What You Need to Know About Transportation Software on the **Cloud**

Imagine this: You have traveled in time to the late 1980s. You've met someone on the street and want to tell them about your job and the software you use. Now think of how you'd explain using "the cloud" for applications as opposed to the desktop software that person is using.

Today, it's easy enough to talk about the cloud by using examples: an Internet provider like Gmail, a CRM like Salesforce or some other SaaS (software-as-a-service) cloud-based application.

But in the transportation world, cloud needs some explaining. To the extent that technology is used for transportation scheduling, it is either desktop-based or client-server based. This outdated approach results in some of the problems plaguing public transportation scheduling, such as slow optimization runs that damage business agility.

It's important to know that not all cloud-based systems are created equal. Becoming "cloud-based," "cloud-hosted" or "on the cloud" does not provide the same benefits as being cloud-native. So what's the difference?

Cloud-Native: Collaboration, Security, Availability

Cloud-native applications were designed from scratch for cloud deployment. They are hosted on on-demand cloud computing platforms, which can scale computing resources as needed. The result delivers all the benefits inherent in software-as-a-service systems, just as you'd get when moving from a hosted email system to Gmail. Here are some benefits of cloud-native software:

- The software is immediately available for users, with no installation and no need for IT support, hardware installation or database management.

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- The software is accessible from any computer with Internet access, making it easy to work remotely.

- The application on the cloud is always seamlessly and continuously upgraded, so that all features become immediately accessible with no need for labor-intensive upgrade cycles.

- By nature of the cloud, there is a seamless scaling of computing resources. This is especially important for heavy optimization runs, which greatly benefit from the ability to simultaneously run on many virtual machines at once. Advanced optimization algorithms contribute to even faster speeds.

- Sharing and collaboration of scheduling and planning work is simple and easy, based on user permissions, saving the need to create client-server connections or share data that's on an on-premise computer.

- Cloud-native applications have superior security and backup capabilities that are used by cloud service providers, exceeding what most enterprises can do to prevent security breaches or data loss.

Being cloud-native is crucial for applications and optimization in the transportation industry, because the nature of these problems requires a lot of computing horsepower. That's why a cloud-native architecture is crucial – it distributes the load across many computing resources, delivering quicker and better results than traditional desktop-based or client-server software. For instance, using a Function-as-a-Service architecture.

Cloud-Based: On-Premise Software in Disguise

A cloud-based, or cloud-hosted, application takes on-premise software and moves it from an on-premise server (or desktop) to a dedicated server on the cloud. This server is managed by the software vendor. Some application functionality may remain on the client side. In short, it is an on-premise application that can be accessed remotely. While this may sound as good as cloud-native software, it isn't. Here's why:

- Software upgrades are not seamless. They are still lengthy since upgrades are manual and done specifically for each remote server.

- Optimization isn't faster because cloud-based software can't take advantage of the cloud structure to scale computing resources.

- Typically a local client desktop application is still used, or there is remote access to some machine that has a client installed, so the system isn't accessible from everywhere.

- Data is not easily shared across the organization, so there is no collaboration between a central team overseeing planning or scheduling and local operations.

It isn't enough to deliver databases, storage and infrastructure through the web, or to pay per consumption of computing resources, because these cloud-hosted deployments do not exhibit all the advantages of cloud-native offerings.

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Conclusion

As traditional transportation software providers try to modernize software systems based on client servers or desktops, and as cloud-native applications are disrupting the market with a better user interface and speeds that eclipse those of older systems, many claim to have systems on the cloud.

But software that is hosted on the cloud does not provide the same advantages as cloud-native software. True cloud-native software-as-a-service gives transportation operators and agencies the power to run their business without worrying about software or hardware. Systems that are merely cloud-based or cloud-hosted are at heart the same old system.

To learn more about cloud–native transportation software, go to www.optibus.com or email us at info@optibus.com

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