Dell EMC Surveillance Labs: what, why, how?

The surveillance and Internet of Things (IoT) space continues to undergo rapid growth. By 2020, the global video surveillance market is predicted to reach US$64 billion, an annual growth rate of more than 22 percent, and the original equipment manufacturer (OEM) market is predicted to top US$2.8 billion. Big trends are driving these figures, namely:
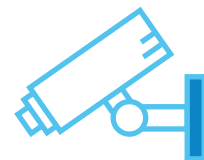
The affordability of security products, thanks to a raft of new technologies

Smart city initiatives positioning security as a key component

Growing public safety concerns in light of recent geopolitical instabilities

Rising surveillance technology adoption rates within the commercial sector

How Dell EMC is leading innovation in a rapidly growing industry

Alongside these trends, CCTV is facing regulatory changes to address public and commercial safety concerns. There are two key challenges in all this:
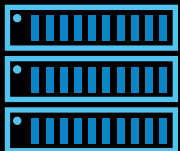
Data management

how to handle a growing amount of data and use it proactively.

Security

how to keep your systems secure as more devices connect across the IoT.

From the beginning, Dell EMC's approach to surveillance solutions has been clear: provide an end-to-end design that's tailored to your required surveillance workload by a first-tier vendor.

This is where our surveillance labs come in. They ensure that you get the best version of your product through rigorous testing and validation.
Looking forward, sensors will be built in to edge hardware as standard as organisations use better tools to monitor their environments. But this will even more system deployments, resulting in even more data fed back to the core, meaning more of the challenges outlined earlier on: data management and security.

We see testing labs becoming increasingly important for surveillance solutions as companies wish to experiment with their capabilities in a secure environment. Here is how some of our customers do just that.

The entire process: a quick explanation

Through our network of global Customer Solution Centres, we can engage at three levels:
• A briefing of our technology
• Design sessions to address your challenges
• A proof of concept to build out this design in a test scenario

Our POC testing can last anywhere from a couple of days to a week, and solutions can go live in just a few weeks, with longer projects taking less than six months.

The aim is to de-risk your investment and:
• Reduce support requirements
• Create a proven, repeatable architecture
• Provide a known performance baseline for production environments

Dell EMC's Surveillance Labs also provide conprehensive documentation, including reference architectures, white papers, technical notes, sizing guidelines, and presentations so you have access to the same information that we work from. This approach is transparent and results-driven. And it's redefining the way our surveillance customers do business.

What we test and why

Customers work with us in our labs to fine-tune Dell EMC hardware – from the edge, to the core, to the cloud – to maximise its performance for surveillance workloads. This includes benchmarking a range of combinations, testing for fault tolerance and high availability, and validating virtual and non-virtual architectures. We also test larger projects to check their efficiency at scale, using the likes of graphics processing units (GPUs) to provide video feeds to multiple screens, for example. Our labs also take multiple independent software vendor products into account at the same time.

Our test-to-fail approach

We test our solutions to failure, matching our customer's production workloads as closely as possible. Failure is defined as video loss, so when we reach a critical point of failure in a test scenario, we can make the right decision about the balance between CPU, memory, disc and network connectivity. The next step involves calibration to secure the most appropriate configuration.

Our testing labs perform some of the most important tasks in our business, and as such we have our dedicated engineering teams working with customers around the clock. The surveillance validation team's expertise spans virtualization, platform performance benchmarking and sizing, network security for physical security assets, and big data analytics. It's a wide range of expertise ensures we can meet all of our customer's requirements and that our surveillance labs remain one of the most trusted in the industry.

By 2020, the global video surveillance market is pegged to reach US

$64bn

17.1   21.8   27.5   34.2   42.5   52.6

2009 —— 2019

That is almost **1 dollar** for every star in our galaxy

Case study

One of our customers, iOmniscient, uses two cameras connected to the Dell Edge Gateway 5000 Series. They're placed in an enclosure on a street light and monitor vehicle and human traffic below.

Rather than send two raw video streams from the edge of its network to the core, iOmniscient analyses the feeds for traffic and people using the gateways, and then only sends that data on, reducing the amount of bandwidth required. What's more, trigger levels can be set on cameras to make the solution as smart as possible. All of that means data is being aggregated at the edge using the processing capabilities of the gateway and making the entire solution much more bandwidth-efficient.

"With the OEM solution from Dell, we can guarantee 100 per cent uptime, no data loss and no service disruption, which means maximum business continuity for our customers. This is an outstanding level of reliability."

Enzo Palladini, Sales & Engineering Office Manager, Bettini Video

Learn more about Dell EMC OEM solutions

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