AMPD Technologies

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AMPD Ventures meeting the need for digital speed when every millisecond counts

AMPD Ventures (CSE:AMPD) CEO Anthony Brown has declared war on computing latency.

For the digital layman, latency is deterioration in the speed (measured in milliseconds) at which a signal arrives, gets processed and is sent back to the requesting computer. The lower the latency, the faster the processing time.

Latency is a big deal with online gamers. Any lag, jitter or other performance issue with a video game can ruin the player experience. For professional gamers, latency is a livelihood issue because money is at stake - a lag or glitch means rival players are able to move and react faster to score more points.

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"Those milliseconds can add up," Brown says. "The more interactive an application is - like any esport where they're continually pressing buttons and moving and doing things, and you're in communication between the client and the server - the more it counts. Even though you're dealing with milliseconds, the resulting impact on the application can be quite noticeable."

Brown has been confronting the latency problem since his days two decades ago when he co-founded the Seven Group, providing highperformance computing for banks and engineering firms and then working with the likes of Disney Interactive on video games. Brown's passion eventually morphed into AMPD Technologies, which he cofounded in 2015.

Besides video games and esports, AMPD helps other companies bring their dreams to life through data visualization, video rendering, artificial intelligence, augmented reality and virtual reality, and high-level academic research.

Brown and his management team listed AMPD Technologies' AMPD Ventures unit on the Canadian Securities Exchange in October, to both raise capital and increase AMPD's profile. The move secured the company $3 million in new funding.

To minimize latency in our increasingly connected digital world, AMPD develops and employs a method called edge computing, which entails placing nodes, which is where the data and content resides, as close as possible to the end-user.

The digital revolution's 4th stage

Brown says edge computing represents the fourth stage of the digital revolution, which started with cable television and then the Internet, followed by the cloud.

"It's the next generation of digital infrastructure. It's the next Internet, if you like," he explains.

Price:	0.18
Market Cap:	$6.69 m

1 Year Share Price Graph

Share Information

Code:		AMPD
Listing:		CSE
52 week	**High**	**Low**
	0.7	**0.09**
Sector:		**Tech**
Website:		**www.ampd.tech**

Company Synopsis:

AMPD is a provider of high-performance computing infrastructure and solutions to multiple industry verticals with a focus on latency-sensitive applications. The founders of AMPD have been architecting high-performance computing infrastructure for nearly two decades.

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The cloud is the matrix of "virtual" machines spread out across the globe that Amazon, Google, Microsoft and others maintain to store vast sums of data and perform distributed computing. It might be the heart and soul of e-commerce and video streaming, but the cloud is also seriously flawed.

Remember, it's partly about distance. For one, sending and requesting data from the cloud adds to the latency lag. Because of this, the cloud and its distributed computing architecture servers can't adequately handle the emerging data-heavy technologies such as augmented reality and virtual reality that need high-performing computing to function properly.

"What we do is hardware-switched, hardware-firewalled, array-based storage. That means that the storage is separate from the servers and all the servers can access it directly at superfast speeds. And then we put that at the edge, in the urban centre where the data is being used. So that lastmile latency is mitigated as well," explains Brown.

The company recently opened its first data centre in Vancouver, not far from its headquarters. Besides offering clients high-performance computing solutions, the centre is designed to capture the heat generated by the servers and distribute it to the building, and produce clean drinking water via the condensing systems in the air conditioners.

AMPD is currently onboarding clients and expects to max out the data centre's capacity before too long. Halfway through November, the company announced its first client, Bardel Entertainment, which works on the popular cartoon series Rick and Morty.

Remote Render Service

In a deal expected to generate more than $1.2 million in revenue over three years, Bardel will utilize the AMPD Remote Render Service that enables studios to access thousands of cores of processing power without having to build their own costly data centres. When rendering for animated content, two-dimensional or three-dimensional images are generated for the screen from a computer, using huge amounts of processing power.

Importantly, the render service is not hooked up to the Internet but rather connected via direct fibre access to AMPD's servers in the company's data centre. That means minimal latency issues by avoiding the cloud.

AMPD has also started a partnership with Myesports Ventures, which runs the online gaming stadiums where players compete in esport tournaments with live audiences. Myesports currently has one live stadium and three more planned in 2020, and has tapped AMPD to supply the computing infrastructure for players and onsite gaming hosting. In addition to supplying the backbone for players at the stadium, AMPD will be able to let players access the platform from home, giving people in the local area an ability to play an esport with the same low latency experience as esports athletes competing in the stadium itself.

AMPD also is involved with the Digital Technology Supercluster Learning Factory project, a consortium financed by the Canadian government to provide digital solutions for the manufacturing industry. The project will leverage AMPD's high-performance computing platform to create digital twins of production lines for advanced aircraft parts. The project goes live in December for both simulation and virtual reality visualization.

"Eventually we'll hit critical mass where we just need to proliferate and get ahead of the curve to be able to build out as many data centres and as many high-performance computing nodes as we can," Brown concludes. "To be able to handle the load of all those super cool applications coming down the pipe that people can't even use yet is what we are gearing up for."

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