

# CLOUDFLARE WORKERS FOR GAMING

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The business model for game development has significantly changed in recent years. Once an industry where console manufacturers produced their own games and accessories for sale, the video game space has expanded to a value chain with multiple specialist companies that each handle distribution, marketing, technical deployment, retail and host of other services. This has allowed game developers to focus more on game production and design. With an increasing trend toward serverless game development and a potential shift toward video game streaming services, server performance and security are more important than ever. Cloudflare Workers for Gaming provides a competitive development infrastructure for video game companies by relying on its affordable DDoS protection options and its expansive data center network that delivers low-latency connection.

## Addressing Current Market Needs

Video game developers are looking to increase the performance of their online games by reducing latency issues.<sup>1</sup> Cloudflare Workers is a promising solution because:

- Cloudflare's recent data center expansions with partners such as Vaper IO and EdgeMicro allow for low latency performance through proximity to their end users.<sup>2</sup>
- Reliable video game performance can be easily done through regional hosting, but this becomes difficult with a global audience.<sup>3</sup> Cloudflare's 200 city data center network bridges the gap between breadth and performance.

To continuously adapt to game developers' needs for latency performance, Cloudflare should continue in its expansion to less traditional data center locations to achieve more proximity to its users, and it should cooperate with its game developer clientele to figure out the optimal locations for future expansions.

To address DDoS attacks, Cloudflare Workers is a unique option for game developers as it provides an affordable yet sophisticated security infrastructure. When marketing to game developers, Cloudflare should focus on its unmetered DDoS protection and flat-rate pricing structure.<sup>4</sup> In addition, Cloudflare should rely on its previous successes in protecting against sophisticated DDoS attacks to better sway potential developer clientele. To address the evolving needs of the industry, Cloudflare Workers should speak with game developers about the types of DDoS protection packages they are looking for and adapt their offerings accordingly.

## Potential Product Improvements

- Create tools that are specific to game development. The introduction of Wrangler to Cloudflare Workers especially helps web developers as it allows them to more easily view HTTP requests.<sup>5</sup> Tools like Wrangler should be developed within Cloudflare Workers that address the specific needs of video game developers. For instance, a tool that helps manage workflows between the different development phases of a game.

- Incorporate analytics in server performance that are unique to gaming such as measuring the tick rate, the frequency a server updates the game state.
- Vary the price structure of DDoS protection packages to capture a larger market segment. While large game developers may be attracted by a flat-rate option, developers whose games experience less DDoS attacks than most may prefer a pay-for-use option.

## **Measurable Goals**

In measuring the performance of Cloudflare Workers for Gaming, a few key metrics should be monitored:

- The latency performance of games that support large online lobbies that are deployed through Workers. Large online games like Fortnite are becoming more popular and developers are looking to make more games with high lobby capacity.
- Usage of Workers for multiple phases of game development. If developers are looking to a platform like Workers for only a few steps of the development process or for numerous steps, Cloudflare can adjust accordingly.
- Number and popularity of games being developed. A more obvious metric: if developers are relying on Cloudflare for multiple games, this represents a success on behalf of Workers. If those games gain popularity, then developers will gain more confidence in Workers development tools.
- Increase in speed over traditional game development environments. If developers can bring their games to market faster than their usual time frame, then Workers is helping them expedite the process.

## **Risks and Potential Points of Failure**

In adapting a tool like Workers for the game development market there may be aspects of the Workers environment that are not suitable for the multi-phase process of creating video games. Developing tools to address this problem may be costly and time consuming and could still result in an unfavorable environment for game developers. The infrastructure Cloudflare Workers for Gaming can offer may only appeal to smaller game development companies that need this support; larger game companies may already be in the process of crafting similar development tools and relying on other data center networks. Moreover, the video game industry fluctuates rapidly,<sup>6</sup> so meeting the evolving needs could pose a challenging problem.

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<sup>1</sup> <https://datacenterfrontier.com/as-gaming-moves-to-the-cloud-data-centers-focus-on-latency/>

<sup>2</sup> <https://www.datacenterknowledge.com/edge-computing/cloudflare-s-current-expansion-different-others>

<sup>3</sup> <https://www.cloudflare.com/case-studies/crazygames/>

<sup>4</sup> <https://www.techradar.com/news/best-ddos-protection>

<sup>5</sup> <https://developers.cloudflare.com/workers/tooling/wrangler>

<sup>6</sup> <https://www.businessinsider.com/video-game-industry-120-billion-future-innovation-2019-9>