

## CASE STUDY

**WWE, The Famous Group, Quince Imaging and Frozen Mountain deliver an unprecedented virtual-fan event experience**



## The Companies



### WWE

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World Wrestling Entertainment Inc. (NYSE: WWE) is an integrated media organization and a recognized leader in global entertainment. A company consisting of a portfolio of businesses that create and deliver original content 52 weeks a year to a global audience, WWE's programming reaches more than 800 million homes worldwide in 28 languages.



### The Famous Group (TFG)

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The Famous Group, known for its immersive fan experiences, has activated live audiences for the biggest brands, venues and events in the world for more than twenty years. With The Famous Group, brands, venues and events around the world are able to immersively interact with their audiences and turn captivated participants into fans.



### Quince Imaging

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An established leading provider of world-class imaging display and design for over two decades, Quince Imaging is continuously raising the bar for immersive, world-stage experiences. Quince Imaging strives at every given opportunity to ensure their venue and events partners are able to deliver the best experience possible.



### Frozen Mountain Software

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Frozen Mountain Software provides flexible live video solutions that connect people everywhere to what matters to them most. Frozen Mountain brings over a decade of professional live video software development and cloud infrastructure operation to countless industry verticals aiming for live video perfection every day.





## The Challenge

### Creating immersive virtual events that connect performers and audiences together

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One fact is true in the entertainment and events industry: nothing can rival a fully-engaged audience that performers can interact with and feed off the energy in real-time.

By providing interactivity and intentional opportunities for engagement, WWE allows audiences to feel immersed in the show as part of a larger fan community and experience. In the new normal where large groups are meeting over video conferencing, visionaries such as WWE are at the forefront of finding incredible new ways to extend traditional video conferencing into the realm of live entertainment.



Latency was critical for the success of a live entertainment show with virtual fans. WWE wanted audience reactions in real-time, so we worked with our partners to minimize latency across the board.

Jon Slusser, Partner at  
The Famous Group



### An Opportunity for Innovation

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WWE identified an opportunity to change the game for both fans and owners in the live entertainment industry. While many organizations continue to search for ways to transition their businesses online, WWE immediately recognized that traditional out-of-the-box video streaming solutions would not be sufficient to create a signature event experience for television viewers and virtual audience members alike.

They knew the key enabling element they needed was low-latency live video streamed via the internet that was capable of fostering real-time engagement between performers and audiences on a massive scale.

“WWE saw we could deliver superior low-latency, high quality live video at scale with help from our partners at Frozen Mountain Software while also allowing our custom event production tools to drive the screen control and placement for unique video screen design,” explains CJ Davis, Creative Director of Quince Imaging.

Leveraging the experts at The Famous Group, as well as experts at Quince Imaging and Frozen Mountain, WWE was able to launch the WWE ThunderDome and redefine how virtual fans and television viewers could interact with a show.



Amway Center, Orlando, Florida

## Developing a World-First Virtual Fan Experience

Working closely with the team, WWE debuted their world-first proprietary solution: WWE ThunderDome, a large-scale installation of high resolution LED screens, pyrotechnics, projection lasers and more at the Amway Center in Orlando, Florida.

The project transformed empty seats into live-streamed fans who joined over video from around the world. Performers in the ring and television audiences at home could see and hear these virtual fans in real-time. While the show aired on live TV to a broader audience, the virtual crowd offered a unique element of crowd energy never seen before in large performance venues.

“WWE has a long history of producing the greatest live spectacles in sports and entertainment, yet nothing compares to what we are creating with WWE ThunderDome. This structure will enable us to deliver an immersive atmosphere and generate more excitement amongst the millions of fans watching our programming around the world.”

Kevin Dunn, WWE Executive Vice President, Television Production

## Choosing The Right Tech Stack

“We needed the ability to source and place the fans in the arena and to provide the tools and integration points that met broadcasting video standards,” explains CJ. “As Quince and The Famous Group handled these aspects, we needed a live video cloud solution that augmented ours.”

## Core Live Video Features



Managed Infrastructure



Real-Time Audience/Host Engagement



Sub-Second Low Latency



1000+ Concurrent Connections



Flexible API for Integration



Professional Project Support

# Creating a Tailored Solution

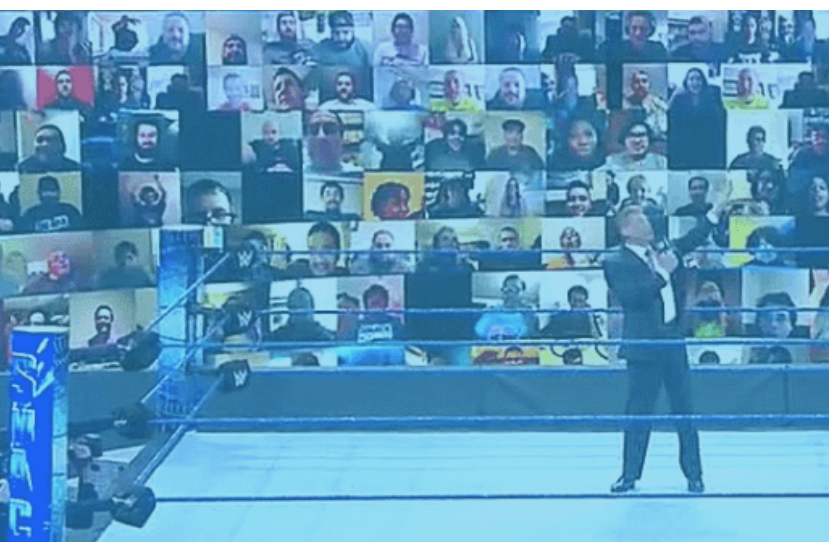
## Partnering with Frozen Mountain

“As we were looking into WebRTC partners to manage the cloud video infrastructure, it was clear from the first contact that the Frozen Mountain team was comfortable taking on a challenging project while providing clear and realistic expectations,” describes CJ Davis, Creative Director at Quince Imaging. “This allowed the entire team to work very efficiently to meet the timelines and needs of this project as it evolved from day to day.”

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CJ Davis, Creative Director  
at Quince Imaging

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## Deploying LiveSwitch

After selecting Frozen Mountain's LiveSwitch as the live video product, WWE leveraged a dedicated cloud instance of LiveSwitch's media server. With a dedicated cloud instance, WWE was able to tap into LiveSwitch's low-latency WebRTC-based API and implement their innovative project while benefiting from Frozen Mountain's cloud hosting and infrastructure management.

The Famous Group designed and managed the virtual audience registration processing, integrating with the Frozen Mountain system to get the fans connected via real-time audio/video using LiveSwitch. Quince's production control and audience monitoring systems in the arena in Orlando, Florida were connected to the dedicated LiveSwitch instance to get all the fans “into the arena” and get the live broadcast back out to them for a live virtual fan entertainment experience.

“Our Professional Services team once again delivered a custom solution that exceeded our clients' expectations. Working with WWE and our partners, we've helped create an unprecedented low-latency live experience.”

Renée Fisher, VP of Professional  
Services at Frozen Mountain Software





# Result: **Thousands** of virtual fans engaged with live entertainment productions

## The ThunderDome: Flexibility and Performance On Display

WWE debuted their visionary ThunderDome experience at the Amway Center in Orlando to millions of viewers on August 21<sup>st</sup>, 2020.

Leveraging the expertise of Quince Imaging, The Famous Group and Frozen Mountain Software, virtual fans were able to register for the event, enter a virtual stadium environment and appear live in real-time on large-scale screens encircling the stadium.

Frozen Mountain provided the necessary live video infrastructure and remote management to ensure thousands of fans were able to connect and engage with the show's performers in real time with zero lag.

## A Visionary Model for What Live Video Can Accomplish

The success of the WWE debut event and subsequent shows highlights how a team of experts leveraging enterprise-grade live video can create immersive experiences that keep audiences coming back for more.



WWE's bold response to challenges faced by the live entertainment and sport events industries has created a phenomenal spectacle and has brought the energy of fans back to their shows.

Jon Slusser, Partner at  
The Famous Group



## Delight fans. Engage audiences.

Bring crowds together in a virtual environment that creates new opportunities to engage remote audiences and performers on a massive scale. Go with live video that can handle it all.

**Let's work together.**