



## Live streaming a Guinness World Record attempt in challenging network conditions

How Dejero GateWay expanded Scratch Takes' horizons in live production capabilities in the great outdoors

The Montreal Highland Games is a niche but greatly anticipated event in the Canadian sporting calendar. Athletes have competed in various highland games in Montreal since 1855, and the event has been hosted on the Douglas Mental Health University Institute grounds since 2017.

The 2021 Games were extra special, as athlete Jason Baines attempted to break a Guinness World Record performing 121 caber tosses in one hour. The organizers called in Montreal-based multi-media production company, Scratch Takes, to live stream this high profile event to its YouTube audience. They'd missed out on the live action in 2020 when the Games had to be pre-recorded and uploaded after the fact due to the pandemic.

*“ I don't take a job unless there is reliable connection and the Montreal Highland Games were upfront that there was no reliable connection, so we had to find an alternative. If you have any sort of poor connectivity it's almost as if it's all for nothing. ”*

*John Castillo, Technical Director, Scratch Takes*

### About Scratch Takes

Scratch Takes is an audio-visual production company specializing in music and event productions. From its inception in the music industry, Scratch Takes stood apart due to its ability to translate an artistic vision from concept to reality. Since then, the company has expanded its offerings to include videography, event capture, live-streaming, and post-production—all while upholding the original mission of storytelling through high quality content. Entrusted by companies and artists alike, Scratch Takes has carved out a niche for itself in the Canadian music and event industries.

[www.scratchtakes.com](http://www.scratchtakes.com)



Unlike the music and event venues that Scratch Takes was used to for previous productions, where access to hard-wired connections was plentiful, the Highland Games venue presented a new challenge: the hospital grounds venue could not provide any fixed lines. After a wide-spanning search of what was available in the market to meet the high quality and uninterrupted connectivity their client demanded, Scratch Takes approached Dejero to provide stable, redundant, and reliable remote connectivity across fully wireless networks. In the process, Dejero expanded the company's horizons when it came to live streaming outdoor events or from venues with limited connectivity.

## Challenge

The Montreal Highland Games have taken place at the same site in Montreal for the past five years. While ideally suited to accommodate spectators, live streaming became a significant requirement during the pandemic. But the venue presented more challenges than Scratch Takes' usual live streaming of indoor-based music and events.

First, there were initial practical considerations to meet. Filming outdoors was a challenge, like finding enough power and having long enough cabling to cover the event. Coverage of the Games required five wired cameras tethered to Scratch Takes' switcher: one for the host talent, two photo cameras and two wide cameras, with an additional camera on a baby jib for backup.

These challenges were relatively straightforward to solve with physical hardware. The biggest potential issue was connectivity.

The venue was remote, it had no reliable connectivity, and tapping into the hospital grounds' Wi-Fi was not possible for security reasons.

With live sports coverage, nothing can be left to chance. Without a hard-wired internet connection, Scratch Takes needed to find a way to establish reliable wireless coverage to guarantee connectivity to live stream the event.

As network stability and congestion is unpredictable, a single network router could not be relied on for deterministic coverage.

In fact, doing so could bring the entire production to a halt.



Traditionally, Scratch Takes has catered to musical production, including audio recording and mixing, video recording and editing, and live streaming – usually from fixed venues or studios. The Highland Games marked the beginning of a new era for the production company.



Scratch Takes deployed a Dejero GateWay M6E6 network aggregation device featuring Dejero's *Smart Blending Technology™* for the live streaming of a new world record attempt during the 45th annual Montreal Highland Games.

# Solution

To ensure stable uplink connectivity, Scratch Takes used a Dejero GateWay M6E6 network aggregation device.

The 6-modem GateWay features Dejero's *Smart Blending Technology*, combining connectivity from all available local cellular network providers. In this case, the GateWay connected to three LTE networks from Bell, Telus, and Rogers, allocating two SIM cards to each network.

Since Scratch Takes couldn't access the Douglas site Wi-Fi, the GateWay created a 'network of networks' by blending cellular connections from all three network providers. Individual connection paths have their own characteristics, so the GateWay monitors the fluctuating bandwidth, packet loss, and latency differences of each connection in real time, which Scratch Takes monitored via a laptop onsite at the venue.

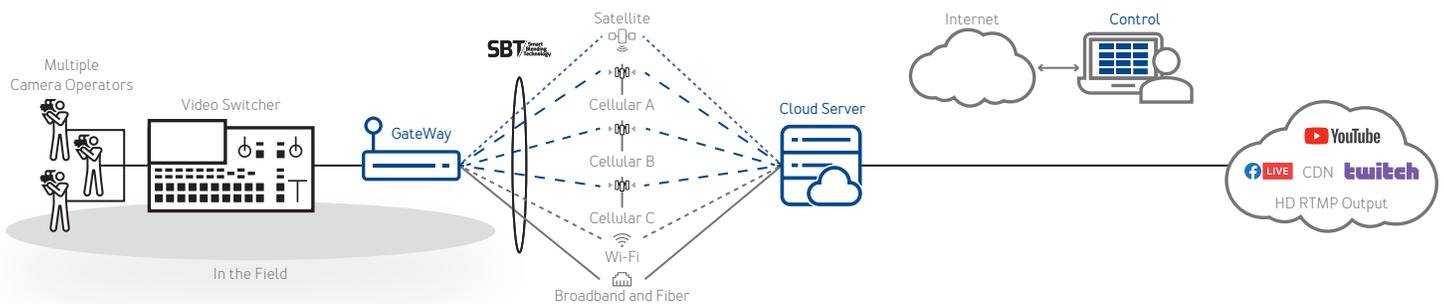
The GateWay dynamically rerouted and distributed packets across all three network providers to ensure maximum connection speeds—and, in doing so, automatically created redundant transport networks to protect against network congestion.

“Dejero’s connectivity made my life easier by simply not having to worry about it,” said John Castillo, technical director of Scratch Takes. “It integrated into our workflow in the same way as a wired connection. It felt as though we were connected to a fixed network.”

In addition, Dejero’s Control cloud management software gave Scratch Takes access to all their devices from a standard browser. This allowed them to keep a check on connectivity in real time, remotely configure devices and set alerts, and view detailed analytics on data usage and performance.



Despite limited onsite network connectivity, Dejero and Scratch Takes were behind the successful live stream of a new world record attempt for the highest number of caber tosses in one hour during the Games.



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“A stable connection was our primary concern at the Highland Games,” added Caylamina Roberts, producer at Scratch Takes. “We had a preconceived idea that Dejero would be out of our reach in terms of budget and spec, but we found Dejero ticked all the boxes. Not only did the GateWay offer everything we needed in terms of connectivity, it was surprisingly affordable, and the personal customer service was impeccable—it was refreshing dealing with real people who truly understood our specific needs.”

“ Dejero has expanded our horizons when it comes to live streaming outdoor events or from venues with limited connectivity. ”

*John Castillo, Technical Director, Scratch Takes*

## Results

Dejero gave Scratch Takes the uplink capacity to provide uninterrupted live coverage of the entire event to the Montreal Highland Games’ YouTube channel. The live stream was watched by over 1,500 viewers. The mix of pre-recorded and live hosted content meant that the Montreal Highland Games generated viewer donations of \$6,000 for the Douglas Foundation’s ‘Building Hope.’

Viewers were also able to watch Jason Baines smashing the Guinness World Record for the most caber tosses in one hour, heaving the 20’ caber a magnificent 161 times, decimating the previous record of 121!

The Dejero solution provided one more unexpected benefit. The GateWay can also be used for general-purpose applications such as voice, data, and broadband connectivity in remote locations. So when Scratch Takes needed to make an eleventh-hour software update onsite, they easily downloaded it from the internet before going on air.

Looking back, Scratch Takes believes that Dejero did much more than solve their immediate connectivity problems—they provided them with a brand-new revenue stream.

“Dejero has expanded our horizons when it comes to live streaming outdoor events or from venues with limited connectivity. Knowing we can tap into such resilient internet connectivity means that we now have the confidence to take on contracts that we would have previously turned down. We now have a fully-rounded proposition and we’re excited to offer our services to a broader client base,” said Castillo.



The Montreal Highland Games, which took place on the grounds of Douglas Hospital, saw Jason Baines set a new world record of 161 caber tosses in one hour.

“ When working on a live event, there are so many things happening at the same time, and one of the beautiful things about working with Dejero’s Smart Blending Technology is that connectivity is one less thing that I have to worry about. ”

*John Castillo, Technical Director, Scratch Takes*

“I have nothing but positive things to say about Dejero, from customer service to ease of use to reliability. They work with some huge clients—but they treated us as if we were their only client, and it made all the difference.

“For the price there is nothing out there that is as reliable.”

Dejero’s range of GateWay products include the rack-mounted M6E6 and M6E6F, which adds access to FirstNet® networks for prioritized connectivity, as well as the rugged and portable 211. These Dejero units provide guaranteed wireless access to the internet in locations where it has never been possible.

For mission-critical environments such as live streaming or a live broadcast, where a single connection is not enough, Dejero’s *Smart Blending Technology* delivers.



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Content is king. Connectivity is kingmaker. We’re here to help you acquire, produce, and distribute your content with critical connectivity.

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