Com2uS, a global mobile game developer and provider, deployed the Intel® Xeon® processor E3 and E5 families and Intel® Solid-State Drive 520 caching technology to meet its needs for greater processing power for its game servers and database. This was critical in accommodating the unprecedented growth of the smartphone population.

**Challenges**

- **Unstable game servers.** With a fast-growing user base, Com2uS needs to cut down the time it takes to fix issues that may disrupt smooth game operation.
- **Inefficient system management.** Com2uS needs to cut the time it takes to check servers directly during system management.
- **I/O processing bottleneck.** RAID volumes composed only of hard drives were not sufficient to deal with database overload issues resulting from an influx of users.

**Solution**

- **Efficient servers.** Providing smooth game content takes efficient game servers and strong performance from the database in charge of data I/O.
- **Holding down costs.** Com2uS resolved its performance issues by deploying multiple systems. However, improving database performance can take costly investments.
- **RAID volumes.** Intel began providing RAID volumes with Intel® RAID SSD Cache Controller. Com2uS has seen great results in database performance tests.

**IMPACT**

- **39 percent cost reduction.** Com2uS saved 39 percent in management costs with the Intel® technology-based system, which provides unified service management, smooth fault handling, root analysis, and support.
- **Efficient I/O processing.** Com2uS resolved the database overload issue using Intel RAID SSD Cache Controller and Intel Solid-State Drives, which have higher input/output operations per second (IOPS) performance than hard disk drives.
- **Less down time.** By deploying Intel® Xeon® processor E5-2600 and E3-1200 product family-based servers on the front end, Com2uS made game operation smoother, with faulty blocks replaced easily, causing less down time.
- **Efficient management of human resources.** Remote server management using servers based on the Intel Xeon processor E3-1200 and E5-2600 product families enables efficient deployment of human resources.

**About Com2uS**

Com2uS is the world’s leading mobile game company and distributor of mobile games, providing diverse game genres in both Android® and iOS® platforms. Com2uS integrates gaming and messaging services, focused on the mobile game market segment. With a steady increase in the number of gamers, it needs a cost-effective and higher-performance solution to meet the ever-growing demand for its content.

*Ryu Hyun Guk*

Senior Developer,
Com2uS
Intel® Xeon® processor E5-2600 product family-based remote solution helps decrease management time and enable efficient support and staff deployment

Improving the legacy environment to accommodate change
The legacy systems of Com2uS used traditional hard disk drives inside white-box assembly servers and third-party storage servers. Deployed in the data center, these servers provided game content to end users. However, the explosive growth in the number of smartphone users pushed the I/O capacity to its limit, prompting an urgent need for Com2uS to find higher-performing systems.

Com2uS assessed that mass deployment of third-party systems would come with a big cost—and no assurance of improved I/O performance. There was also a challenge with the durability of traditional hard drives, which made it more attractive to use solid-state drives in high-volume configurations.

However, in a high-volume deployment, the cost of replacing all traditional hard drives with SSDs was prohibitively high.

To resolve this issue, Com2uS deployed Intel® Server System R2308GZ4GC with the Intel Xeon processor E5-2600 product family, which provides efficient performance, and incorporated Intel® RAID SSD Cache Controller. Com2uS uses hard disk drives in the main system and solid-state drives as a caching solution. Com2uS tests show that durability was enhanced and IOPS were improved by 150 percent.1 Com2uS can better deal with database overload issues and enjoys better efficiency with the solid-state drives. Com2uS found that the solution also cuts costs and brings a 50 percent increase in throughput when compared with database servers based on using only hard disk drives.1

Implementing a stable system to accommodate added users
Fast growth in the number of game players made smooth game operation difficult. To minimize user inconvenience, Com2uS needed to cut the down time when a game fails to run. It also had to deploy efficient servers that could cope with the rapid increase in the number of users.

The legacy systems at Com2uS were hard to manage as well as costly and inefficient. Com2uS’s solution was to add an Intel Xeon processor E3-1200 product family-based server to the system. The new server improves I/O bandwidth and increases the access speed for general programs and files, enabling faster execution of application programs. Com2uS’s solution can also process huge amounts of data and improves energy efficiency up to 18 percent compared to the previous generation, while ensuring higher efficiency and cost reduction effects.1

Efficient management of human resources
Mobile game companies must respond swiftly to changing trends, making efficient operation a necessity. However, with only a limited staff managing the operation of dozens of games developed each year, Com2uS had a hard time coping with system fault handling, staff deployment, system performance, and other issues.

Lessons Learned
Thanks to this solution, Com2uS can now handle system management, failover, optimize performance, and process services through one window. It has built an optimal environment and reduced down time for more efficient operation.

Com2uS will continue to deploy Intel® technology-based systems for its new game to provide higher-quality service and prevent server overload issues caused by a growing number of users.

The solution was system management using Intel® Remote Management Module 4 and Integrated Baseboard Management Controller (Integrated BMC). Now Com2uS can check system status and forward related information, enabling efficient support and staff deployment. Com2uS also replaced its game servers and databases with Intel® technology-based systems, unifying the service for any system errors.

Find the solution that’s right for your organization. Contact your Intel representative, visit Intel’s Business Success Stories for IT Managers or explore the Intel.com IT Center.

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1 All performance tests were performed and are being reported by Com2uS. Please contact Com2uS for more information on any performance test reported here.

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