CONNECTED SOLUTIONS: HOW RHEEM LEAPFROGGED THE COMPETITION BY CONNECTING THOUSANDS OF SMART AIR AND WATER PRODUCTS WITH CLEARBLADE

& Paving the Road for Millions More

You don't become America's #1 water heating brand by keeping up with technological advancements – you surpass, create and customize them.

As the only manufacturer in North America that produces heating, cooling, water heating, pool/spa heating and commercial refrigeration products, Rheem® today is redefining what it means to be connected and protected. Rheem's plan – find an IoT edge computing cloud solution that connects and monitors every single one of their smart products in a stable, scalable way.

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CHALLENGE

Time, Resources, Efficiency

Rheem has long been at the forefront of technology, whether it be winning awards for innovation, efficiency or industry firsts. So it's no wonder their vision for creating a smart connected family of products, branded Rheem EcoNet®, needed a flexible, scalable edge IoT cloud platform. Unfortunately, they appeared to be ahead of their time and the market's ability to provide an adequate platform.

The challenge was how to get all their smart HVAC and water heaters connected to the cloud in the best, most scalable and stable way. Their system at the time, like many enterprise systems, faced too many challenges in terms of stability, scale-up time and monitoring resources. As they grew, wanting to pave the way for connecting their products around the world, they realized they needed to make a systemic change, and they began to look for the best cloud solution.

A Rough Beginning

Rheem worked with one IoT vendor with the goal of setting up a system that could scale up to millions of products, and creating the IoT solution they and their customers needed. However, this vendor faced just as many challenges as Rheem had, even though they claimed to specialize in connected products.

They were unable to scale to support the initial water heaters without unmanageable server costs, let alone pass the stringent device stress test Rheem required. Their elementary architecture did not integrate well with Rheem's legacy environment, and only a fraction of devices could connect simultaneously before issues began to arise. Unfortunately, it became clear that this vendor would be unable to grow with Rheem to meet future needs.

At this point, Rheem set out to build their own platform. But, while homegrown solutions might seem like the perfect way to get exactly what they needed, the challenges in WiFi module connectivity, security, scalability, lost messages and data, and operational resources became a huge drain. The team realized they were on the verge of losing sight of the big picture – of their main products and clients. They knew what they were trying to do was groundbreaking, on the brink of technology, and they needed to find the right partner for them.

> "When you're busy running your own solution, you don't get to do the job you're best at: focusing on product innovation. It was time to look again for a partner and hope that technology had caught up with our vision."

- Bill Brown, Senior Manager Cloud Architecture, Rheem

When you've already tried everything

So they looked again to find someone to partner with – something unlike the last partnership, someone that could handle them, if that even existed.

SOLUTION

Rheem found ClearBlade, an IoT platform and edge computing software company enabling enterprises to rapidly engineer and run secure, real-time, scalable IoT applications.

ClearBlade was not only able to support and host the exact system Rheem needed — with reliable **product connectivity**, speed, efficiency, and scalability — they did it without reworking Rheem's legacy environment. They integrated seamlessly with existing architecture and proved scalable beyond what Rheem had begun to think was possible.

ClearBlade, with their fully customizable and scalable edge computing IoT platform, successfully connected Rheem's smart products to a stable and robust central cloud management system.

BENEFIT

ClearBlade truly listened and had the expertise to meet our needs; we weren't a guinea pig for them. They understood our pain points and they gained our trust even before we saw their ability to scale to the volumes we needed.

- Bill Brown, Senior Manager Cloud Architecture, Rheem

A solution for every problem

ClearBlade stood apart for a number of reasons, starting with integration. ClearBlade's collection of systems allowed Rheem to pick, choose, customize, and integrate the exact pieces they needed to get all their products connected at the edge.

Grows with you

The solution, custom-tailored, fit seamlessly into their existing architecture, and proved that it could fully and efficiently handle millions of devices. The built-in security and scalability far surpassed what Rheem expected given their experience with their first attempted solution and their homegrown one.

No surprises

Not only could Rheem's team reallocate their brainpower and focus on what matters most: the products and their customers — they could rest easy knowing there will be zero cost surprises. Unlike popular solutions that are metered based on use, ClearBlade is controlled — no cost surprises, ever.

RESULT: INTEGRAL EXCELLENCE

Adaptability & Integration
Through the Rapid Development Tool, IPMs (IoT Package Modules), and a collection of systems to integrate with (like anomaly detection, facial recognition, and AI), ClearBlade is entirely customizable and controllable. Using only a managed cloud service, Rheem was then able to drop their homegrown solution entirely, add fail-safes, and employ disaster recovery. ClearBlade seamlessly integrated and built upon Rheem's existing and legacy environments, simplifying and optimizing as it went. **The solution fits and will easily grow without having to alter Rheem's architecture.**

Visibility
Rheem now has real-time, uninhibited visibility and edge analytics into all connected products.

Scalability
ClearBlade successfully provides a solution that can scale with Rheem's rapid growth of connected devices.

Focus
Rheem now can focus fully on what they do best, like continuously improving and adding value to their smart products.

Speed
Unlike the cloud solution Rheem tried first, which had distributed and separate web-based services and communication across the wire (extreme latency), ClearBlade is custom-built single binary, meaning no traveling the wire, greater security, internal memory, and speed. Rheem's new system with ClearBlade utilizes JavaScript and leverages industry best practices, resulting in significantly less testing and on-boarding time for connecting new products. **What once took Rheem 6 weeks, now takes 6 minutes.**

Reliability
With all their devices now at the edge, central servers are not bogged down and efficiency is flourishing.

Security
ClearBlade is tried, tested, and true. You can't construct a better solution with built-in security.

Cost control
No tiers, no meters. Controlled cost and no surprises, always.

"Never build your system to fit someone else's pre-packaged solution. Find someone that can exceed your needs while building around your existing systems. ClearBlade is the only one we found who could do it."

- Bill Brown, Senior Manager Cloud Architecture, Rheem