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PGRI Introduction: Cloud computing, in which computing power resides in a location different from the points of application and is delivered over the internet, has emerged as one of the Big Themes of the industry. Being a sales guy, I want to understand precisely how technological advances like this translate directly into a better consumer experience. So I asked INTRALOT if I could interview their top technical executive to help me connect the dots. Thankfully, Mr. Farris also has 23 years of experience in the gaming industry, starting with INTRALOT at its inception in 1992. He articulates the way that technology is driven by consumer trends, but also how technology is driving some of those trends, and why the gaming and lottery industry needs to catch up with the technologically advanced consumer.

Paul Jason, Public Gaming: *First, let's get a thumbnail description of cloud computing and how it applies to the gaming and lottery business.*

Konstantinos Farris: Cloud-based solutions introduce a new operational model for essentially outsourcing IT and computing; moving it off-site to a service provider equipped with the most advanced technology and service capabilities, and delivered over secured internet channels. The generic concept of cloud computing is that computing power is acquired as a service, paid for as you go and on an as-needed basis, as opposed to acquiring the expensive hardware, platform, and communications network yourself.

In the gaming and lottery business, INTRALOT as an expert of the industry has developed the provision of games and gaming services 'as a service' operational model over cloud-based technology. Based on this, the investment in IT infrastructure, along with the cost of maintenance and updating that infrastructure, is all borne by the service provider. In today's demanding gaming market where innovation, responsiveness and cost-effectiveness are paramount, the potential of 'games as a service' over cloud technology is great since it empowers operators to respond more efficiently and effectively to changing market needs across all channels, like land-based, online and mobile.

NEFOS Intralot Cloud is a robust cloud solution that provides the operator with the scalability, flexibility and resource optimiza-

tion it needs to effectively meet demanding business goals, along with improved time-to-market efficiency and reduced costs. It provides a comprehensive portfolio of INTRALOT cutting-edge B2B solutions, including innovative games and gaming services such as exciting monitor games, risk management, live feeds for sports betting, 'eyes-on' fraud prevention and detection system and many others, as well as best-of-breed third party business supporting solutions. All cloud services can be scaled on-demand and utilized for the particular environment that best meets the operator's specific requirements and can also be provisioned as packaged or as custom applications. By undertaking the provision of the cloud service, INTRALOT enables the operator to focus on its core business of implementing the consumer-facing strategies that add real value to the business.

How does a technology-driven company like INTRALOT ensure that the technology adds value to the consumer experience, or at least stays connected to the operators' mission to optimize the player experience?

K. Farris: There are three partners in this equation. The operator has the consumer-facing business whose success is measured by its ability to keep up with the consumer trends and deliver a great player experience. The operator needs to anticipate the direction of those trends well in advance to be properly positioned to deliver the products and services that meet the current needs of the consumer.

Second, there are the commercial partners like INTRALOT who need to have an even longer horizon so as to develop the flexible technological tools and capabilities that enable the operator to serve their customers. And third, there is the ultimate driver of all business which, as you point out, is the consumer. Our job is to work hand-in-hand with the operator to evolve the technologies that deliver and support the products and the delivery systems that will engage the consumer.

It is vital that a technology-driven company like INTRALOT stay connected to consumer-trends and the operator alike. We avail ourselves of all resources to do that, including intense analysis of the technological advances being made by consumer products companies in other industries. For instance, the consumer is quite familiar with the cloud computing experience. Netflix and others are live-streaming videos, Apple has made entertainment content instantly available for download, and Amazon provides a whole range of B2B cloud computing services as well as its B2C service for books and other content. In this sense, the consumer is more technologically evolved than the gaming industry. Cloud computing is actually a consumer trend that businesses need to adopt for the same reason that consumers have already adopted it. In the case of cloud computing, the consumer is actually the early adopter and business needs to be a fast-follower in order to meet the demand for instant deploy-

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ment of new applications and technology.

The main idea, though, is that technology is becoming embedded in the consumer experience and this has a profound impact on the operator side of the gaming and lottery industry. The consumer expects instant access to the very newest content and most intelligent delivery systems. And since there will always be someone up to speed and ready to give it to them, it means that all of us have to be up to speed and ready to give it to them if we want to keep our customers. This is where NEFOS Intralot Cloud comes in, as a service it powers the operator's business by delivering computing resources, gaming content and gaming solutions that in turn enable the operator to deliver the newest and best games and gaming solutions over the smartest and fastest delivery channels to its players.

So, NEFOS Intralot Cloud is not just a method of reducing costs by outsourcing IT. It results in delivering state-of-the-art products on a timely basis over different types of channels. Speaking of delivery, is NEFOS offered via different cloud computing service models?

K. Farris: Indeed it is. These include a Community Cloud dedicated specifically to the gaming sector, in which operators share resources with other operators. Generally, this solution best suits smaller operators as larger operators typically have an existing IT infrastructure that they want to leverage as long as they can. The Community model not only achieves economies of scale but also enables the small operator to tap right into sophisticated and powerful computing centers, delivering the newest and best content, being able

to respond instantly to changes in consumer tastes, and scaling up fast by joining up with other operators of social games where scale is so important. A Private Cloud model is also available for operators that prefer dedicated services, operated solely for them as well as a Hybrid Model in which some services of an operator can be provisioned via a Community cloud while others via a Private cloud.

Are there limits to the amount of data that can be transmitted via the internet, from the cloud to the point of application? Is there a question of bandwidth? What about security and overall system integrity?

K. Farris: The amount of data that can be transmitted to and from NEFOS Intralot Cloud is not an issue – the capacity is flexible and more than sufficient to meet required and growing needs. Moreover concerning bandwidth, in today's world where broadband communications are or are fast-becoming the rule rather than the exception such communication methods are effectively utilized when delivering cloud solutions – NEFOS included. In cases with potential local communication issues, INTRALOT, as a leading technology provider, will draw on its extensive experience in localizing the solution to best meet the operator's requirements. Now concerning security and system integrity, NEFOS complies with state-of-the-art information security standards in cloud computing and in the lottery sector. Among these are cloud security alliance specifications, ISACA Governance, auditing and assurance practices on cloud computing, WLA Security Control Standard, ISO 27001, PCI/DDS.

There's an aspect in which the lottery and casinos do not really compete for the same type of player. The outcome-focused, high velocity casino player will want casino-style games and the traditional lottery player isn't as likely to shift their play over to casinos. The competition will become intense, though, for the explosively growing area of extended-play entertainment and social gaming. I would think that the lack of visibility on the part of the operator to see how these new game categories will evolve and alter the whole gaming environment will put an even bigger premium on staying flexible, being instantly responsive to changes in consumer tastes. Where does NEFOS Intralot Cloud fit into all this?

K. Farris: INTRALOT focuses on what we call the Universal Gaming Experience. Everything ultimately goes back to the consumer, which is why we have developed our technologies to be seamless to the player, irrespective of the engagement model (retail channels, internet, mobile or iTV). To illustrate, all the different games and content relating to operation, marketing and promotions as well as all the related services (like cross-promotions between channel partners) – when synthesized together provide the Universal Gaming Experience.

The next era of gaming will be very exciting, especially for the player. Operators will be delivering an increasingly powerful portfolio of content and technological solutions that consumers will love. Our fundamental mission is to help operators optimize the player experience and NEFOS Intralot Cloud provides operators with an alternative effective operational model to do this. ♦

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multi-state lottery games such as "Mega Millions" (involving the cooperation of 41 states, the District of Columbia and the U.S. Virgin Islands) and "Powerball" (operated by the Multi-State Lottery Association, with membership including 31 states, the District of Columbia and the U.S. Virgin Islands). States that accept some Internet gambling within their borders could agree on uniform licensing, security and operational standards, leaving them free – as indeed they should be – to determine which games will be permitted within their borders. The often-repeated claim that state regulation of Internet gambling will lead to inconsistent rules and standards need not come to pass. Pursuant to state compacts, states could establish a national license and/or national rules and standards for Internet gambling operators.

CONCLUSION

In summary, the claims of the AGA in support of federal Internet

poker legislation should not be accepted uncritically. Upon close analysis, their arguments in support of a federal infrastructure for Internet poker are not compelling. State laws can be passed to effectively deter, prevent and detect underage online gambling, problem gambling and gambling cheating, and existing federal laws can address fraud and money laundering. Further, state regulation of Internet gambling need not result in inconsistent rules and regulations. The states have demonstrated that they can reach agreement among themselves on gambling issues, and they could, pursuant to state compacts, establish uniform Internet gambling rules and regulations. The DoJ Opinion does not create a need for a federal Internet gambling infrastructure. ♦

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