Google Stadia chief predicts the cloud will be the game console of the future

Google this week announced a bold vision for the future of gaming with Stadia, a new cloud gaming platform that promises to upend the industry by changing how games are played, distributed, sold, and even built. But during its Stadia reveal at Game Developers Conference, the company left out more details than it provided, in particular the business model of the service and the games that will be available when it inevitably launches.

In an interview with *The Verge* on Tuesday, Stadia chief Phil Harrison, a longtime game industry executive who's worked at both Microsoft and Sony, answered some of those questions. Harrison says the company won't talk about the consumer model of Stadia – whether it's a subscription service or some other type of model – until this summer. He's also tight-lipped about game partnerships beyond id Software bringing *Doom Eternal* to Stadia at launch.

But Harrison was willing to better outline Google's vision and why the search giant of all companies is the one that will beat Microsoft, Sony, and scores of other tech and gaming companies trying to make cloud gaming a reality.

On the subject of whether Google will ever build a piece of gaming hardware, like a console or set-top box, to deliver Stadia streams, Harrison says the answer is a resounding no:

> *We don't need it. I think this is a fundamental shift the game industry is taking. For the last 40 years or however long we've had packaged media and games in the 1970s up to yesterday, games were device-centric. They were packaged on a disc, or a cartridge, or a tape, or a download, or they were*

> *written specifically to take advantage of or up to the limitations of a particular device. We just broke through that glass ceiling today by giving the entire data center to the game developer and being completely device agnostic. So, no, we don't need a console and that's the whole point.*

Google focused heavily on the technology of Stadia during its GDC presentation, making sure to hit high notes like the teraflop performance of its server PCs and the resolution and frame rate metrics it aims to achieve at launch. But Harrison says Google is more excited about cloud features that integrate with YouTube and live-streaming technology that enable new types of games and multiplayer experiences:

> *It shouldn't just be about the technology. The technology was a very important theme of our presentation today. But I hope that as we continue to talk about Stadia in the future, the technology will becomes less and less the key focus and it becomes about the new ways to play… and the way that YouTube, creators, and game developers are collaborating on two halves of the same coin in service of a game experience gamers have never seen before.*

Image: Google

The only hardware component of Stadia, beyond the Chromecast Ultra required to bring it to television sets, is the custom controller Google built. It's a surprisingly high-quality gamepad from my hands-on experience on Tuesday, and Harrison says it will be a cornerstone for cloud-based features like Google Assistant support and the ability to instantly launch a game you're simply watching in a YouTube video:

> *Setup is super simple via an app on your phone. But the internals of the Stadia controller are effectively a computer that's talking directly over Wi-Fi to the data center. It*

> *increases performance, reduces latency, and has a direct positive impact on playability. So that was a very important design decision we made early on in the creation of the internals.*

One particular hurdle for Google will be getting new games onto the platform that were never designed to work on a cloud gaming service, let alone one that is based on Linux, as Stadia is. Harrison says getting developers to adopt the technology necessary to make use of Stadia, and converting existing games to work with the platform, shouldn't be a big issue because Google is relying on popular game engine integrations and open-source formats:

> *The fact that we're on Linux is relatively insignificant to developers. It is a way of bringing their file system to the platform that is built on a lot of open standards, so there are a lot of tools and technology available in the open-source community. Other platforms and consoles use Linux already so that, in itself, is not a barrier.*
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> *The Vulkan graphics API is strongly gaining traction in the graphics industry as the new open graphics format, and as you saw from our announcement, we have both Unreal and Unity as development environments and graphics APIs for our platform for Stadia. If you already have a game that was built using one of those graphics and game engines, then it's very easy to bring it over to Stadia. What we obviously want developers to do is to lean into our points of difference and our unique capabilities and we will help them with the tools and technology necessary to bring the best of Google into their creative process for developing new games.*

Another issue some critics of cloud gaming have raised in the wake of the Stadia announcement is around game preservation. Moving game software to the cloud means not only will it be harder for players to retain ownership of a product over time

now that it’s both no longer on a disc and no longer even on your hard drive, but it could also make it much harder for games built just for the cloud to exist years or decades from now when the service has been upgraded or potentially shut down. Harrison says he’s sympathetic to that view:

> *I completely understand that concern. And I think it’s frankly no different than how games are on mobile today, and not really different to how users trust us today with the most precious thing in their life, which are their memories, with Google Photos. I think we would apply the same standards of care to our data going forward as we would to something like Google Photos. This is a moment in the game industry where technology opens up a whole new set of new capabilities for gamers and I would obviously focus on what those incredible advantages are. And that’s going to be our point of view of the future of games.*

One big hurdle for the entire cloud gaming industry will be broadband limitations and data caps. Most US-based telecoms impose home broadband data caps, and most cell carriers throttle connections after certain monthly data allowances are used up. That will make using a service like Stadia difficult, both at home and on mobile, especially in a world where internet speeds struggle to meet the 25–30 Mbps requirements and streaming a 1080p or even 4K game will quickly chew through gigabytes of bandwidth.

Harrison wouldn’t respond to what factors, like 5G and the removal of data caps, could alleviate those issues, but he’s confident Google has the technology to make Stadia work as advertised even under less-than-stellar connection scenarios:

> *The main innovation that Google brings to the game-streaming technologies is the power of our data centers — the fundamental networking fabric that’s inside the data centers and the way we get the data from the data center to your home*

> *via your ISP. That is a very fundamental capability Google has developed over 20 years basically. The second is the computing capability that we have built in service of the game itself inside the data center, so 10 teraflops GPU, the absolute greatest performance available in service of a game right now, and the memory, CPU, and the rest of the architecture.*
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> *And the fact that we have a very highly distributed architecture around the world. We talked about 7,500 edge node locations and they're all connected by Google's proprietary backbone. Think of it as a piece of fiber optic cable that's spinning around the world carrying that data and only that data. That allows us to deliver an incredible experience and performance that hitherto no other company has been able to deliver. No, we can't beat the speed of light, but we can cheat it enough that we can deliver a very, very high performance experience.*

Harrison says that, in an ideal world, Stadia doesn't make other platforms obsolete, but rather creates all-new experiences, ones that can only really exist in a cloud gaming world:

> *One of the success factors for me with Stadia is that three years from now, you and I meet here at GDC or some other forum, and we're talking about a brand-new developer none of us have ever heard of before and they've built something so new that it's pivoted the world a little bit on its axis. Then we would be considered successful.*

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