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US Census Bureau Migrates its Legacy Systems to an AI-Ready Cloud Solution, Saving Time and Cost

The US Census Bureau, major companies, Amazon, and Intel architect a solution that accelerates and simplifies secure data collection and reporting.

Solution Ingredients

- Amazon Instances
- Intel® AI PCs
- Intel® Xeon® processors
- Intel® Core™ Ultra processors

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Executive Summary

The US Census Bureau (USCB) is the nation's top provider of population data, housing information, and insights into economic activity. In the past, the USCB relied on time-consuming and tedious forms and online questionnaires to gather data from millions of U.S. companies of all sizes and create reports. The organization needed to transform how it collects corporate information and make the process faster and easier for everyone involved.

By partnering with Intel, Amazon, and businesses, the USCB team planned and implemented a solution using Amazon instances and Intel® Xeon® processors. The new solution allows businesses to aggregate and submit information to the USCB in minutes rather than spending hundreds of hours. The approach accelerates secure data transmission thus providing more accurate reporting resulting in higher quality data while reducing cost, respondent burden and time-to-insight. In the future, the AI-ready data center and AI PCs with Intel® Core™ Ultra processors can speed queries through an innovative hybrid Generative AI solution. The unique breadth of Intel technologies can help USCB and enterprises embrace the power of AI everywhere, from the cloud to on-premise data centers to end-user workstations.

A business and government collaboration implemented an AI-ready cloud-based solution based on Intel® technology that expedites the US Census Bureau's information gathering process and provides the population data, housing information, and insights into economic activity to help businesses plan for the future.

Challenge

The US Census Bureau (USCB) must capture massive amounts of corporate information from US companies to create economic reports. Businesses supplying data through a legacy or online submission system faced a daunting process that required hundreds of hours every quarter. Sometimes, companies need to provide the same information on multiple forms.

The USCB also had the enormous challenge of gathering, aggregating, and managing all that information using manually driven processes. The organization's staff needed to sort through incoming structured and unstructured data, normalize it, and enter it into aging onsite computing systems. The legacy approach required significant time and cost and made report generation difficult.

The USCB and U.S. businesses using the old system wanted a far more efficient data submission solution. Enterprises sought ways to report and share information securely, using existing in-house applications rather than filling out multiple USCB forms. The USCB, too, needed to transform its ability to gather and use businesses' confidential information and access it comprehensively and securely.

Solution

Architecting and implementing the new solution involved combining the right people, processes, and technology. As independent companies, Intel engineers and AWS experts were in an excellent position to unite all stakeholders and create a comprehensive technology solution that served all parties' needs. A team including USCB, US business, Amazon, and Intel representatives worked closely to plan and implement a cloud-based solution to replace the legacy systems.

While it was unusual for private-sector businesses to help create a government technology solution, their participation was a win-win. The new USCB solution could shave massive amounts of time off the reporting and information-gathering process without compromising data security. Therefore, large businesses—including competitors in some cases—gladly came to the table to help solve a challenge that could benefit everyone involved.

The Amazon and Intel solution allowed the USCB to ingest that data directly from company ledgers and applications. The new process dramatically improved the USCB's old approach, which required accounting and analyst teams to submit data, process it into the form needed by the organization's databases, and feed it into USCB systems. The new solution also eliminated the need for enterprises to supply redundant data to fulfill USCB information requests.

In the future, the USCB team and private enterprises plan to integrate AI into the solution, using AI PCs and backend data centers to streamline processes further. Given the sensitivity and privacy requirements surrounding collected data, an innovative "hybrid" Generative AI solution is also in the planning stages. When implemented, the unique, custom system will mesh and summarize data received from enterprise databases and information secured in the cloud.

The approach can help USCB employees extract relevant insights more efficiently and effectively. Also, enterprises can submit their information once, rather than duplicating efforts for multiple inquiries, knowing the USCB can access the data it needs regardless of where it's stored.

Results

With the simplified technical solution, corporate reporting can occur in as little as 20 minutes rather than hundreds of hours and requires no additional accounting work.

> "With help from major US companies, Amazon, and Intel, the US Census Bureau's legacy processes transformed into a streamlined, modern cloud-based solution. Reporting that used to take businesses hundreds of hours—and, in the future, data analysis that takes the Census Bureau equally enormous amounts of time—can be done in minutes for faster insights and quicker reporting."
>
> —Stephanie L. Studds, Assistant Associate Director for Economic Programs, US Census Bureau

Amazon and Intel proved ideal technology partners for tackling the project with USCB and other stakeholders. The AI-ready technologies built into Intel Xeon processors for the data center—and Intel Core Ultra processors powering AI PCs—support enclaves that protect sensitive data and transfer it securely. Intel's end-to-end portfolio of products for AI acceleration combined with Amazon's cloud services creates a uniquely beneficial platform. The technology solution addresses stakeholders' needs today while laying a foundation for new AI capabilities should USCB requirements change over time.

USCB continues its pioneering work with Amazon, Intel, and businesses across the county. Their solution sets the stage for other government agencies to undertake similar transformations and reap similar rewards.

Key Takeaways

- Gathering input from all stakeholders is vital when building new technology solutions

- Future-proof technology solutions by electing products and approaches that support AI capability.

- A "hybrid" GenAI approach can combine private data stores with those in the cloud to securely extract more profound and relevant insights.

- The new solution eliminates the need for enterprises to supply redundant data, saving hundreds of hours.

- The USCB's innovative approach sets a new standard and offers a template for other government agencies.

For More Information

- Explore Intel Xeon processors.

- Learn more about AWS instances.

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