Solar Turbines' cloud migration journey creates a seamless customer experience

Solar Turbines, a subsidiary of Caterpillar, achieved full-stack observability with AppDynamics, launching a digital transformation and relentless innovation

Executive summary

Founded in 1927 and headquartered in San Diego, California, Solar Turbines designs and manufactures energy solutions essential to powering industries and communities. A subsidiary of Caterpillar Inc., Solar Turbines' turbomachinery products have applications in a wide range of industries, including the pharmaceutical, chemical, and food sectors. With more than 8,000 employees worldwide, Solar Turbines plays a critical role in the development and production of oil and natural gas. Solar Turbines' technology division, Solar Digital, delivers technology solutions in areas such as predictive analytics and machine learning.

Gaining complete visibility into a complex cloud migration effort

Solar Turbines was focused on driving innovation, agility, and scalability within its IT organization to maintain its competitive edge and deliver a world-class customer experience. To expand its capabilities portfolio, Solar Turbines formed Solar Digital as a Customer Service Group, focused entirely on providing solutions for its customers. The division is responsible for the flawless delivery of over 150 applications that support employees, fleet managers, and customers.

Solar Digital's on-premises deployment model didn't allow the organization to respond as rapidly as desired to changing customer needs and market conditions. To enhance the user experience while also driving operational efficiency, Solar Digital decided to migrate to the cloud. With the rise of the Internet of Things (IoT)—and consumers' increasingly demanding digital expectations—Solar Digital also recognized that moving to the cloud was an important step in accelerating its digital transformation journey. "Organizations can't innovate fast enough when they don't have the right services on hand. We can't respond fast enough or focus on delivery if we are facing infrastructure limitations and spending time on system maintenance," remarks Tomas Huszagh, Software Engineering Manager and DevOps and Operations Lead at Solar Digital.

To migrate successfully and confidently to the cloud, Solar Digital needed a solution to proactively monitor and resolve performance issues. "Cloud migration was a huge milestone for our company, and embracing automated monitoring solutions was a key pillar in our digitalization," says Huszagh.

As a traditional industrial company, Solar Turbines also has a compact clientele. This means that losing even a single customer because of an outage or non-availability could cost Solar Turbines millions of dollars. For this reason, it was vital for them to be able to quickly detect and repair issues before they impacted customers.

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CHALLENGE
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SOLUTION
To enhance the user experience while also driving operational efficiency, Solar Digital decided to migrate to the cloud. They needed to proactively monitor and resolve performance issues and it was vital to be able to quickly detect and repair issues before they impacted customers.

RESULTS
The company migrated more than 90 applications to AWS and turned to AppDynamics to gain end-to-end visibility and ensure optimal performance.

Solar Digital achieves full-stack observability with AppDynamics

Once the decision was made in favor of digital transformation and cloud adoption, Solar Digital started to evaluate leading cloud platforms. The organization selected Amazon Web Services (AWS) for the flexibility it provided. "The speed of innovation available with AWS enables our team to swiftly respond to industry changes," says Huszagh.

As the company migrated more than 90 applications to AWS, Solar Turbines turned to AppDynamics to gain end-to-end visibility and ensure optimal performance. Adds Huszagh, "Our goal for the migration was to 'know before our customers know' about any issues. With AppDynamics, we can identify, troubleshoot, and resolve performance issues before customers even notice them. AppDynamics helps quantify the user experience, increases operational efficiency, and delivers continuous observability."

"With the combined strength of AWS and AppDynamics, we were able to seamlessly migrate to the cloud, optimize application delivery to enhance the user experience, and accelerate our digital transformation journey," shared Huszagh.

Significant reduction in outages and MTTR

Solar Turbines recently encountered an issue in a production database, triggering AppDynamics to alert its IT team to the error. The issue was identified and resolved within minutes, preventing hours of production outage. Prior to AppDynamics, the Solar Digital team would have had to manually sift through logs to identify the cause of the performance issue—a tedious and time-consuming process. "With AppDynamics, the big win for us is observability. We see the entire flow and know about application or infrastructure issues within minutes. Now, we have everything under one umbrella and the efficiency is insane," says Huszagh.

To simulate user behavior, establish baselines, and measure performance in a controlled state, Huszagh and his team also use AppDynamics for synthetic monitoring. They've been able to ensure application performance and availability any time from locations globally, which inspires confidence among customers. "From the other side of the world, we can verify the performance of applications in Singapore using public synthetic agents. With so much variation across devices, browsers, and connection speeds, that's not easy to do on your own without AppDynamics," says Huszagh.

"AppDynamics' connection between business and software engineering offers a tremendous advantage," concludes Huszagh. "I haven't worked with any solution before which can combine both of them, because the mindset of software engineers is different from tech marketing folks. And now you have both users on the same page."

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Tomas Huszagh,
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About AppDynamics
AppDynamics is a full-stack, business centric observability platform that helps technologies prevent digital performance issues by monitoring cloud-native technologies and traditional infrastructure to understand exactly what drives user experiences and impacts the bottom line for businesses.

AppDynamics has been recognized by Gartner as a lead in the APM market for more than eight years and was positioned highest in 'ability to execute' in Gartner's 2020 Magic Quadrant Report for APM.

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