

SMURFIT WESTROCK SAVES AWS COSTS FOR INNOVATION WITH AMD

Smurfit Westrock reduced costs by 25 percent with 10 percent lower carbon footprint by switching to Amazon EC2 instances powered by AMD EPYC[™] CPUs.



CUSTOMER



INDUSTRY

Paper and packaging manufacturing

CHALLENGES

Save expenditure on expanding cloud infrastructure costs, so more can be spent on business innovation, while improving sustainability

SOLUTION

Switch to AWS R6a instances powered by AMD EPYC[™] processors

RESULTS

25 percent lower costs and 10 percent reduced carbon footprint

AMD TECHNOLOGY AT A GLANCE

3rd Gen AMD EPYC[™] CPUs

TECHNOLOGY PARTNER



As one of the largest paper and packaging companies in the world, Smurfit Westrock has a massive IT requirement. This permeates everything from general computing to the equipment running its massive paper mills, with 350 production sites in 40 locations across Europe, the Americas, and Africa. Smurfit Westrock is always looking to save money throughout this huge infrastructure, so any savings can be used to develop the business. Switching to AWS instances powered by AMD EPYC[™] processors delivered exactly what the company needed.

"We have hundreds of AWS accounts," says Thomas Burke, Senior Cloud Engineer, Smurfit Westrock.

"We support thousands of EC2 instances, alongside the hundred-plus other services just in Amazon alone that the team helps build and support. About six years ago now, we initiated

a cloud-first approach. Following several years of cloud adoption and witnessing a significant year-over-year increase in costs, particularly after a large-scale data center migration into the cloud, the company has started to focus on achieving cloud cost savings and optimization objectives."

Easy switch to AMD EPYC CPUs

Smurfit Westrock runs a vast array of different software across its cloud fleet. "We've got thousands of business applications," says Burke. "Our company operates numerous critical applications in the cloud, which are integral to supporting our manufacturing operations across various plant and mill sites. Additionally, we utilize a large range of standard corporate and enterprise software solutions, like virtual desktop (VDI), configuration management (CMDBs), enterprise resource planning (ERPs), and all the standard capabilities that a large enterprise needs." Most of these are commercial off-the-shelf (COTS) applications.

"Historically, the company had numerous onpremises data centers," says Burke. "AWS won our business after that. We've always noticed the AMD options and the instance type selection. At Reinvents, the team attended an AMD session that talked about the price and performance differences, particularly between the six- and seven-series AMD types, R6a versus R7a. So this fiscal

"The utilization metrics did not change at all when we switched to AMD EPYC processor-powered AWS instances."

Thomas Burke, Senior Cloud Engineer, Smurfit Westrock year, starting in October of 2023, we decided to make a concerted push to convert a large portion of the instance footprint to use AMD hardware in AWS and save money. We realized we could add on

AMD conversion as part of our existing rightsizing workflow."

"We started converting to AMD using non-production workloads at first just to make sure everybody was comfortable with it," says Burke. This included a test comparing CPU and memory utilization between the AMD and non-AMD instances. "The utilization metrics did not change at all when we switched to AMD EPYC processor-powered AWS instances. The migration from non-AMD instances, which only took about three minutes in the AWS console, went very smoothly. Occasionally they would fail in a status check when switching, but this just required a driver update to take advantage of the newer hardware."



Massive cost savings with AMD

"We use the AWS systems manager to upgrade Windows drivers across the enterprise and then we can successfully switch to the AMD CPU-based instance types with the status checks passing," explains Burke. "To help facilitate this workflow at our scale, we use internally built automation to perform these changes across the whole AWS organization, hundreds of accounts in numerous regions. We have a monthly maintenance window, which is when we either convert, right size, or both and do a health inspection, all autonomously. If it fails the

status check, we just push the driver update and then it succeeds on the next run. It's one of the easiest things we must do on a day-to-day basis."

"From the start of the fiscal year, so October 2023 compared to now, our analysis revealed that AMD processor-powered instance types provided 25 percent lower unit cost per virtual core in our AWS environment," says Burke. "One of our goals for the

year was to convert 40 percent of the existing instance fleet over to AMD, mostly AWS R6a instances. We've exceeded that and we're going to continue moving to AMD."

"Between rightsizing, power scheduling, and converting to AMD, it's all helped us reduce our carbon emissions by about 10 percent in AWS."

Thomas Burke, Senior Cloud Engineer, Smurfit Westrock

Sustainability is another key concern for Smurfit Westrock. "We rely on the environment, so it's very important to the company's goals, so much in fact that Westrock had a company-wide goal to reduce carbon emissions by 30 percent by 2025," says Burke. "AWS has a customer carbon footprint tool. We found that three months into the fiscal year, our carbon emissions were up about 14 percent before we kicked off the huge AMD rollout." The increase is due to Smurfit Westrock's continual growth. "Now, ten months into the fiscal year, instead of being up 14 percent, we're only up about 3.5 percent. Between rightsizing, power scheduling, and converting to AMD, it's all helped us reduce our carbon emissions by about 10 percent in AWS."

"Using AMD CPU-powered instance types, we've achieved 25 percent lower unit cost in our AWS environment."

Thomas Burke, Senior Cloud Engineer, Smurfit Westrock

Saving money for future innovation

"Maximizing the cost performance ratio for our cloud workloads compute is the most important thing we were looking for when engaging with AMD," says Burke. "We've already more than doubled our AMD EPYC processor-powered instance type into the thousands just this year alone. Of our 4,000-plus EC2 instances, we have about 1,800 powered by AMD EPYC processors so far. But the work doesn't stop there. We're still actively engaged and working to accrue as much cost saving as possible for this year and going forward."

> "With a company as large as Smurfit Westrock, it's all about reducing costs," says Burke. "Any money we can save means that the business can reinvest that back into developing new areas such as AI/ML, upgrading hardware at the plants and mills, and enabling connectivity to support computing at the edge. Some of our plants and mills are so remote, they're basically in the middle of a forest, so connectivity is essential. They're so large that if they're not

able to ship, we lose a fortune in income. Predictive maintenance, powered by AI/ML at the edge, will save a lot of time, energy, and productivity."

"We plan to deploy AMD first for new EC2 instances today as well as other AMD enabled AWS services, such as RDS," says Burke. "As long as we have the option to choose AMD for that optimal cost performance ratio, we're absolutely going to do it. There is literally no downside. If you can take the 20-minute downtime for the migration, it'll be worth your while, and those savings just accrue over time. Using AMD EPYC CPU-powered instance types, we've achieved 25 percent lower unit cost in our AWS environment. Who doesn't like to save money? IT is an expense. If you can save money without taking a performance hit, that's a win-win. All those cost savings can then go into innovation, environmental initiatives, and new AI and ML services."

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About Smurfit Westrock

Smurfit Westrock was formed when Smurfit and WestRock merged in July 2024 to become one of the largest sustainable paper and packaging companies in the world. The combined business operates in 40 countries with over 500 packaging conversion operations and 62 paper mills. The circular economy is at the core of Smurfit Westrock's business, using renewable, recyclable and recycled materials to create sustainable packaging solutions. Smurfit Westrock is dedicated to creating efficient and scalable solutions to help solve complex packaging challenges. For more information visit <u>smurfitwestrock.com</u>.

About AMD

For more than 50 years AMD has driven innovation in high-performance computing, graphics and visualization technologies. Billions of people, leading Fortune 500 businesses and cutting-edge scientific research institutions around the world rely on AMD technology daily to improve how they live, work and play. AMD employees are focused on building leadership high-performance and adaptive products that push the boundaries of what is possible. For more information about how AMD is enabling today and inspiring tomorrow, visit the AMD (NASDAQ: AMD) website, blog, LinkedIn and X pages.

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