Akamai
Experience the Edge

Future of Gaming

A Report from Akamai Asia Pacific Gaming Leadership Summit 2019

Preface

Being at both the forefront and the deepest back-end of the world's communication backbone gives Akamai a unique vantage point from which to identify new trends and demands that it can help support. For Asia-Pacific's burgeoning gaming industry, Akamai hosted the inaugural Akamai Asia Pacific Gaming Leadership Summit 2019 where leading gaming representatives exchanged views on the development of the gaming industry in the region. This white paper documents the hot-button topics that were discussed such as esports, cloud gaming, geopolitical gaming governance, future trends, monetization of social gaming, security and other issues close to the heart of the gaming delegates.

Powering the Future

There are three themes that will play a key role in shaping the way players consume games in the future: worldwide network latency, consistent and safe game economies and hardware limitations across broad customer groups.

Latency is a major challenge for game publishers who want to reach players all over the world. The target latency for most multiplayer games is about 60 milliseconds if you want players to have great consistent experiences. That latency target is unattainable in some parts of the world, where several billion people live. Studies by Akamai reveal that regions such as the Middle East and Latin America are poorly served by game publishers because network connectivity is unreliable and latency is painfully high, according to Nelson Rodriguez, Global Director, Industry Marketing, Akamai Technologies.

The gaming business will be able to reach deeper into untapped or underserved markets if latency can be reduced. Through the use of intelligent routing and The Edge, Akamai seeks to help the industry tackle the latency challenge in order to unlock significant new gaming markets.

Even in markets with great connectivity, instances of cheating can ruin the gaming experience, but not enough is being done to detect and deter this behaviour. A survey indicates that 37 percent of gamers do cheat in some way, using scripts or hardware mods. While small investments have been made on server-side solutions to prevent cheating, this does not stop cheating altogether. The solution to improve detection appears to lie in artificial intelligence and analytics.

Finally, cloud gaming is currently the promising platform that can increase accessibility to players who may not have the latest and greatest hardware, but Rodriguez cautioned that there are numerous barriers that could limit its success. Latency is the main bottleneck in multiplayer games but even single-player games can suffer from latency, if cloud gaming goes mainstream. In some regions, where players don't have access to good hardware, they also struggle with poor network performance, which will prevent cloud gaming from being the cure for limited access. Business models for cloud gaming still haven't been figured out, and this promises to limit the kinds of games that are made available on these cloud platforms. There's real potential in cloud gaming, but still many questions to answer.

Cloud Gaming

While the concept and dream of gaming on a centralised cloud platform has been around for almost a decade, the realization of this dream has undergone several stages of progress.

The combination of global digital transformation, emerging gaming technologies, 5G, and mobile computing is changing how gamers play and interact with each other globally. When 5G comes into widespread use, it will finally remove or reduce many barriers that currently limit cloud gaming. Content consumption patterns will change substantially, and gaming on the cloud will become more accessible and affordable than offline gaming.

KunYung Park, a senior researcher for internet and telecommunications at Kyobo Securities' Research Division, reckoned that of the 2.3 billion

active gamers in the world, an estimated 300 million to 600 million people will likely adopt cloud gaming on some subscription model. This could amount to some US$540 billion globally, indicating the potential of the cloud for the gaming industry.

When Google Stadia was announced, the company's stock price rose 10 per cent. People are really hyped-in on cloud gaming's potential, and all eyes are now fixated on making it a viable platform.

According to Park, the problem of latency in making cloud gaming feasible is being addressed by the telecommunications industry, and 5G would likely provide the solution. The gaming companies also need to know what platforms gamers prefer in each country – mobile or console. This demographic information can help them position their cloud platform offerings to reduce risk.

A leading gaming company in South Korea observed that there is a rift between 5G service providers and gaming companies. The two have different objectives, and the latter are lagging behind in providing content in South Korea. Unless the two supply chains come to a consensus about priorities and collaboration, cloud gaming may not be successful even when the problem of latency is improved.

Park noted that game publishers need to focus on products that can generate revenue, and AR/VR features cost a lot and eat into earnings. Meanwhile, telecommunication companies may want to upsell 5G services, and the higher costs may impede how AR and VR will be incorporated into cloud games due to dampened demand. The potential for AR/VR game offerings to grow is nevertheless strong, as long as the infrastructure providers work with and not against the interests of the game publishers.

He added that while high-end mobile devices can replace expensive consoles and gaming PCs, their high prices are still a barrier compared to the economics of cloud gaming. Companies such as Sony are already collaborating with partners to reap returns from the cloud's subscription-based model. The potential returns will more than make up for the reduction in console-game revenue, if the cloud-based business model is successful.

Cloud-gaming is all about convenience, accessibility and cost effectiveness. Compared to the mobile gaming platform, cloud computing has many unique advantages, and solving its teething problems can actually boost the appeal of the mobile platform's own advantages.

While the scalability of mobile processing power will eventually reach a limit, the potential for cloud gaming is only just being tapped. Cloud gaming is all about convenience, accessibility and cost effectiveness. Compared to the mobile gaming platform, cloud computing has many unique advantages, and solving its teething problems can actually boost the appeal of the mobile platform's own advantages. The two can co-exist.

When asked whether cloud gaming will be a guaranteed success, Park opined that it will boil down to whether the industry can offer great content, exclusivity in the games catalogue, and how their pricing models appeal optimally to the diverse segments of the global market.

Securing Gameplay and Monetization

Harendra Bhandari, Product Manager of Security at Akamai Technologies, mentioned a survey which showed that 75 per cent of gamers found security to be the biggest worry. In fact, gaming is the single biggest industry targeted regularly by DDoS (Distributed Denial of Service) attackers. Akamai recently encountered an attack spanning 1.3Tbps emanating from all over the world, and the size of the attacks is set to increase due to tools such as AI bots. In one esports event involving the League of Legends, bots were used to buy up all the tickets in a matter of 40 seconds. The tickets were then resold elsewhere at huge markups.

Similarly, attack vectors such as credential abuse and cheat bots are major problems in gaming. Credential abuse attacks that aim to compromise the login credentials of the gaming users represents significant risk towards sensitive information such as credit card numbers and can undermine gaming experience by compromising in game rewards such as in game currency. Cheat bots, especially in the mobile gaming space, have become large nuisance for the gamers who end up playing games against the bots rather than a human. Akamai is helping

the gaming companies to protect against attacks like this using an advanced bot management solution to detect bot activity using machine learning and data science.

Bhandari also touched on API (Application Program Interface) attacks and Common Vulnerability Exposure (CVE) which have all increased substantially in past years. APIs used to be written for specific uses, but now they are written for the widest user base. This has made APIs much larger and more complex, with a larger attack surface for hackers to exploit. And then there is a new class of threats called deserialization attacks, that hackers use to exploit high power servers for bitcoin mining or other nefarious activities.

Akamai is working to address these new threats using advanced solutions that utilize positive and negative security models, API abuse controls and centralized API management features. Akamai's Bot Manager , which is one of the most advanced bot management solutions in the market is an effective solution to protect any kind of attacks that utilize automated tools. Some of the key areas where the customers have found Bot Manager to be of immense value are Credential Abuse Attacks, Gaming API abuse and advanced web application attacks. Bots are controlled not just by simply blocking the bots but alternatively, the bots can be fed fake content as well. The ultimate goal is to not only block the hackers but also to outwit them and not let them know how they were discovered.

In the case of cloud gaming, it represents an opportunity for publishers to control more of the experience themselves, thus reducing some of the security risks.

Battling Security in Online Gaming

A security expert from a gaming company in Japan noted that account takeover is one of the biggest problems he has seen in his 20 years of gaming security experience. Once a user has lost an account to a hacker, it is a challenge to verify the identity of the user before the account can be restored. On top of requesting for proof of identity, his company now also queries the user for information that only he or she would know – for example, certain memorable wins and achievements in the past.

As revenues increase, more resources will naturally be deployed to protect customers and also the corporate brand. Security solutions can help to ease the early detection and identification of cheaters. The gaming security expert believed that the Bot Manager solution holds the key to block probing attack phases as reconnaissance and scanning before they launch an actual attack. He urged gaming companies to consider high-level goals and directions when coming up with solutions. Only then can the solutions be well supported by top management, and have far-reaching acceptance at every level of implementation.

Esports is now strongly supported by national sports and education/government agencies, and have even made it into the curricula of some university courses.

Gaming in China: Regulation, Culture and Trends

China is the world's largest mobile games market. A total of 467 foreign games were approved for distribution in 2017. Yet in 2018, this figure plunged to 55 due to regulatory changes from the government. Peiwen Ren, COO of youxituoluo.com, took the opportunity to explain how foreign companies can work within the changing policies, and what are the trends in China's gaming market.

Firstly, foreign game publishers need to not just go through the licensing, but also understand how to gauge whether each product has a good chance of being approved. Here are some tips:

- Having a domestic publishing unit within China when applying for game approval
- Providing the information of the game to be submitted in terms of launch date, user base, and other statistics pertaining to market positioning
- Offering suitable localization metrics to ensure conformance of the game contents to cultural and religious sensitivities
- History of good collaboration with notable Chinese gaming companies to ensure good local support

Ren also outlined a multifaceted approach to evaluating a product before submitting it for import into China. These involve levels of strategic, policy, legal, business, product, operational and compliance checks that demonstrate a game company's diligence and sincerity in knowing about China's policy and social culture.

Moving on to market preference and performance figures, Ren showed that, despite recent setbacks, the RMB210 billion gaming market of more than 600 million gamers in China still maintains high growth.

Esports is now strongly supported by national sports and education/government agencies, and have even made it into the curricula of some university courses. Live streaming of gameplay is also growing in prominence. Also, there is a growing demand for functional games: those that offer specific functions such as dementia-prevention or promotion of Chinese culture, science and learning, are in great demand but are still lacking from overseas developers. These are growth opportunities that game publishers can explore.

Finally, Ren touched on interactive movie-style games that immerse players deeply, especially with VR and AR features that do not require specialized hardware but just mobile technology. With 5G on the horizon, such games will become a strong contender for market share once cloud gaming is able to reach critical mass.

The market is ripe for monetization as long as the world outside China is able to align their products with the tastes of the gamers and comply with government regulation.

Growing into ASEAN - A Single Market or 10 Different Markets?

According to gumi Asia's Managing Director Ronnie Tan, ASEAN should be looked at as a whole. In doing so, businesses need to understand each culture they are venturing into, and also not to treat costs as a determinant. If more needs to be

invested, but the money is expected to rake in high returns on investment, then do not let budget constraints hamper this move. Investing in areas such as marketing and distribution often need to be incorporate the different regions of ASEAN in order to stretch every dollar spent. The key is to balance the risks and be consistent in what the end goals are.

Are there discernible trends that overlap across the 10 countries of ASEAN? Ronnie noted that 60 per cent of games that ASEAN gamers play are competitive in nature. The remaining 40 per cent are strategy and casual games or skills-based games. This trend could help game publishers to finetune their offerings to the region in order to reduce risks, especially in the sensitive area of pricing and marketing tactics. Ronnie's take was that when it comes to pricing and marketing, it will be good to have a small team in each country to increase survey and execution speeds.

With the right understanding of each country's game consumption patterns, pricing strategies and marketing budgets can be set accordingly to maximize impact.

The more open the online gaming community of a country is, the easier it is for gaming businesses to size up their aspirations and needs. But not all ASEAN countries have a rich gaming community in the online space. Some are offline or kept private even if hosted online. Again, for monetization strategies to be balanced, money has to be invested to gather the right data from these communities no matter where they are hosted.

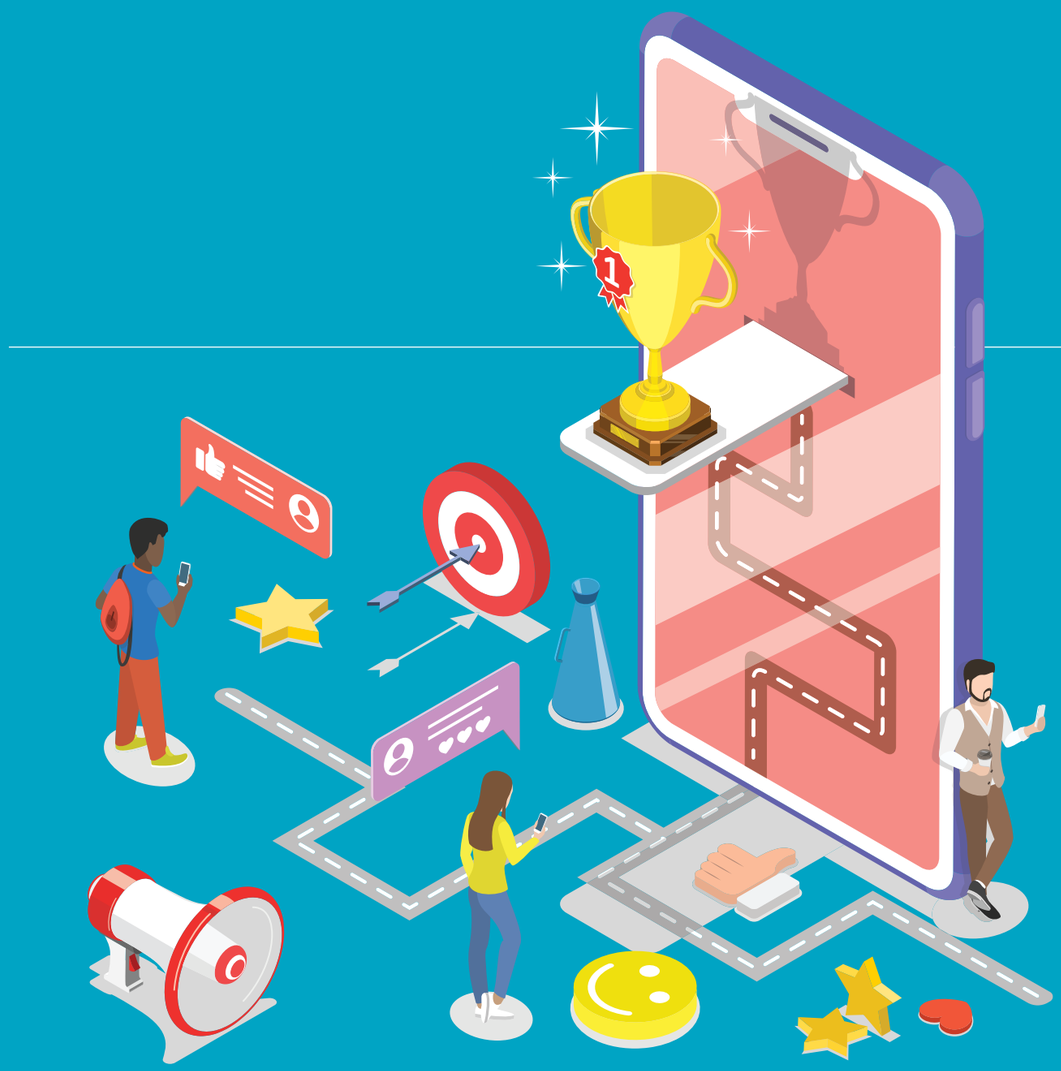
When asked for tips on monetization in Southeast Asia, Ronnie cited China's gaming companies as having the best strategy. Entice gamers to install the games for some benefit in exchange, and once that hurdle is cleared, encourage gamers to spend the next 99 cents on something of great cost-to-benefit ratio. With this hurdle cleared, much more can be achieved using the community synergy that has been nurtured through such enticements.

Esports market is the latest buzzword in ASEAN. Ronnie noted that much of ASEAN is still developing, and esports can be a means of livelihood for its players. The big prize pools are also making a buzz in the region. Once it becomes a fixture in ASEAN households, it may even overshadow the scale of esports in other parts of the world.

The Gamer, Publisher, and 3rd-Party Ecosystem

CEO of Korean start-up OP.GG, Ilwoo Lee, shared how in-game data makes gaming better and more exciting. OP.GG has an active user base of 50 million across South Korea, USA, China, Japan and others across the globe. Among the games that they provide statistics service, OP.GG has the most extensive expertise on League of Legends, and for such team-player games, users utilize in- and post-game analyses to build game strategies and strengthen team communication.

In esports, players try to study and imitate others who have more skills and experiences to eventually win against them one day. They watch the videos of top players, share inputs in the online communities they belong to, and build an ecosystem to help each other improve their game performance. Players become competitive while having fun. They often go on social media to exchange their experiences and ideas with other gamers. OP.GG leverages how gamers are forming their gaming experiences, providing services and features that can enhance it. For example, OP.GG developed a Twitch extension to enhance League



of Legends streaming and viewing. Viewers can see player information such as items they have and their winning streak, which is overlaid on the streaming videos. Additionally, OP.GG introduced a team-finding service for League of Legends gamers so that they could create or join the teams they preferred as part of their winning strategies.

Lee pointed to traditional sports as a source of inspiration on how data is used to drive performance. As much as traditional sports utilize player data for their games, training, and finding new players, esports identify potential players by analyzing their in-game statistics such as players' records, habits, and many other metrics. It can also be applied to the process of finding potential amateur players and making investment decisions on these players.

The data that are important to the game publishers and developers include user retention and acquisition, player's lifecycle and profitability. On the other hand, users focus on data that can influence their gameplays and show their standings among others (for example, "Do I have good items?" and "How many people are using the same items and skills as I am?"). Users may not be completely satisfied with playing games alone, said Lee — the data used for making game strategies and shareable in communities can go a long way towards making games more enduring and sustainable.

Making eSports Commercially Viable

Mobile esports is also facing a boom due to the mobile-first culture in the region, particularly in India, whose gaming market is worth US$800 million. Anurag Khurana, Head of esports at Reliance Jio Infocomm Limited, observed that the publisher revenue due to secondary avenues of income such as promoting games through esports and in-app purchases during tournaments could amount to 10 times that of direct revenue. Publishers need to have the patience and market-differentiation strategies to start the profit flow going.

Citing Riot Games as an example, publishers currently may not make a profit from esports but the investment in marketing and promotion of a global reach could in the medium term reap returns very quickly. Reliance Jio itself is leveraging the esports platform to increase consumption of telco services, to get exclusive content, and to use OTT partnerships to create brand awareness.

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The commercial viability of esports is dependent on a few factors and Anurag summarized his thoughts:

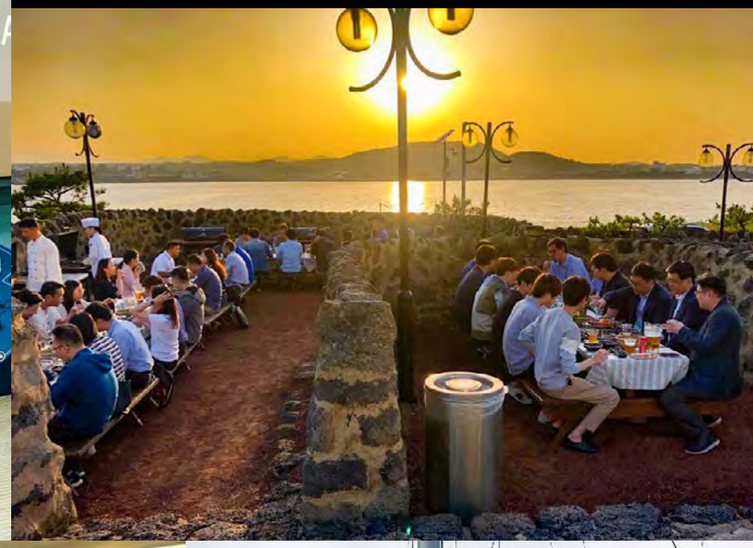
- Jio's goal of getting esport weightage for admission into college, like traditional sports
- Making esports complementary to traditional sports rather than being competing against it
- Educating newcomers to the esoteric terminologies and rules of esports by creating videos and grassroots-level activities
- Changing the perception in educators and parents that games are a waste of time; college level is the best place to achieve that
- Developing ecosystems from Mobile to Console gaming right up to Pro leagues, increasing mindshare and loyalty across multiple strata of society quickly and virally
- Addressing the issues of remuneration even though salaries cannot be paid at the college level. This can be done through awarding of scholarships and token money where possible
- Building a complete career progression path in the various ecosystems to see athletes from college level to the Pro leagues to international-level

Khurana is bullish on mobile esports, having PUBG Mobile, Hearthstone, Clash Royale, Vainglory and Arena of Valor in mind as suitable titles for the massive Indian market.

High Notes

The world is beset with digital disruption, and the gaming industry is far from immune to the dollars and cents of this disruption. Navigating these challenges can be opportunities in disguise — who would have thought, some decades ago, that gamers could earn a living one day? And that internationalization is now a "must-have" approach towards profitability?

Amidst the digital disruption that affects every sector of industry, leaders of the gaming world can benefit by working with each other while maintaining healthy competition. The fast-changing customer trends and habits demand the gaming industry to be agile and responsive. Keeping abreast of the constantly evolving business and operational trends would allow the industry leaders to make sense of the increasingly complex dynamics of a connected world, sharpen and reshape their business priorities at breakneck speed.



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