

Telematics Provider Virtualizes with Unified Data Center Solutions



Executive Summary

- **Customer Name:** KORE Telematics
- **Industry:** Machine-to-machine (M2M) communications provider
- **Location:** Toronto, Ontario, Canada; Atlanta, GA; Winnipeg, Canada; Melbourne, Sydney
- **Number of Employees:** 70

Challenge

- Support mission-critical, M2M data communications
- Deliver exceptional quality of service and help ensure security
- Sustain hundreds of thousands of devices continuously joining the network and scale to enable growth

Solution

- Two highly virtualized data centers using Cisco Unified Data Center solutions
- Solutions from Cisco partners EMC and VMware to accommodate growing demand and sustain exceptional availability

Results

- Delivered 100 percent uptime
- With remote management, staff of five can manage two data centers
- High-performance infrastructure supports corporate, test/dev, and customer environments

KORE Telematics delivers 100 percent uptime for mission-critical M2M communications.

Challenge

Whether they are tracking vehicle fleets, processing transactions, or delivering health-related information wirelessly, customers rely on the KORE Telematics' network, which covers more than 180 countries. As the world's largest wireless network provider in the rapidly expanding machine-to-machine (M2M) communications market, KORE connects equipment, people, and information through a single business management platform, accessible via API or secure web portal. The company partners with application, hardware, and wireless operator partners to efficiently deliver M2M solutions for connected devices across the globe, requiring KORE network and data center services to operate with the greatest possible reliability, performance, and data security.

"At KORE, it's never just about our business; we have to worry about our customers' businesses," says James Morris, director of network engineering and operations for KORE Telematics. "Their mission-critical M2M data runs through our network and our data centers. Downtime and outages are counterproductive to their businesses and can easily cost them in both revenue and customers depending on the severity."



“Since implementing Cisco UCS solutions, we’ve experienced zero downtime through the fault-tolerant infrastructure. We now have the ability to complete network maintenance without causing any downstream interruption in service.”

– James Morris
Director of Network
Engineering and Operations
KORE Telematics

In addition to the urgent requirement for uptime, KORE must scale to meet escalating demand with peak performance. Currently, KORE can sustain hundreds of thousands of concurrent device data sessions across multiple networks and technology protocols with the ability to handle millions of simultaneous connections as needed around the globe join the KORE network every day. Traffic volumes are growing rapidly, and the network has been built to scale to over 10 million devices.

As a corporation, KORE has 70 employees in Toronto, Melbourne, Atlanta, and Winnipeg, fueling their productivity through business applications such as Microsoft Exchange and SharePoint. The company has a rich development environment for its customer-facing PRISM*Pro* software and associated APIs, used by KORE customers to create custom solutions for managing their end-users, assets, and devices. The resulting databases and applications are hosted in the KORE data centers.

To manage its tremendous growth, KORE began to reevaluate its existing data center environment (39 traditional servers in a data center in Winnipeg) and realized the status quo would not be a viable option long-term. The company’s busy IT team had to manage too many physical servers, and they wanted to enhance the company’s backup and disaster recovery (DR) capabilities in the event of a server failure.

Solution

KORE was looking for a better strategy for supporting new customer applications and keeping the network online, all while simplifying IT and reducing costs. As part of its efforts to transform its data center and network infrastructure, KORE embarked on a comprehensive project to implement virtualization technologies and update server hardware and network solutions.

After evaluating multiple vendors, the choice was clear: unify the data center with a Cisco network built with Unified Fabric components and the Cisco Unified Computing System™ (UCS™), which brings together network, compute, storage access, and virtualization into a single, cohesive system. Beyond offering superior performance and richer management capabilities, Cisco® UCS solutions were 25–30 percent less expensive up-front and tailored for virtualization. For instance, the extended memory capabilities of the Cisco UCS C250 rack-mount servers would increase performance and capacity for KORE’s demanding workloads, while integrated Cisco switches and routers support fast, secure, and reliable networking.

“From technical and price standpoints, Cisco UCS won hands-down,” says Morris. “We also appreciated the ability to work with a single vendor, one with exceptional technical support, for both our network and data center solutions.”

Disaster recovery to enhance availability

Today, the company has two clusters of four Cisco UCS C250 rack-mount servers in the United States, one in a Las Vegas data center facility and another in Atlanta, all connected through a high-capacity Cisco network that leverages Cisco Catalyst® 3750-x and 6500 Series Switches and Cisco 7206 and Cisco ASR 1000 Series Routers. Each data center is virtualized to create a flexible, secure, private cloud. If an outage occurs in one facility, the other facility automatically takes over to help ensure high availability, even in the event of a disaster.



Easy path to virtualization

The migration to a virtualized infrastructure was smooth and fast, a vital factor for a company whose customers cannot tolerate outages. Using the Cisco UCS platform, an EMC SAN, and VMware virtualization software, KORE started by consolidating 39 production servers in Winnipeg into virtual machines running on four physical servers in Las Vegas. This consolidation took only 96 hours and resulted in less than two hours of overall downtime.

“We migrated to four Cisco servers in Las Vegas and synchronized our EMC storage-area networks (SANs), moving them across the Internet in a virtual move of a virtual data center, including moving all of our customers’ applications,” says Morris. “It was genuinely remarkable how easy and fast it was to implement the combined Cisco UCS, EMC, and VMware solutions.”

Results

Superb service levels for customers

With the new unified data center infrastructure and Cisco UCS Manager, KORE now has the ability to perform system maintenance without affecting customer connections. The combination of technologies from Cisco, EMC, and VMware has created a highly available and scalable computing environment for KORE. And, although disaster recovery and redundancy are now built-in, KORE has never experienced downtime or server failures since implementing its Cisco Unified Data Center solution two years ago, a crucial factor in supporting customers’ mission-critical M2M communication needs.

In the event of a disaster, KORE IT can now respond within minutes, helping to ensure critical systems are back online within a two-hour window, and the self-healing nature of UCS technology marginalizes the impact to network availability. “Since implementing Cisco UCS solutions, we’ve experienced zero downtime through the fault-tolerant infrastructure,” says Morris. “We now have the ability to complete network maintenance without causing any downstream interruption in service.”

Low TCO

For KORE, additional benefits of using Cisco UCS as the computing foundation for its virtualized and unified data center environment include lower power consumption and cooling requirements due to a significantly reduced physical server count. The servers are easy to manage as well, contributing to lower overhead and maintenance. Cisco UCS Manager provides centralized, embedded management of all Cisco UCS software and hardware components to simplify managing resources for hundreds or even thousands of virtual machines. A small staff of five engineers spread across locations worldwide can manage two data centers, including 20 TB of storage and dozens of applications and virtual machines, without being on-site in Atlanta or Las Vegas.

“The management tools Cisco provides give us alerting and key performance indicators so we can keep a real-time pulse on our network and overall data center performance,” says Morris. “Our team can even connect to physical servers virtually to see what’s happening. That kind of intelligence has a huge impact on lowering our costs and simplifying management for our dispersed IT organization.”

Product List

Data Center Solutions

- Cisco Unified Computing solutions
- Cisco UCS C250 high-density rack-mount servers with Intel Xeon Processor E5640
- Cisco Catalyst 3750-x Series Switches
- Cisco Catalyst 6504 Series Switches
- Cisco 7206 Series Routers
- Cisco ASR 1000 Series Routers
- Cisco Unified Management solutions
- Cisco Unified Computing System Manager

Routing and Switching

- Cisco Nexus 5548UP Switches
- Cisco Nexus 2248TP Fabric Extenders
- Cisco MDS 9124 Fabric Switches
- Cisco ASR 1001 Routers
- Cisco Catalyst® 2960 Series Switches

Network Management

- Cisco Unified Computing System Manager

Security and VPN

- Cisco ASA 5510 Adaptive Security

Applications

- Microsoft Exchange
- Microsoft SharePoint
- PRISMPro

Storage

- EMC SAN solutions

Scalability for business agility

The flexibility and scalability of Cisco Unified Data Center solutions contribute to the increased business agility of KORE. The KORE IT team can move virtual machines, rapidly expand to meet demand, or replicate systems and test them without issues. They can add a Cisco UCS C-Series server and be up and running in minutes. When customer applications need to be operational in days, Cisco provides the flexibility to provision the new service with agility and speed.

“Cisco UCS technology is a cornerstone of our data center, supporting our applications, our test environment, and most importantly our customers’ businesses,” says Morris. “With the next generation of Cisco UCS, we know that we can continue to evolve and have the reliability needed for growth and innovation.”

For More Information

To find out more about Cisco Unified Computing, visit: www.cisco.com/go/ucs.

To find out more about Cisco Nexus Switches, visit: www.cisco.com/go/nexus.

To see how Cisco integrates with Microsoft technologies, visit: www.cisco.com/go/microsoft.

To find out more about Cisco Unified Data Center, visit: www.cisco.com/go/unifieddatacenter.

CISCO PROVIDES THIS PUBLICATION AS IS WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties, therefore this disclaimer may not apply to you.



Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at www.cisco.com/go/offices.

© 2012 Cisco and/or its affiliates. All rights reserved. Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: www.cisco.com/go/trademarks. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)