Leveraging AWS Serverless Infrastructure to Embed Advanced Analytics

How Serverless Eases Deployment & Management of Robust Apps

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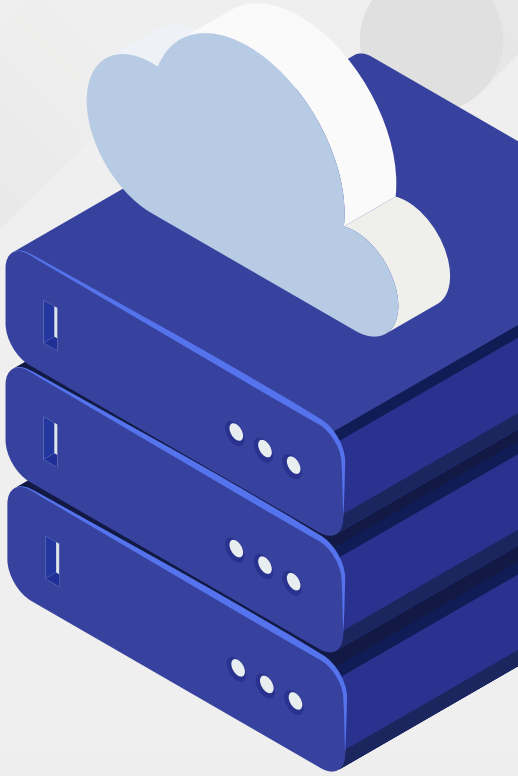
Presented by:

Qrvey | Embedded Analytics for SaaS Companies

The growth of AWS microservices, serverless architectures, and supporting services have made it possible for SaaS companies to quickly enhance their products, build more robust roadmaps, and improve their customer experiences - all while potentially lowering costs and simplifying maintenance. In this paper, we provide specific examples of how to embed these functions within your serverless environment, and discuss the operational benefits achieved.

The Birth of Cloud Computing



Few might remember that Amazon.com Inc. was once an online bookstore. In launching Amazon Web Services (AWS) in 2006, the company is credited with also developing the entire concept of public cloud computing as an industry. AWS continues to dominate the industry, with a reported 15% increase in net sales to $127.1 billion in the third quarter of 2022. According to estimates from technology industry researcher Gartner, AWS controlled about 39% of the cloud infrastructure market in 2021.

This scale enables the cloud computing giant to continually innovate, delivering new features on a near daily basis. I once heard a tech CEO joke that AWS can merely post a blog announcing new, free functionality, and a team of entrepreneurs somewhere is crying because their business has been killed. The introduction of serverless functionality is yet another way AWS has been a leading innovator.

The Value of Serverless Infrastructure

Serverless Infrastructure fundamentally alters what you're renting from your cloud provider. You no longer need to own -or even rent- server capacity, which means you no longer have to pay for idle.

Better yet, **you don't have to manage it**. Relegating these responsibilities to your cloud provider frees up your internal resources to focus on activities which add value to your organization. There's no need for your developers to code in the scalability logic, which also reduces the application's complexity. Combined, this enables serverless to deliver minimal DevOps, rapid feature velocity, and scalability that's limitless and automatic.

Serverless = Manifestation of the Full Potential of Cloud

Serverless is what the cloud was meant to be. It empowers companies to focus solely on their application logic and the unique value they deliver to their customers, while the cloud provider does all the management, orchestration, configuration, and patching necessary underneath. Serverless minimizes DevOps while enabling rapid release of new features.

Of course, those benefits of serverless aren't worth much if you can't take advantage of them, or if you're forced to entirely rebuild your app in order to release updates.

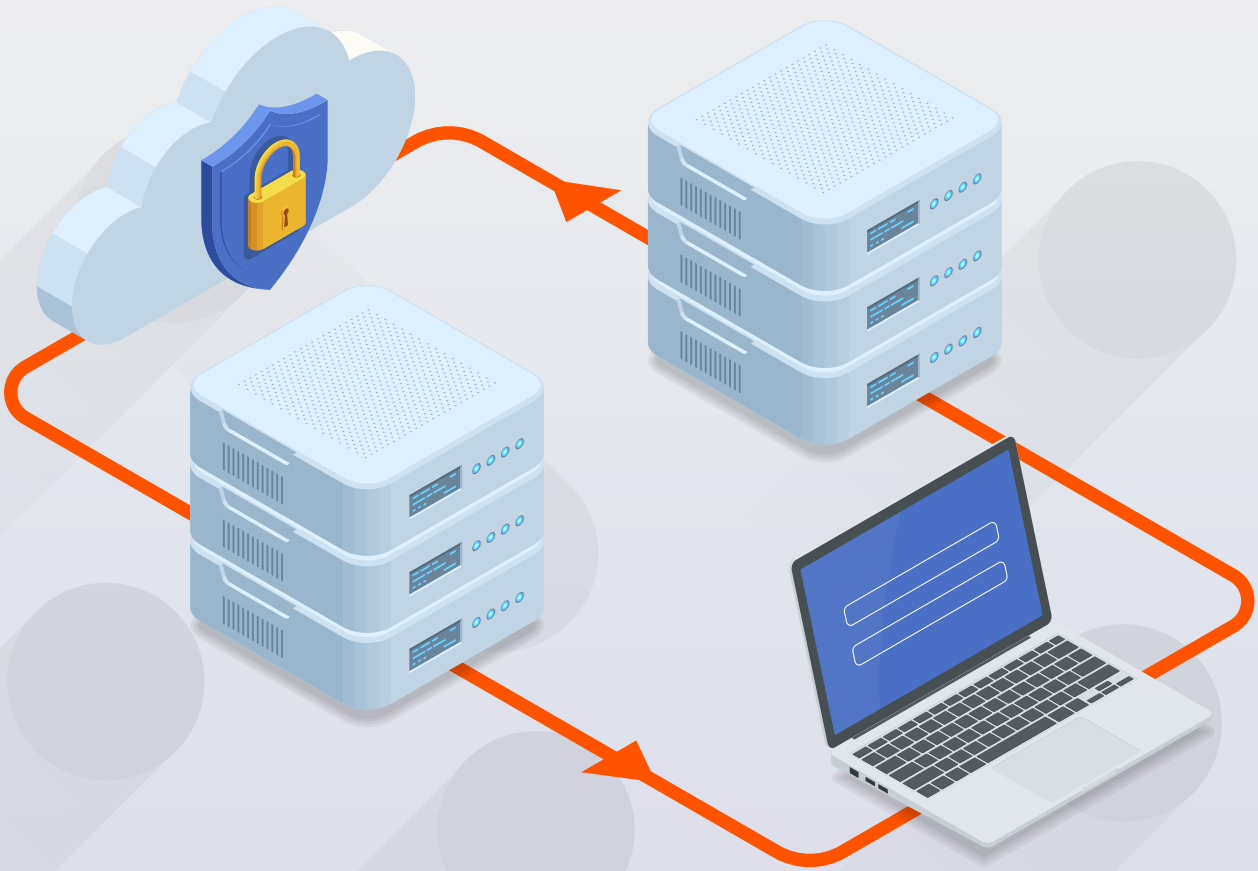
But leveraging AWS to embed advanced analytics brings numerous advantages to SaaS providers.

1 Works Well with Existing Architecture

Rather than provisioning servers to scale to the maximum capacity required, serverless architecture changes the entire equation. Serverless applications are comprised of independently scalable and managed functions, enabling you to use best of breed technology. With the frequent launch of new services within the AWS ecosystem, you can take advantage of the many options.

AWS is also particularly advantageous for embedding advanced analytics. Serverless components, in particular, are ideal for meeting many of the unique needs of SaaS companies, such as data security and governance. Ideally, SaaS vendors should keep data within their environment rather than sending it to a third party. If your SaaS solution is one of the many that require multi-tenancy, your analytics must be able to operate within your own architecture, leveraging things such as SSO to enable a user/tenant-based security model. Row-level security is also a must. With microservices, you can integrate analytics functionality into your workloads without any additional integration.

SaaS providers often require multiple environments to support the development lifecycle.



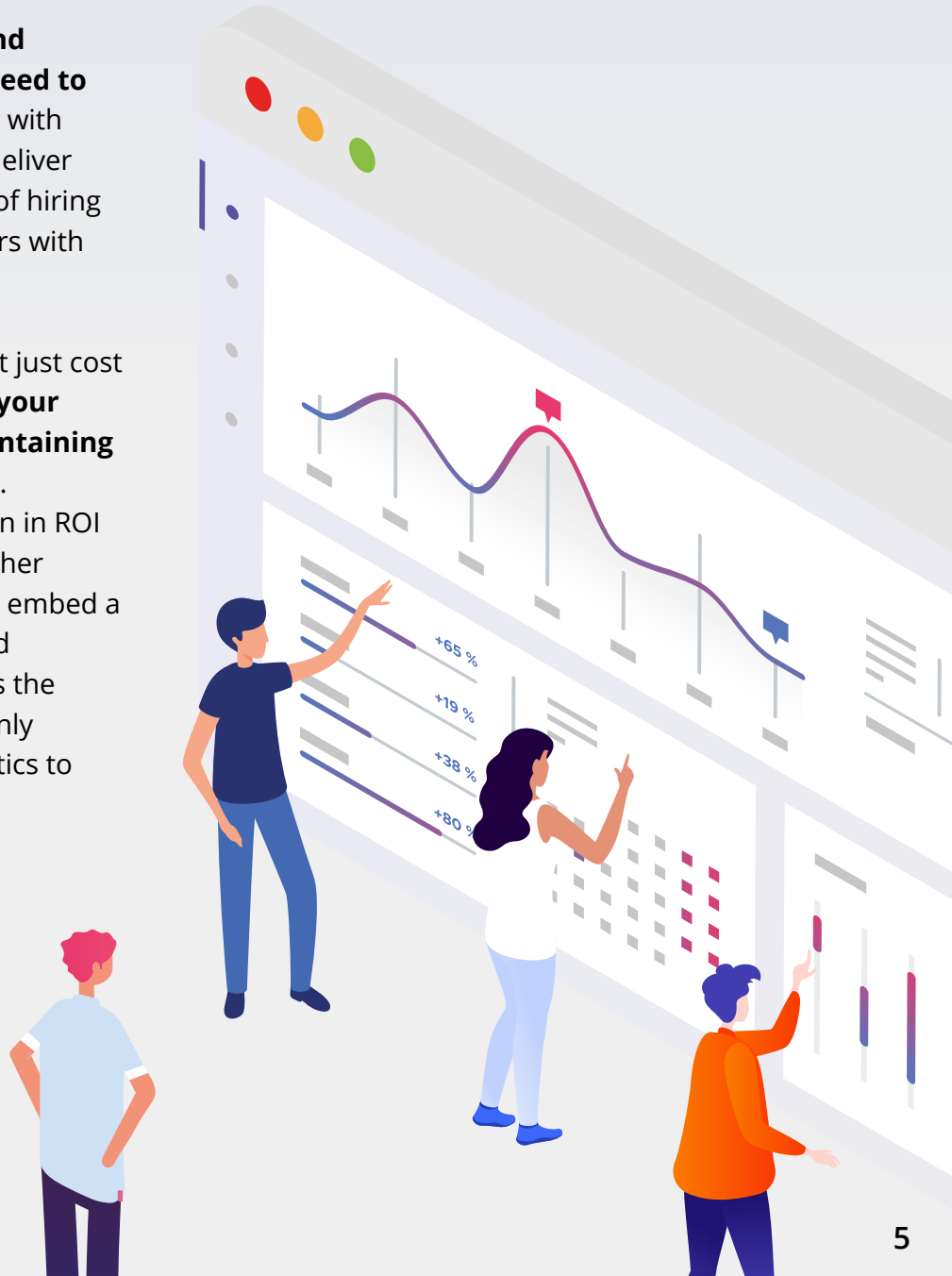
2 No Need for In-House Expertise

Embedding analytics alleviates the need for in-house expertise in data visualization, analytics, etc. Not only is your company relieved of the need for BI expertise, by embedding self-service analytics, you can also **leverage the expertise of your end users**. With the freedom and power to create their own custom analytics, you can empower users to **increase the utility and value of your app**. As your users experience increased benefit to their organization, you can also boost customer retention. The ability to bring in both semi and unstructured data adds further value and the potential for growth.

Embedding analytics of a third-party vendor also **lets your team focus on your core competencies.** Dedicate time and energy to enhancing your app's unique value, and expanding your competitive advantage.

Embedding analytics saves time and money because it eliminates the need to hire and retain a team of developers with analytics expertise. Embedding can deliver real ROI without the extensive costs of hiring or even outsourcing senior developers with the requisite analytics expertise.

Finally, developing something doesn't just cost money upfront. Completely **owning your analytics component requires maintaining it long term**, adding additional costs. Although they're sometimes forgotten in ROI calculations, maintenance is yet another hassle taken off your plate when you embed a third party. In addition, a well-defined roadmap from your vendor alleviates the need for your team to work on not only maintaining, but *enhancing* the analytics to continue adding value.



3 Manageable Cost

AWS describes their pricing as, “similar to how you pay for utilities like water and electricity. You only pay for the services you consume and once you stop using them, there are no additional costs or termination fees.”

For serverless components in particular, **the biggest source of cost savings is the precise alignment between use and fees**. This cost reduction is particularly profound with sporadic usage patterns. If your application is business-focused and thus used predominantly during business hours, why should you pay for nights, weekends, and holidays? B2B or not, few applications have consistently heavy usage 24/7/365.

Instead of building an always-on architecture of multiple servers that can support those busy days - leveraging serverless and microservices results in a more distributed architecture that can scale up when needed, and then automatically scale back down.

Embedded Functionality Must Be Built for Your Cloud

Development teams are increasingly building new applications leveraging serverless, as well as modernizing existing apps. If your app is cloud native, any functionality you embed must work within this structure so you can continue to attain these cloud benefits. A monolithic model can sabotage your cloud native infrastructure in numerous ways. For example, you could revert to paying for idle and be saddled with unnecessary additional costs.

But embedding well-architected components into your well-architected app, the incremental cost will be minimal.

To find out more, visit us at **Qrvey.com** and sign up for our Daily Demo to see our platform in action.