

Carhartt: 132-year-old brand prepares for the next generation with full-stack observability



About Carhartt

Carhartt manufactures premium clothing known for exceptional durability, comfort, quality of construction and fit that you can feel in the fabrics and see in the performance. Established in Detroit in 1889, Carhartt's corporate headquarters is today located in Dearborn, Michigan and its U.S. supply chain facilities are located in Kentucky and Tennessee. The workwear brand also operates company-owned retail locations throughout the U.S. and its flagship store is located in Midtown, Detroit.



Challenge

Hardworking systems for a hardworking brand

From boots and coveralls to gloves and coats, hardworking people know that Carhartt will work for them. Over its more than 130-year history, the Carhartt brand has become synonymous with high-quality, durable and comfortable workwear that's attracted generations of skilled tradespeople and fashion-forward casual consumers alike.

Today, the company's 2,800-plus American workers source materials from suppliers across the country to produce millions of garments and accessories each year at the company's four Kentucky and Tennessee production facilities. Supporting that level of production volume and a far-reaching business footprint demands an expansive network of software systems and technology infrastructure to connect the entire supply chain — dozens of production, warehouse, and distribution facilities along with physical retail locations and online shopping channels.

"The apparel industry is more complex, dynamic, and competitive than ever. Every aspect of your operation -- from procurement through sales and customer service -- has to be firing on all cylinders because even the slightest delay or hiccup can have wide-ranging impact on everything from manufacturing operations to customers' ability to buy products online," says Tim Masey, Carhartt's Vice President, IT Infrastructure & Security. "It's imperative to have complete visibility into every corner of the operation to make sure things are running smoothly, which is usually easier said than done."

Timeless products meet modern business realities

For generations, the Carhartt brand was the go-to choice for laborers, skilled workers, and weekend do-it-yourselfers who needed rugged but comfortable clothing and accessories. But today, the brand has seen a surge of interest from younger generations of consumers — teenagers and college students — who desire a more durable yet stylish wardrobe that's contributing to its meteoric growth.

In response to its explosive growth in the past decade, the company is undertaking a substantial digital transformation initiative aimed at replacing conventional on-premises, hardware-based IT systems with more flexible, agile, and scalable cloud systems capable of supporting the company's vision and growth without compromising service availability or performance.

Transitioning to a cloud-first strategy is a long and arduous process that will eventually pay off with significant gains in efficiency, cost management, and scalability to handle ever-larger workloads and more complex business processes. And all the while, Carhartt's IT teams will need to continue managing a hybrid environment of on-premises legacy systems, cloud-based platforms, and third-party services that support the company's daily operations.

"Our ERP system is on premises, some of our inventory and warehouse systems are in the cloud, and our website runs on a third-party service," Masey explains. "The cost of an hour of downtime anywhere in our environment can reach into the millions of dollars in lost revenue. It's also an hour that our customers might not get the buying experience they've come to expect, but making sure every system is working flawlessly 24/7 is a huge challenge when disparate systems are monitored individually without much automation or a unified view of everything."

The complex, sprawling IT environment features applications and systems that integrate and interoperate with one another, creating an end-to-end ecosystem for delivering high-quality products to customers everywhere but it opens the company up to significant operational risk.

Front-end systems like customer facing e-commerce and retail partner sites connect to an order management system that communicates with SAP for ERP and inventory and warehouse management systems. Limited insight — complete, real-time visibility and observability across all of its Tier 1 critical applications and data stores — combined with the pressure of needing to consistently deliver exceptional customer experiences at every stage of the process left Carhartt's IT team fighting fires without all the information they needed to pinpoint an issue and resolve it quickly.

"Our MSO application, which is responsible for materials planning and inventory control that powers our entire just-in-time manufacturing and distribution model, is 100% essential to our success but became the single most significant choke point for our operations," Carhartt's Supervisor of Systems Engineering Mike Karasienski states. "The teams supporting the MSO application didn't have good enough visibility to understand whether a slowdown or outage was actually a problem with the application itself or caused by something on the infrastructure side. It underscored just how important granular visibility and root cause analysis is to our success."

Key Benefits

- Saved millions of dollars by preventing service outages
- Reduced overhead and OpEx by more than \$500,000
- Gained complete, real-time 360-degree visibility into front-end and back-end systems on all platforms for proactive service optimization



Solution

Actionable intelligence for long-term success

Seizing the opportunity to completely rethink how the company approaches IT infrastructure and operations by prioritizing visibility across the whole technology stack, Carhartt adopted AppDynamics to gain greater operational insights and help ensure the long-term success of its aggressive digital transformation initiative.

Carhartt is using AppDynamics to unify previously disparate application and network monitoring efforts. AppDynamics delivers a single solution for observability into every Tier 1, mission-critical application such as its SAP HANA ERP, e-commerce and main customer sites, and the middleware layers that connect with warehouse, inventory, and distribution systems.

"AppDynamics gives us a real-time look into what's happening in every database, application, and cloud instance so we can understand how our data is flowing and proactively identify potential service issues that may impact our ability to serve our customers," Masey says. "That kind of full-stack visibility is so vital when customers expect a frictionless experience every time."

AppDynamics' business performance monitoring tool, Business iQ, and the platform's single page application monitoring capabilities are shining light on previously obscured systems and activities. The company uses Business iQ to monitor and visualize each step of the customer journey — from website visit through fulfillment — over a secure and expansive Cisco-based network.

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"Cisco is our network vendor of choice because it's proven to be a stable and reliable foundation for our whole operation, even as we expand our SD-WAN," Karasienski says. "Today all 35 of our retail stores run on Cisco Meraki solutions and in the near future so will our manufacturing and corporate sites, all of which will connect seamlessly and securely to our SAP platform for even greater centralization and standardization."

Business iQ makes it possible to watch each e-commerce application and retail location closely for excessive log-ins and other potential security vulnerabilities, as well as monitor



the flow of traffic between retail and partner channels and the customer site to SAP to instantly understand when channels are up or down or messages aren't flowing properly.

"The message flow used to be between an FTP server and SAP, managed by a third-party SAP app that really couldn't be monitored very easily," explains Edward Ferron, the Principal Consultant at JMFerron and a strategic IT partner to the Carhartt team. "Now we can direct all of that traffic coming into SAP from each channel to Business iQ and use the dashboards to investigate why our auto order-blocking may have triggered, quickly identify problematic messages that aren't reaching their destination, and pinpoint exactly where the problem is so we can fix it before it impacts customer orders."

Meanwhile, the MSO system for inventory planning and management that used to experience periodic availability or performance issues — impacting order fulfillment — is now also performing at peak capacity with AppDynamics. "We've never had dedicated application support for MSO, but with AppDynamics, we don't really need it," Karasienski says. "If there's any slowdown, service degradation, or other performance issue, we can just jump into AppDynamics' report metrics to see both the microservices running in Kubernetes and the application itself and determine where the problem is and then communicate with the right parties — the vendor or our own operators — to resolve it."

Benefits

Playing the long game

Change doesn't happen overnight. Radical change, like Carhartt's digital transformation with an eye on future-proofing a legacy brand — takes even longer. Masey says that few solutions could have enabled the strides the company has made in its initiative quite like AppDynamics. As a result, Carhartt has virtually eliminated costly service or application downtime, helping it to avoid millions of dollars in lost revenue as well as erosion of customers' trust in the purchasing process.

"AppDynamics helps us visualize the key components of our environment and prioritize issues by the impact they'll have on the business and our customers so we're using our limited time and resources more productively," he says. "The tool does the work of an entire team, so we've saved hundreds of thousands of dollars just in salaries and operating costs without sacrificing any visibility, control, or performance."



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Masey and team acknowledge that there are still some hurdles to overcome in the future -- particularly when it comes to cloud expansion -- that will require the full-stack observability that only AppDynamics can deliver.

"The cloud — specifically infrastructure as a service (IaaS) — is the future of this industry and our business. As we transition more workloads to Azure, Google Cloud, or AWS, we'll need to be able to see into every database, connection, and application to optimize performance around the clock," he says. "AppDynamics is the only solution to offer visibility into every corner of our environment and identify areas of weakness and opportunity. And because it's so intuitive, everyone on our team regardless of title or role will have the ability to keep the engine running, supporting the goal of providing exceptional products and experiences for this generation of customers and generations to come."