



Case study

# DENSE CONNECTIVITY DRIVES OPTIMISED USER EXPERIENCE FOR SHADOW



## Challenges:

- Achieve top-level connectivity to reach users across the globe
- Provide seamless user experience avoiding lags, buffers and drops

## Solutions:

- Leveraged Interxion's data centres in Amsterdam and Marseille, to be closer to end users
- Connected directly to top-quality networks to service high density compute and need for speed and stability

## Benefits:

- Lowest latency under 25 milliseconds RTD, mitigating risk of lags
- Resilient infrastructure fights drops to ensure continuous streaming for users
- Trusted partner with deep understanding of cloud-based business

The game streaming service Shadow operates under one central goal: provide a high-end gaming experience to users across the globe operating low-end local computers. Considering the number of fast-paced decisions made throughout video games, Shadow needs to facilitate communication between user, cloud and servers in the blink of an eye. To pull it off, Shadow leverages densely connected data centres at Interxion's Amsterdam and Marseille campuses, as well as the cloud to send rendered video and images back to users in real-time, ensuring a smooth, high quality game streaming experience.

## Gaming in the cloud

Shadow transforms low-end devices into high-end gaming PCs through the power of cloud computing. Users can access their full-featured, private computer in the cloud from any device at any time, whether it be an old PC or Mac, TV or smartphone – devices which otherwise lack the power to run high-performance games.

Cloud-gaming requires high-density compute that is distributed close to end users. The operation also requires top-level network quality to ensure no lag or buffer between an input and the result. While Shadow allows its users to leverage local computing power, the infrastructure connecting them to the cloud-based Windows 10 PC needs to be built for speed, reliability and connectivity.

"Imagine a situation where a gamer hits the button to shoot the enemy. That information then has to get sent to a data centre, it has to get processed, it has to get rendered, and it has to get returned to the end user," Bryan Hill, Director of Platforms at Interxion, explained. "If that input is not registered by the server, then you can get shot or your game can end, so network quality is a critical element."

## About Shadow

Founded in 2015, the company, specialists in cloud computing, developed the first high-end computer that will never become obsolete. Their PC in the cloud allows gamers to play in the best conditions on any screen, via the “Shadow” application or the “Shadow Ghost” terminal. Shadow has raised \$110 million since its launch and has 200 employees in Paris and San Francisco.

## About Interxion

Interxion, a Digital Realty company, is a leading provider of carrier- and cloud-neutral colocation data centre services in Europe, serving a wide range of customers through more than 50 data centres in 11 European countries. Interxion’s uniformly designed, energy-efficient data centres offer customers extensive security and uptime for their mission-critical applications. With over 700 connectivity providers, 21 European Internet exchanges, and most leading cloud and digital media platforms across its footprint, Interxion has created connectivity, cloud, content and finance hubs that foster growing customer communities of interest. For more information, please visit [www.interxion.com](http://www.interxion.com)

## Short distance for low latency

Proximity drove Shadow’s IT infrastructure strategy. The company needed its data to live near the cloud, internet exchanges and their end users to ensure they matched the accessible, high-end service promised to subscribers.

“At Shadow, we require the most direct, shortest paths between our infrastructure and our gamers,” explained David Chaniel, Head of Infrastructure at Shadow. “This enables the lowest latency under 25 milliseconds RTD, with the most stable connection that reduces the risk of lags and drops.”

Shadow’s infrastructure requires the upmost resilience to provide users with an exceptional gaming experience. Imagine a user in the midst of a highly intense game, on the brink of success—and then the stream crashes. All progress would be lost, discouraging the user from playing on the cloud. As a result, Shadow partnered with Interxion to achieve the high connectivity that enables a superior gaming experience.

## Trusted, reliable connection

Shadow deployed its first environment at Interxion’s Amsterdam campus, collocating its data in one of the best-connected cities in the world, due to its central location in Europe. “The Interxion community in Amsterdam of over 210 ISP carriers and internet exchanges enabled [low latency]. This provides the highest quality of experience our gamers demand,” Chaniel said.

Colocation also allowed Shadow the flexibility to grow its infrastructure to close the gap between even more users. The company expanded to Interxion’s Marseille campus, one of the world’s most dynamic content hubs, connected through more than 14 submarine cable systems.

“As part of our expansion strategy, we want to be closer to our French users, especially in the south. But it also [offered] us the capacity to reach Spain, Italy and maybe Greece,” said Jérôme Arnaud, Group CEO at Shadow.

Colocating their servers with Interxion placed Shadow on the forefront of the Internet, providing the resiliency to cope with potential surges in users. Furthermore, the 24/7 support provided at Interxion’s campuses ensured Shadow’s infrastructure would be carefully watched and quickly cared for in the event of a problem, before users could be affected.

As the only challenger to the American hyper-scale streaming services, Shadow needed a partner with expertise in fast, reliable cloud connection, as well as a community of partners that could help expand their services across the globe.

“As a scale-up company aiming to be at the edge of technology, an ecosystem of technological partners is essential,” Arnaud said. “We are very happy and proud to have technological partners like Interxion.”

// *At Shadow, we require the most direct, shortest paths between our infrastructure and our gamers, and we need a company that can keep up with us. Interxion does that. They understand our business, how we work and what we need. They are a trusted partner.”*

**David Chaniel**  
Head of Infrastructure, Shadow



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**Cofounder:** Uptime Institute EMEA chapter. **Founding member:** European Data Centre Association. **Patron:** European Internet Exchange Association. **Member:** The Green Grid, with role on Advisory Council and Technical Committee. **Contributor:** EC Joint Research Centre on Sustainability. **Member:** EuroCloud.

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