essential for business operations. These records undergo extensive processing—including data enrichment, trend detection, insight discovery, and error checking—and often requires reprocessing. The scale and complexity of this work demands a robust, high-throughput infrastructure capable of handling memory-intensive operations. Traditionally, this came with significant costs, particularly from third-party licenses, such as Microsoft SQL.

Solution

To modernize its application infrastructure and improve business agility, Telarix teamed up with Intel, AWS, and dbSeer to build a next-generation cloud-native solution. The initiative focused on refactoring legacy, on-premises SQL workloads into Python-based applications optimized to run on AWS. By migrating to the cloud and adopting a modular architecture, Telarix significantly increased operational efficiency, reduced infrastructure costs, and positioned itself for scalable growth.

RESULTS

The results yielded the following benefits:

Reduced Fixed Infrastructure and SQL License Costs

Telarix optimized its infrastructure and SQL license usage, leading to significant cost savings.

28.97%
PERFORMANCE IMPROVEMENT

The workload runtime was significantly reduced from **245 seconds** to **183 seconds**, resulting in a substantial performance boost.

61.54%
TCO IMPROVEMENT

By switching from r5.xlarge to r7i.large, Telarix achieved a substantial TCO improvement, reducing costs by **61.54%**.

Faster Data Processing

Telarix optimized its compute resources, enabling faster data processing and improved efficiency.

Enhanced Scalability and Flexibility

The cloud-native infrastructure provided enhanced scalability and flexibility, allowing Telarix to meet the growing demands of its customers.

These achievements position Terlarix better deliver critical insights to its telecom customers, enabling them to reduce costs and improve operational efficiency.

Solution provided by:

intel + dbSeer From Data To Insight + aws

[1]Source: Telarix

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At the core of the solution was the deployment of Amazon EC2 R5 instances, selected for their high memory capacity—ideal for Telarix's compute-intensive workloads. This shift enabled Telarix to move from a fixed-cost infrastructure to AWS's flexible, pay-as-you-go model, improving both cost control and performance agility.

Intel collaborated closely with AWS to optimize performance. Intel engineers conducted in-depth workload analysis and provided targeted CPU tuning recommendations, identifying two EC2 instance types tailored to Telarix's needs. Their guidance enabled Telarix to implement CPU optimizations quickly and efficiently, resulting in additional performance gains.

dbSeer played a critical role in the solution by combining deep AWS expertise with intimate knowledge of Telarix's legacy systems. This unique combination allowed them to design a cloud migration strategy that delivered maximum value with minimal disruption. Their selective, high-impact approach to code refactoring ensured a smooth transition and accelerated time to value.

Solution Ingredients

These components collectively enhanced Telarix's infrastructure, leading to significant cost savings, improved performance, and greater scalability and flexibility.

Python Refactoring: The on-premises workload was refactored from SQL to Python running on AWS, eliminating the reliance on potentially expensive 3rd party licenses

Amazon EC2 r7i Instances: Moving to the cloud provided agility, scale, and future proofing of services. The instances were optimized for memory-intensive workloads, allowing Telarix to transition from fixed infrastructure costs to AWS's pay-as-you-go model

CPU Optimization: Intel engineers collaborated with AWS to optimize CPU usage, providing actionable recommendations and identifying two optimized instance types tailored to Telarix's specific requirements

Consulting and Collaboration: Intel offered recommendations and architecture design decisions during the solution design, ensuring all components worked together harmoniously

Centralized Customer Data Hub: dbSeer specializes in tools to build a centralized Customer Data Hub and big data analytics to process trends and patterns

Summary

The collaboration between Telarix, Intel, dbSeer, and AWS has proven to be transformative. By leveraging advanced technologies and optimizing its infrastructure, Telarix is positioned to better serve its clients. This project underscores the importance of strategic partnerships and continuous innovation in achieving operational excellence and delivering superior customer experiences.

Learn More

Amazon EC2 R7i Instances