All in on all-in-one delivery of extraordinary guest experiences

From in-bay 3D gaming to guest registration and food services, Topgolf relies on a custom VDI app run by Dell VxRail technology.

"The VxRail-NVIDIA-VDI trifecta plus the technology’s transparency allow our venue operators to focus on guest services."

Scott Shultz
Senior Director of Technology Innovation, Topgolf Entertainment Group

Business needs

To scale its business of providing guests with memorable “moments that matter,” Topgolf needed a standardized technology stack to support all facets of each venue’s operations — the HDTV displays in each of its guest bays, the 3D game delivery, and food and beverage operations. Also, its global expansion plans required a worldwide platform.

Business results

- Delivers consistently great guest experiences with assured reliability.
- Improves operational efficiency and saves space and cooling costs.
- Provides a standardized, scalable IT model supported globally.
- Consolidates servers, workloads, and management, easing staff’s burden.
- Cuts new deployments from a week to hours and reduces risk.

Solutions at a glance

- Dell VxRail hyperconverged infrastructure (HCI)
- Dell Technologies Virtual Desktop Infrastructure (VDI)
- Dell PowerEdge servers
- Dell PowerStore storage appliances
- Dell Technologies Professional Services

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Customer profile
Today’s consumers have many entertainment options, but few compare with Topgolf Entertainment Group (TEG). It operates more than 70 high-tech locations in six countries, serving more than 30 million guests a year. These venues feature climate-controlled outdoor hitting bays, 3D in-bay gaming on HDTVs, chef-inspired menus, cocktails, music and event spaces. The company plans to open up to 10 new sites each year, all expedited by standardizing on Dell VxRail hyperconverged infrastructure (HCI).

TEG’s founding idea was embedding a radio-frequency identification (RFID) chip in a golf ball, and then using outfield RFID readers to detect exactly where the ball lands. To track this data, each venue needed the right technology behind it, as did guest registration, food and beverage services, pro shop sales and other business operations.

According to Scott Shultz, senior director of technology innovation at TEG, the company makes golf fun. He explains, “Although it can be hard to play, guests enjoy being outdoors year-round with friends, hitting balls, having a good time with music and 3D gaming, plus in-bay food and beverage services. All this sets us apart from other social activities, many of them indoors.”

For example, at Toptracer-enabled venues, there are virtual courses that allow them to play on their favorite courses; Jewel Jam, which turns the outfield into a jeweled landscape and awards points when guests hit matching jewels; and a specialized version of Angry Birds that lets guests use the game’s characters to earn points.

**Centrally managed technology stack**

TEG needed a solid technology stack to deliver the in-bay game experiences along with managing other venue services and operations. For this, the company chose Dell VxRail HCI. It combines compute, storage, networking and optimized VMware virtualization in a single system that can be centrally managed, strengthening cybersecurity with easier and faster endpoint patching and updates.

The typical TEG venue has a six-node VxRail cluster with two NVIDIA GPUs per node. Each VxRail cluster hosts multiple virtualized servers, with those supporting key applications, creating a compact footprint and saving space and cooling costs.

**Golf + immersive 3D digital experiences**

As TEG locations grow in number, so do the sophistication of offerings, including the addition of immersive, 3D digital experiences on HDTVs in each bay. Toptracer, for example, is a technology that allows each guest to see their ball’s trajectory from the moment they hit it to wherever it lands in the outfield.

While socializing over food and drinks in a TEG bay, guests can interact with specialized games on the in-bay HDTVs.
“Our IT jobs are much easier with a consolidated platform for deploying any type of venue workload, thanks to the robustness, agility and reliability of VxRail,” says Mike Zvolanek, senior manager of global infrastructure at TEG, noting that Dell PowerEdge rack servers and Dell PowerStore appliances augment the setup. Dell Technologies Professional Services helps with installations, so the lean TEG team can focus on other priorities.

A unique VDI use case

One TEG app, developed in partnership with Dell Technologies and NVIDIA, adds VDI and Dell Wyse thin clients to the solution, delivering 3D games to bays along with guest services. The NVIDIA virtual GPU software is critical to the 3D gaming solution. “With GPU-enabled nodes that can handle both ball tracking and game delivery, VxRail has been a game-changer on our back end,” says Shultz. “The NVIDIA GPU acceleration coupled with NVIDIA virtual GPU technology enables the 3D visualization experience we’ve been able to achieve. The VxRail-NVIDIA-VDI trifecta plus the technology’s transparency allow our venue operators to focus on guest services.”

Shultz sees standardization on VxRail as key to TEG’s global expansion. He concludes, “When standing up new venues, we’ve cut IT deployment times from a week to hours with VxRail. Plus, we can confidently deliver consistently great guest experiences with VxRail’s reliability, and we know that it’s supported globally by Dell Technologies should parts or services be needed.”