

How to spot a fake cloud TOS

by Harry Nguyen, *Founder and CEO, Realtime Business Solutions*

The ongoing digital revolution is remorseless. More and more data sources and interfaces need to be integrated. More and more market participants need or want to receive information in real-time. Increasing data volume slows down terminal operating system (TOS) services and makes them sluggish. If possible, all processes should be automated. Cloud TOS – through the ability to control an entire terminal via the browser on a laptop or even a mobile device – offers operators an opportunity to future-proof their operations. In principle, this is already possible today. However, operators should pay attention to what exactly is called a “cloud solution.”

Before going “all-cloud,” TOS customers should ask themselves simple, yet vital questions: what data is located here – and exactly where? Will only hosting of the previous terminal computer be relocated and the user can only connect to the system in a different way – and how many steps does it actually take to access? Is the system flexible enough to accommodate for future upgrades?

Fake TOS drives out genuine?

Technological advancements yield new opportunities for the maritime sector in transforming and innovating conventional methods of handling terminal operations. One of the latest movements established in the industry, which has induced higher efficiencies in operations and expanded its target market to terminals of virtually any size, is Cloud TOS. The benefits of having a genuine Cloud TOS are evident, which brings us to the question of why the adoption in our sector is moving so slowly?

Cloud computing is a powerful tool, requiring in-depth knowledge and specialized expertise to incorporate correctly into a TOS. A Cloud TOS has transpired as a great concept, and while a few to none successfully curated a full TOS entirely on the cloud, others struggled to emulate it into fruition. As such, translating the technology into architecture and software posed a challenge that some early adopters integrated a fake Cloud TOS, which exposed them to a manifold of vulnerabilities. When desired results failed to emerge, all Cloud TOS on the market lost its credibility and foothold in the industry.

Shortcomings undermining real cloud technology advantages derive from

terminal operators failing to differentiate a forged from a pure Cloud TOS. To remedy the situation and help terminal operators make an educated decision before spending a lot of money, let's go through four avoid-and-do steps when investigating whether we're dealing with the real thing or just a sales pitch sham.

Non-real-time connection

In any TOS, either on-premise or on the cloud, a true real-time architecture is necessary for driving precision in decision-making. The key is to avoid taking transaction processing for real-time. Standard TOSes are quite commonly characterized by the former, which entails a system-oriented method that ingests data statically and sequentially. Due to the inflexibility in planning, data becomes liable to redundancy, and information is no longer reliable to make accurate or optimized decisions. If system hang occurs frequently and the number of container re-handles is high, under-performance is likely linked to the TOS forging a real-time connection.

Instead, it's better to adhere to a web-based TOS that conceives instructions from data always in the most updated state. A TOS embodying a true real-time architecture devises from a centralized server infrastructure that facilitates parallel processing, in-memory start-up, and support multiple applications running in simultaneity. A genuine, real-time environment streamlines processes, optimizes resources, and makes accurate decisions so that terminals can achieve maximum efficiency.

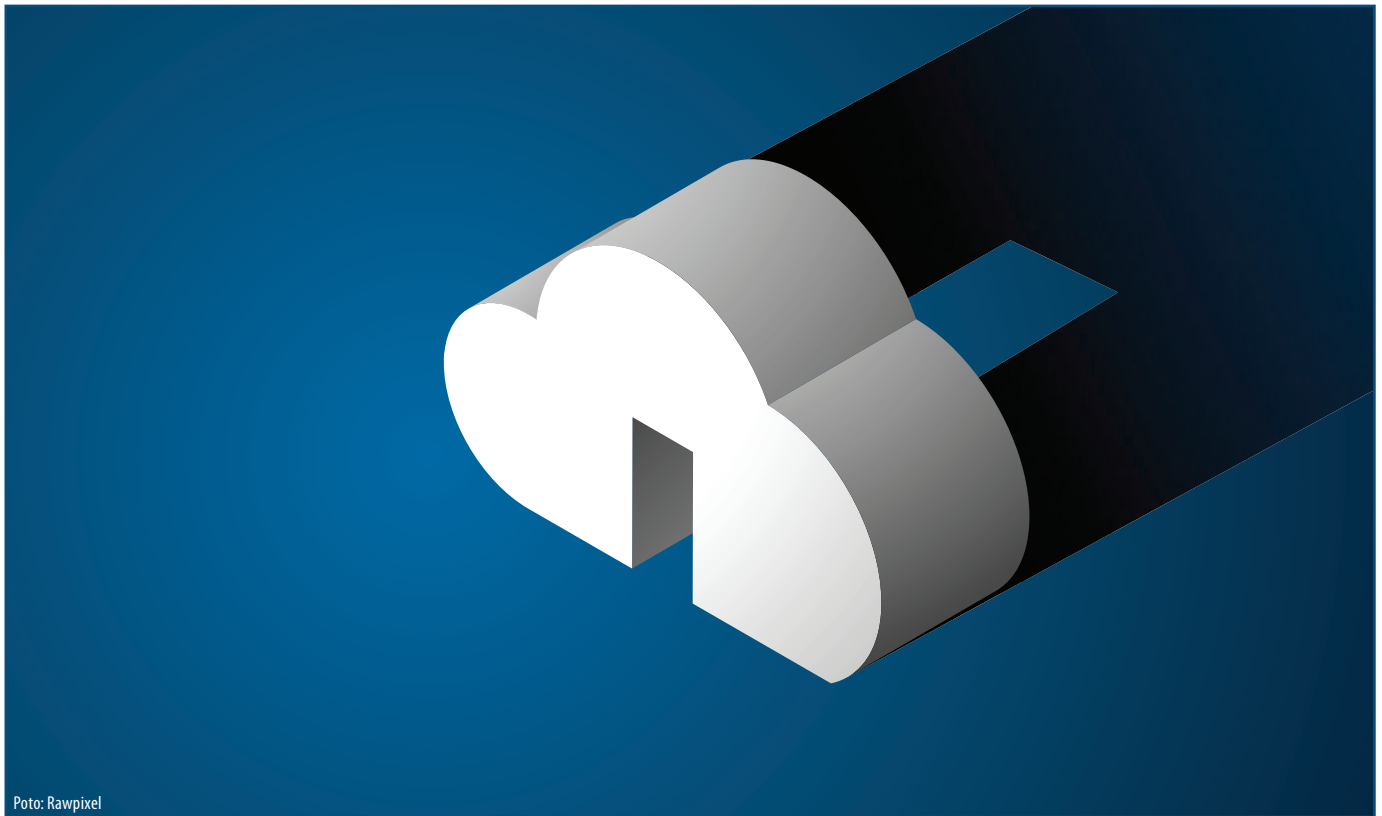
Requires virtual machines to run (inhibits instant access)

An authentic Cloud TOS exists as a software-as-a-service (SaaS), and therefore, system start-up is warranted by login through a web browser. However, if the software is hosted on a virtual machine and requires remote desktop login before running and logging into the application, the TOS is exhibiting a fake cloud infrastructure. Not only does using a virtual machine add a layer that creates several unnecessary steps before allowing access, but it also reduces the data processing speed. Outcomes of inefficiency, slowed usability, and high cost of implementation are all tell-tales of a fake Cloud TOS. Terminals are therefore urged to recognize these red flags since a system infrastructure of this type is equally resource intensive as it is financially exhaustive, all of which are not characteristics of cloud computing.

A real cloud solution is, in contrast, transparent; data are leveraged on a real-time basis and access is granted immediately through any web-enabled device. Truth be told, any Cloud TOS that strays from core cloud principles won't deliver operational or financial benefits. As such, be diligent when selecting a TOS on the cloud from a pool of providers and take the initiative to question every aspect concerning the systems infrastructure, architecture, and functionality. A real Cloud TOS divulges true constructs of real-time architecture and drives massive cost savings from removing the responsibility of hardware and infrastructure of the terminal operator's hands.

Requires upfront CAPEX/high implementation costs

A TOS that truly manifests cloud characteristics is a cost-effective solution that



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can offer the full scope of capabilities as an on-premise TOS. However, this isn't very easy to accomplish if the system design of an alleged Cloud TOS requires tens of servers to function and perform efficiently. Due to the plethora of servers needed to run a TOS, it is evident that the expenses and implementation costs aggregate ridiculously. A hefty invoice indicates a poor knowledge of cloud semantics which failed to convey in software development.

Terminal operators, instead, must seek for a Cloud TOS that can sustain a centralized infrastructure with a minimal number of servers. Only then can the system achieve real-time processing and subside implementation costs to a minimum. Migrating data to the cloud creates a shared responsibility between cloud and TOS providers. As the former manages data warehouses and cloud facilities while the latter administers the software, an environment of using fewer machines and hardware implicitly frees up capital to allocate to profitable projects. Terminal operators are, in turn, able to gauge tremendous visibility over their operations and use these resources to exercise their competitive strategy.

Unable to easily and economically scale resources

A fake Cloud TOS refuses to future-proof operations since its rigid architecture

cannot efficiently scale or seamlessly integrate various modules to accommodate growth in container throughput. As a result of the limited expertise and knowledge of the cloud, any changes in architecture or infrastructure will not be economical. The conception of a Cloud TOS was to eliminate barriers of entry and introduce autonomy to smaller terminals. Although a TOS with simple functionality may cater to existing business requirements, what if operations change or the terminal expands in the future? Terminal operators, therefore, must steer clear from TOS providers lacking an innovative direction or failing to articulate their product roadmap clearly. In short, terminals are already falling behind if they're only planning for now.

A TOS truly on the cloud is both data and system agnostic, so terminal operators hold a crucial responsibility in adopting a flexible Cloud TOS. A true Cloud TOS has the dynamic capacity and innovative

functionality to respond efficiently to fluctuations in container throughput. Similarly, a TOS accurately portraying cloud attributes upholds the power to be cost-effective and interoperable when new modules append to the existing scope of capabilities. Neglecting diligence in selecting the correct TOS can impose many dangers, one being technologically inept in a world that is finding it challenging to survive independently.

Cloud TOS reloaded

Although advancements in technology may become disruptive, rejecting its presence may close avenues that prevent more efficient methods for running terminal operations. That not only degrades the terminal's market position, but it drives a downturn in the economy. The industry must rise from the misconceptions of the cloud and understand its incredible potential. With a newly-formed understanding of the critical detectors, it is easy to differentiate a fake from a true cloud TOS solution. ■



Realtime Business Solutions (RBS) is a wholly-owned Australian company formed in 1991 and specialized in the development of software applications for the terminal container handling industry as well as providing consulting services to the container shipping and rail businesses. RBS' portfolio includes installing terminal operating systems all over the world, from its home turf in Australia and nearby New Zealand to Europe (France, Germany, Italy, Lithuania, Romania), Asia (Japan, Indonesia, Taiwan, Vietnam), Africa (Egypt, Togo), and the Americas (Brazil, Panama). For more info on the company's solutions and expertise, please visit <https://rbs-tops.com>