# ROBIN

## Industry

» Healthcare

## Challenges Resolved

» Microservices manageability

» Always-on availability

» Quick scaling of microservices

» Microservices real-time monitoring

## Business Benefits

» Always-on operational efficiency

» Increased developer productivity

"At VitalConnect, we fully embrace the microservices architecture. It provides us much needed scalability and agility, but at the same time, we have experienced the complexity and pitfalls of individually deploying and managing the microservices that make up our application", **says Steve Seike, Principal Software Engineer, VitalConnect**, "In ROBIN, we have found a solution that standardizes and simplifies managing microservices by wrapping them in a single entity. Our developers can now deploy and manage all relevant microservices with 1-click operations, which saves us significant amounts of time in our day-to-day operations, particularly when you factor in the time we used to waste fixing manual deployments gone wrong."

## Business Overview

VitalConnect is on a mission to change the nature of patient care in hospitals and healthcare facilities around the world. The revolutionary Vista Solution™ platform from VitalConnect contains the VitalPatch®, an elegantly designed biosensor, that sends vital sign data seamlessly to remote caregivers, giving them a powerful view into the critical readings that helps improve the quality of patient care.

From heart rate to body temperature to single-lead ECGs and more, the VitalPatch provides real-time data to enable a rapid response to emergencies and longer-form data for patient analytics. By consolidating eight critical vital signs into one wireless biosensor, VitalPatch enables a new view into healthcare, but more importantly, it connects all interested parties in a patient's recovery. By allowing patients to receive quality care outside of a traditional clinical environment, the Vista Solution delivers a degree of freedom and mobility that was never before possible.

## VitalConnect Architecture and Critical Requirements

The cloud portion of the Vista Solution™ platform is built using modern microservices architecture. The application consists of about 15 independent microservices, each of which serves a specific purpose. These microservices interact with each other to provide the end-to-end solution. The Vista Solution is delivered as Software-as-a-Service (SaaS) to hospitals and healthcare providers. Given the microservices architecture, SaaS delivery model, and health-critical nature of its solution, VitalConnect has the following requirements:

**Microservices manageability:** VitalConnect needs a simplified approach to manage their microservices-based application. Deploying the application can be challenging for developers, QA, and operations team due to multiple microservices requiring careful coordination.

**Always-on availability:** The Vital Solution platform is health-critical because it connects patients with healthcare providers by sharing vital signs data. VitalConnect cannot afford downtime.

**Ability to quickly scale a microservice:** Each micro-service is independent and should be scaled individually, depending on the load. VitalConnect was looking for a solution that would simplify scaling microservices on-demand.

**Real-time monitoring of microservices:** VitalConnect needs visibility into the performance and resource consumption of each microservice in order to detect any potential issues and proactively take action to fix the issues before they impact customers and end-users.

## Technical Benefits

Healthcare leader Vitalconnect gains microservices manageablility, cross-datacenter failover, performance monitoring, and 1-click scale-out as well as scale-up with ROBIN.IO

# ROBIN Platform Simplifies Microservices Management

ROBIN simplifies the use of container technology by providing a platform with built-in storage, networking, and application management to deliver a production-ready solution for managing containerized applications.

» **1-Click manageability for the entire suite of microservices:** The ROBIN Platform enables VitalConnect to wrap the microservices in a single entity (called a "bundle"), and provide an app store experience to developers. This means the developers can now deploy the entire application, with all its microservices, with a single click.

» **Cross-datacenter failover:** At the application placement layer, when deploying an application, ROBIN can configure service+data placement policies across nodes in different data centers, which in this case, are different availability zones in AWS. At the control plane layer, ROBIN replicates configuration and metadata across sites. When one of the sites goes down the surviving site elects itself as the "leader" of the control plane, ensuring the continuity of operations.

» **1-Click scale-out and scale-up:** ROBIN provides a self-service interface where developers can easily scale-out or scale-up individual microservice, without having to create IT tickets.

» **Performance monitoring:** ROBIN provides a time-series analysis of real-time and historical performance and resource consumption of each microservice, making it easier to detect anomalies and set up alerts.

## Benefits of ROBIN Platform

» **Increased developer productivity:** Developers can now deploy and manage the microservices-based application using 1-click operations. This saves valuable time for developers every day as they build new features and have to deploy and test the microservices multiple times.

» **Improved quality:** The fact that a single bundle describes and specifies the entire application benefits VitalConnect's quality system and eliminates most differences between Dev, QA and Production deployments, compared to traditional deployment methods.

» **Always-on operations:** The cross availability zone failover on AWS means VitalConnect application will continue its operations even in the event that an EC2 instance or an entire availability zone goes down. The auto-failover takes only a few seconds, making sure end-users experience little or no interruptions in service.

» **Lower infrastructure costs:** The ability to scale microservices on-demand helps VitalConnect avoid overprovisioning of resources. As a result, the AWS resources can be more effectively managed across Dev, QA, Staging, and Production environments, resulting in a lower overall cost.

» **Higher customer satisfaction:** The ability to set up alerts and detect anomalous behavior of a microservice helps VitalConnect fix application issues before they cause problems to the patients and healthcare providers. The uninterrupted experience helps build trust with the end-users and leads to higher customer satisfaction.

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