

## CASE STUDY

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# Agora Games Changes the Gaming Playing Field with Terremark's Enterprise Cloud

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Aspiring living-room rock stars or players soldiering through a battlefield can join millions of others online in their quests, thanks to Agora Games. The company develops video game middleware and creates custom online gaming communities. Award-winning games such as Guitar Hero and Call of Duty include technology from Agora Games that allows players to track their scores, meet other game enthusiasts, and compete with players around the world. For game developers and publishers, Agora provides in-game data capture and analytics that deliver valuable game-play information for improving the game, the community, and future games.

Each game's website is closely integrated with the game itself. Players can go to the game's site, view what they just played and share it with their friends. As a result, site performance is critical to the game's success. Slow performance or features that don't work correctly can result in players leaving in favor of other publishers' games.

In the past, Agora Games leased servers for testing and hosting game sites and had to constantly monitor servers, troubleshoot hardware issues, and reinstall applications or data if a hard drive failed or became corrupted. Managing physical servers for testing and production use was complex. Ideally, the team would test a game on the same hardware that would be used for production. However, they had to continually reallocate servers between testing and production environments, cleaning up the testing servers and reconfiguring them to make them production-ready.

Even more difficult was preparation for the launch of a new game. If the game exceeded expectations, server capacity was strained, affecting performance and players' adoption of the game. However, adding servers to improve performance could take several days and for game publishers, several days of sub-optimum performance increased the risk that players would drop the game. Agora Games would have to call the hosting provider for assistance in adding servers, reconfiguring the network, upgrading hardware, or removing extra servers.

When new games do not generate the expected traffic, servers that are not used sit idle, which is costly. In addition, most games have peak usage when they are launched, after which traffic volumes sharply decrease and server capacity that was needed at launch sits idle later.

Because Agora Games' technology delivers game-play data to the site, the company must also pull high volumes of data over the Internet to a game's web site – quickly and securely. Game-play data analytics demand high network capacity and massive connectivity.

"Building the type of datacenter that we need is very expensive," said Brian Corrigan, Agora's chief technology officer. "Yet, we need to ensure extremely high levels of uptime and responsiveness for our customers and their players. We don't want to have to manage hardware, but we do need control over the systems. That's why we began looking for a virtualized solution."

## A CLOUD-BASED SOLUTION

Corrigan and his team evaluated several providers of cloud-based services, but none of the solutions adequately met Agora's three critical requirements. First, Agora needed a service that supported both Ubuntu Linux and Microsoft Windows platforms. The Microsoft Xbox is one of the leading game consoles, and Agora needed to be able to work with Windows-based platforms. Second, high uptime is critical to systems supporting online gaming, but not all services guaranteed system uptime. After having to monitor servers and replace hard drives in their leased systems, Agora preferred to leave hardware management to a service provider. Finally, the company wanted superior support. If it became necessary to pick up a phone and call for assistance, Agora wanted to ensure that the provider was ready to help.

"We called Terremark and immediately received great support from the sales team," said Corrigan. "When we started asking highly technical questions, they put a sales engineer on the phone. We threw every question we could think of at her, and she answered all of them. She was terrific."

The solution that Terremark recommended is The Enterprise Cloud™, which allows precise, dynamic allocation of computing resources when and where they're needed. The Enterprise Cloud resides in Terremark's global footprint of world-class top-tier datacenters, providing the highest standards of security, availability and power. The solution's grid architecture provides complete physical redundancy to eliminate any downtime due to hardware failure. The system can even move applications across physical devices dynamically – without service interruption – while automated resource balancing provides continuous monitoring and optimization to ensure peak performance.

The Enterprise Cloud is based on Terremark's proven Infinistructure™ utility computing platform, massive and diverse network connectivity, and top-tier technology from world-class infrastructure partners such as HP, IBM, VMware and Cisco. Its powerful Infinicenter web portal enables Enterprise Cloud customers to dynamically provision servers from pre-allocated resource pools of dedicated memory, processing and storage. In minutes, Agora can configure and provision a virtual server, organize its servers according to role, and dynamically extend them based on how they needed to be used. An available burst mode provides an automated, cost-effective way for Agora to deal with spikes in demand.

Agora Games deployed a test system with Terremark's help. As Agora became more familiar with the differences between managing virtual servers and managing physical servers, Terremark was there to answer questions and provide immediate assistance.

"We hammered the test system hard, and we were impressed with the results," said Corrigan. "When comparing results from similar systems in our old environment, we found performance gains across the board."

## UNMATCHED CONTROL AND FLEXIBILITY

The Enterprise Cloud gives Agora complete control over its systems without having to manage hardware and provisioning. Through the Infinicenter web portal, Agora can easily configure servers for testing or production in just minutes.

"We can set up an exact copy of the planned production system for testing prior to live deployment," explained Corrigan. When we're done with our testing, we simply delete the test system and recover the resources in use – all without picking up the phone."

Now Agora does not have to purchase or lease more servers than they actually need, and they can scale the number of servers used up or down on demand. When a new game is introduced at Christmas, Agora can deploy additional servers to handle the peak load and scale back as usage normalizes over time. They no longer have to pay for capacity that isn't fully utilized. When servers are turned down as demand scales back, resources can be retired back into the cloud or reallocated elsewhere, enabling Agora to respond in real-time to their business needs.

## MASSIVE CONNECTIVITY FOR EXTENDED REACH

Agora's previous provider offered connectivity to multiple Internet points of presence, but Terremark offers plug-and-play bandwidth from more than 160 global carriers. This massive connectivity will eventually allow Agora to establish servers in countries outside of the U.S. in order to meet privacy requirements for users in other countries.

"Because Terremark is a much larger company, we get additional benefits that don't cost extra," said Corrigan. "Its easy to set up servers in different locations worldwide in order to meet the privacy of different customers" In addition, Agora has access to a closed, private network of servers behind a virtual firewall, for added security in comparison to its servers residing directly on the Internet, which was the case with their previous provider.

## SUPERIOR PERFORMANCE FOR PULLING DATA

With network-level integration across the country, there are minimal hops required for transporting data, which significantly improves data collection performance. Previously, high volumes of data had to go through multiple hops from users' ISPs to reach the game web site. The Agora team was concerned about performance, because immediate access to game data is a critical factor in game players' satisfaction with their gaming experience. The Enterprise Cloud's nodes reside in a global footprint of carrier-neutral datacenters, which allows Agora access to more than 160 global carriers.

"We just assumed that this would be a problem, and when we actually did the testing it turned out there was no problem at all," laughed Corrigan. "We received much higher performance from the Terremark's NAP of the Americas in Miami than from the local datacenter. We all just scratched our heads and said 'hmm, that was easy'."

## HIGHLY RESPONSIVE SERVICE

Agora has been impressed with the support it receives from Terremark as well. The Terremark team has been extremely accommodating to Agora's requests and made adjustments to the virtual environment, power management, and other features.

"We haven't been a customer for very long, but Terremark has addressed many of the items that we have asked to be integrated," said Corrigan. "That is really important. We even named a server after one of the Terremark technical engineers."

## AND IT IS ALL COST-EFFECTIVE

With The Enterprise Cloud, Agora has gained more powerful hardware resources and higher performance than it could have achieved by building its own environment. The company only pays for what it uses and at the same time, can focus its internal resources on its own business - building gaming environments.

"If we didn't have Terremark, I would have budgeted for round the clock hardware support this year," said Corrigan. "We are excited about leveraging our Terremark capabilities to involve new game developers, studios, and publishers in our new Hydra product. Terremark will greatly simplify building and running that product, and it will help us be much more price-competitive."

## THE STRENGTH OF COMPLEMENTARY RELATIONSHIPS

Agora also appreciates Terremark's relationships with a wide range of Internet services companies. For example, content delivery services, such as Akamai and Limelight, also reside in the NAP of the Americas datacenter in Miami, which makes it easy for Agora to quickly connect with complementary services if necessary.

"If one of our games goes viral, it is much more cost-effective to outsource specific video or music delivery capabilities," said Corrigan. "Now, Terremark handles that connectivity and make sure that it works. We just get to use it."

## NEXT STEPS

Agora plans to transition the rest of its existing products to Terremark to virtually eliminate the need to manage hardware from now on. This frees the company to focus entirely on delivering top-tier services to its customers and gaming innovation.

“Our biggest competitive advantage is that we don’t run a datacenter,” said Corrigan. “We thinks it’s fun when the competition says that it has a 7000 square-foot datacenter – and we can say that we have a 750,000 square foot datacenter. Now we can focus on new toys, instead of keeping servers running. Which is always a lot more fun.”