

Panda Arcade - Realtime multiplayer with Nakama



Background

Nakama, built by Heroic Labs, is an open-source, distributed server designed for realtime and social games played across platforms. It includes features such as user accounts, social login, advanced matchmaking, realtime multiplayer, and more. With its unique cluster technology it easily scales for games played by millions of players allowing developers to focus on crafting their games.

As more studios continue to adopt Nakama as their infrastructure, the open-source codebase improves with feature contributions, documentation, pull requests, bug fixes, and more. This makes Nakama the most flexible and democratic infrastructure for games in the industry.

The Customer

Panda Arcade is an accomplished studio based out of Melbourne, Australia most well known for their hit-title *Torque Burnout* which achieved many millions of downloads. For this project, they wanted to build a modern, realtime PvP battler game which is latency sensitive and designed for fast-paced gameplay and drop in and out matches.

Case Study

In order for Panda Arcade to achieve their hard timelines for presentation at a variety of conferences and soft launch, they needed a solution that they could easily run themselves in development as well as any cloud of their choice for the world-wide release.

What drew the team at Panda Arcade to Nakama was the open-source nature and inherent transparency around the project. This ensured the team would have the tools they needed for a game that could run for many years as a Games-as-a-Service style game without worrying about a black box from a third party service.

The 3 key components of utilising Nakama for Panda Arcade game studio

1. Realtime Gameplay at scale

Not all realtime message brokers are equal - with Nakama, the team at Panda Arcade were able to utilise the rUDP protocol to minimise concerns with live socket connections and any latency. Knowing that this server could scale to dozens of instances in order to guarantee a stable world wide release was critical to the team.

2. Local server for development and conferences

As the team is based in Australia, most common backends and pre-built services are located in North America and Europe. The inherent lag in these distant services would introduce delays in their development as well as be difficult for reliable latency testing. By using Nakama the team could not only run the server locally in their office for testing, they could bring that very same server they developed on to conferences to show off the multiplayer gameplay with ease.

The team recently presented at PAX Australia showcasing the game with a server running on a laptop at their booth connected to the demo mobile devices. This ensured they did not have to worry about poor connectivity which is endemic at conferences, as well as reduced the realtime latency concerns to zero.

3. Multiple regions for latency requirements

As with any realtime game, latency is a critical component to ensure fairness in gameplay. With Nakama being a single binary that can run in any cloud, the team at Panda Arcade can run their servers in a variety of regions around the world, regardless of which cloud they choose. This allows the client-side of the game to detect which server is closest to them and only match with players from that pool.

No other services out of the box allow for such flexibility for cross-region support and reliability as Nakama offers.

Conclusion

By choosing Nakama as their core server infrastructure, the team did not have to spend months upon months building their own realtime server stack from scratch. This saved hundreds of man-hours and significant cost savings overall by allowing those engineers to focus on the game and gameplay itself rather than their internal stack.

Being early adopters of Nakama, the team has also been able to take advantage of new features in the Nakama codebase as the server has evolved - such as a more advanced matchmaker, an updated rUDP protocol, an embedded customisable Lua scripting engine, and much more.

As well, the engineers at Panda Arcade have contributed back to the core server in both pull requests and general roadmap development as they have further explored and pushed the server to its edge. This symbiotic relationship is a cornerstone of open-source development and positions Nakama to be the core infrastructure for all modern games.