

Autodesk University: The Path to Virtualization with Xi Frame and Azure



Putting on an event the size of Autodesk University is not for the faint of heart. Autodesk's annual user conference draws 10,000+ attendees for three days of talks, demos, and hands-on classes that together require a huge amount of computing power.

It used to take the Autodesk event team a week and thousands of hours of labor to set up hundreds of high-powered workstations—not to mention what it took to ship the workstations across the country, hoping they arrived on time and intact.

Joel St-Pierre, event systems and support manager for Autodesk University, knew there had to be a better way—and he found it, by streaming apps from the cloud using Xi Frame and Azure instead. By going virtual, Autodesk University swapped desktops for laptops without losing an ounce of performance, while shipping only one-thirtieth of the hardware it used to. We talked to Joel about how they pulled it off.

DESCRIBE AUTODESK UNIVERSITY AND ITS SCALE

Autodesk University is a huge networking event where professionals come together and experience new ways to collaborate and use design software. We have thousands of people from all different industries, including product design, manufacturing, architecture, construction, and media. It's an opportunity for people to explore the future of making things.

WHAT'S YOUR ROLE IN THE EVENT?

I manage everything that is on a computer or computer-derived at the show. I support 300 to 500 stations every year for our hands-on labs, certification lab, and exhibit hall. In the past we used physical workstations, but now we're going the virtual route.

IN PREVIOUS YEARS, WHAT DID IT TAKE TO SPIN UP 300 TO 500 MACHINES FOR A THREE-DAY EVENT?

It was a major challenge. We were essentially setting up and tearing down enough IT for a medium-size company over a span of a few days.

We used to have up to seven different configurations. Given the sheer amount of software that would go onto each image (some would have up to 250GB of actual software installed) and because time was a factor, we didn't build an image that had all that software installed because if this process failed you'd have to start from scratch. Instead we did a basic image with basic presets and pushed all the software using Microsoft SCCM.

The infrastructure for imaging everything required 10 HP servers that needed to be maintained all year long so they would work just for this event. Then we had to ship the hardware from Montreal to Las Vegas, crossing our fingers that everything went well and showed up in one piece.

You don't want to buy all that hardware and maintain it all year long for just three days, so you're also sourcing hardware from different vendors and sponsorships. The challenge with physical hardware, and the sheer amount of software Autodesk demonstrates at these events, is that you need powerful machines with big drives and good graphics cards across the board. You want attendees sitting next to each other in the lab to have the same experience.



WHY DID YOU MOVE TO VIRTUAL?

In the past, we had the luxury of a longer setup. We had seven to nine days to set up the 400 workstations in the hands-on labs. We needed that much time to push all the hardware and updates to the systems. But a few years ago, the setup time dropped to just three days. We had to figure out how to do the same deployment in a shorter time frame. It forced us to think about how to do things differently, since keeping everything physical would be a challenge. That's why we moved to virtual.



One of six computer labs that was used to deliver hands-on training to attendees through Frame on Azure

WHAT KEPT YOU FROM USING VIRTUALIZATION EARLIER?

Most of the Autodesk software demonstrated at AU requires GPUs, so we stayed with physical longer until graphics for virtualization became available in the cloud. We also only do one big event a year, so we didn't have an opportunity to test virtualization at smaller events first. Deploying on hardware took a while, but it worked. When it came time to renew the hardware for our imaging infrastructure, we layed out all our options on the table and ultimately decided to move to virtual

HOW WAS THE EXPERIENCE WITH XI FRAME?

I did the math a few weeks ago on the amount of work hours we spent on physical vs. working with Xi Frame, and we saved about 600 hours. Having to maintain the architecture of the physical deployment infrastructure is also a big commitment all year long. Not having to do that on Frame is great.

WHAT DREW YOU TO XI FRAME?

The Nutanix platform is really easy to use. It's very straightforward. It feels user-friendly, both to me and whenever I show it to someone. When I train contractors, I don't have to spend too much time with them explaining the platform, which means I can focus on the big picture. The ah-ha moment was when I came back to the platform after a few months. It was like putting on an old pair of boots. I wasn't lost in the UI. I was right back in it.

DID YOU FEEL LIKE XI FRAME MADE YOUR JOB EASIER?

My job at Autodesk University is managing IT and software support for the whole thing, prior and onsite. It also involves me managing our imaging and software delivery infrastructure, which I built myself. With Xi Frame I don't have to deal with that, which makes me a better project manager. It gives me a lot more time to make sure the deployment on-site goes well. It's a lot easier to go with a cloud vendor that's maintaining the infrastructure every day. You always have the latest and greatest hardware, and you don't have to worry about it.

WHAT KIND OF HARDWARE DO YOU USE NOW?

With Xi Frame we can run everything off laptops. Last year we rented 300 laptops, which is pretty cheap. The portability factor is great. In the past, we had to ship 20 to 30 pallets of workstations, and then we had to pull every workstation out of a box, plug it in and make sure every part in it was working. Today we only have to ship one pallet of laptops for the whole event, which has the other great side benefit of reducing our carbon footprint.

WAS THE EXPERIENCE DIFFERENT FOR ATTENDEES?

Attendees didn't realize they were in a virtual environment unless they hit the "escape" key by mistake and exited the Xi Frame window. People felt like they were on a physical workstation. You want that seamless experience going from physical to virtual.

WAS ANYONE EVER SKEPTICAL TO USE XI FRAME AND GO VIRTUAL?

There are always power users accustomed to big workstations. Some of them haven't experienced virtual, so they're a bit skeptical. Or they might remember the only time they used virtual was five years ago and they weren't satisfied with it. But if you don't tell them they're on virtual, they're surprised when you reveal they're on it now.

WHAT ARE YOUR PLANS FOR 2018?

The size of Autodesk University Las Vegas should be similar to last year. Our goal is to expand virtualization at our other events around the world.



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