

# MTS



# Connecting the future

Metro Trains Sydney

An MTR, John Holland and UGL Rail Company



## METRO TRAINS SYDNEY

**Revolutionising public transport by operating an automated urban metro network.**

Change is in the air as Metro Trains Sydney gears up to operate Australia's first metro system on behalf of the NSW State government. To keep this ground-breaking transport infrastructure project running full steam ahead, the company implemented a hyperconverged infrastructure from Lenovo and Nutanix to support its mission-critical back-office applications.

Lenovo





Home to over 5 million people, Sydney is Australia's largest city, famous the world over for its iconic opera house, the Sydney Harbour Bridge and Bondi Beach. A major centre for culture, learning and innovation, it's no surprise that the city's population continues to grow and that its suburbs keep expanding.

To connect Sydney's sprawling suburbs with the inner city, the New South Wales (NSW) Government has embarked on an ambitious public transport infrastructure project to build Australia's first-ever metro system. Due to open in summer 2019, the Sydney Metro network will be controlled by the state government's transport authority, Transport for NSW, and operated and maintained by Metro Trains Sydney (MTS).

Sydney Metro will have 31 metro stations and more than 66 km (41 miles) of dual rail that will be served by automated trains by 2024 with the Northwest section opening mid-2019. Trains are expected to run every 4 minutes in peak hours, making it quicker, easier and more comfortable for passengers to travel across the Sydney metropolitan area.

For the project to be a success, MTS must ensure that back-office operations run smoothly.

James Kambourian, Senior Systems, Networks and Risk Specialist at MTS, says: "We wouldn't get very far without our ERP systems - they are absolutely mission-critical. As are our customer-facing digital channels, workforce management and payroll solutions, Microsoft Office applications, and collaboration tools. They enable us to keep everything going behind the scenes."

To keep its essential back-office systems on the right track, MTS looked to invest in a reliable, high-performance IT infrastructure. While on the lookout for a suitable hardware platform, the company came across Lenovo ThinkAgile.

James Kambourian recalls: “Initially, we reached out to Lenovo looking to procure some PCs. Then we got talking about the Sydney Metro project to the rep, who suggested we look at the Lenovo ThinkAgile appliances – and we were very impressed.

“Because we only have a small IT team, the idea of a hyperconverged infrastructure really appealed to us. All the compute, storage, networking and virtualisation software comes pre-integrated, so it’s a plug-and-play solution. Hyperconverged tech also massively simplifies management and maintenance.”

After evaluating hyperconverged offerings from several vendors, MTS decided to go with Lenovo. Working with a team from Lenovo Professional Services, the company implemented two three-node Lenovo clusters – one at its production site and one at its disaster recovery (DR) site – and Lenovo System x3650 servers, all connected via low-latency Lenovo ThinkSystem NE1032 and G7028 RackSwitches.

Because Lenovo ThinkAgile HX appliances come pre-loaded with industry-leading hyperconverged software from Nutanix, initial set-up is quick and easy. Lenovo platforms are ranked #1 for reliability industry-wide, but MTS can take advantage of comprehensive Lenovo ThinkAgile Advantage services and support if any issues ever were to arise.



“Support from the Lenovo team has been great,” says James Kambourian. “We got the hardware up and running at our production site in no time, and we’re currently working to get everything installed at our secondary site – so that our vital back-office applications keep running even in the unlikely event of disaster at our primary data centre.”

Featuring the latest-generation Intel® Xeon® Scalable processors and powered by Nutanix Enterprise Cloud OS software, the Lenovo ThinkAgile appliances deliver high levels of performance, availability and flexibility.

James Kambourian comments: “Because all the compute and storage resources are pooled, we can deploy workloads much more flexibly, and we also benefit from having a single point of control. There’s no need for separate compute and storage area network systems anymore, as we’ve got everything we need in a single stack. We use Nutanix Prism to manage the virtualised resources via a single pane of glass, and Lenovo XClarity to manage all the underlying infrastructure, which makes our lives easier.”

With its back-office applications now running on Lenovo systems, MTS can be confident in them running reliably – now and in the future.

James Kambourian concludes: “So far, everything is running very effectively, and we feel good knowing that we can easily scale out the ThinkAgile clusters to meet increased demand in the future, once Sydney Metro becomes operational. We’ve already got big plans for running big data analytics and AI solutions on our Lenovo infrastructure, so that we can get a better understanding of network operations and how passengers use the metro to improve services. We’re very excited to see what the future brings.”

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– James Kambourian, Senior Systems, Networks and Risk Specialist, Metro Trains Sydney



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## Solution components

### Hardware

- Lenovo ThinkAgile HX3320 with Intel® Xeon® Scalable processor family
- Lenovo System x3650 M5 with Intel Xeon E5 processor family
- Lenovo ThinkSystem NE1032 RackSwitch
- Lenovo RackSwitch G7028

### Software

- Nutanix Enterprise Cloud OS
  - Nutanix Acropolis, AHV, Prism
- Lenovo XClarity

### Services

- Lenovo Professional Services
- Lenovo Warranty Upgrade Services



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**—James Kambourian, Senior Systems, Networks and Risk Specialist, Metro Trains Sydney**

To operate Australia’s very first metro network, Metro Trains Sydney implemented a hyperconverged infrastructure from Lenovo and Nutanix to underpin its mission-critical back-office applications. Equipped with Intel® Xeon® Scalable processors, the Lenovo ThinkAgile solution delivers all the performance, availability and flexibility MTS needs to keep operations on track.

