Agility Helps Keep Mobile GR & Parking Moving Forward

EXECUTIVE SUMMARY

Customer:
City of Grand Rapids Mobile & Parking

Location:
Grand Rapids, MI

Industry:
Municipality, Transportation, and Traffic

US Signal Services

+ Enterprise Cloud (Dedicated Resource Pools)
+ Disaster Recovery-as-a-Service
+ Enterprise Backup-as-a-Service
+ Remote Monitoring and Management
+ Professional Services – Cloud Migration

Results

+ Scalable, flexible, cost-effective IT resources
+ Increased resiliency
+ Reduced CapEx
+ Freed up internal resources

Agility is essential in any business, but particularly so when it comes to information technology. Technologies change rapidly. New information is discovered. Obstacles emerge unexpectedly. Different parameters get set. Everyone needs to pivot. When it comes to a cloud migration project, that can include both the customer and cloud services provider.

About the Customer

Mobile GR and Parking (MGR&P) is the department within the Grand Rapids, Michigan city government that oversees its mobility system. That includes the city's parking structure payment systems, mobile parking systems, and traffic safety management systems and the IT assets that support them.

The Situation

From sensor-equipped meters to autonomous vehicles, the transportation industry is continuously being transformed by technology. Enabling those technologies are IT systems — collections of servers, connectivity solutions and other resources that support everything down to parking ramps and traffic lights. Grand Rapids, like other cities, relies heavily on these systems to meet its citizens' parking needs and maintain a revenue stream that enables it to do so.

As is also the case for many cities, the IT system behind Grand Rapids' parking system had been cobbled together over the years. There were numerous vendors responsible for different aspects, making cost effectiveness, maintenance, and management difficult to control. The implementation of new parking technologies was lagging. The IT system's disaster recovery solution was minimal. There were concerns that if a disaster occurred, MGR&P could lose valuable data and suffer business-disrupting downtime.

MGR&P's leaders determined that a modern, cloud-based IT system was needed. Virtualizing its IT infrastructure and moving it to the cloud would eliminate the need for paying for and maintaining on-site equipment. A cloud environment could better support new parking technologies and future initiatives and allow for managing the necessary resources more cost effectively due to the cloud's scalability and pay-as-you-do cost model.

The Challenges

Having worked with other city entities, including the City of Grand Rapids Police Department, US Signal had a strong reputation. It was contracted to build a cloud solution and assist MGR&P in migrating its workloads there. As the project got underway, however, a few hurdles emerged that required agility and flexibility from both US Signal and MGR&P.

The leader of the MGR&P team that had initiated and scoped the project left to take a new position. That meant someone new had to come in and take over a critical initiative that was already underway. The new information systems coordinator quickly immersed himself in the project and was able to successfully get up to speed and keep things moving forward.

Adding complexity to the project was the fact that special events were coming up that would significantly increase parking demand. Extensive coordination and communication among all parties was required to minimize potential parking disruptions and ensure increased parking needs could be met.

Although it wasn't an obstacle, MGR&P did require that any cloud solution developed would need to meet the rigorous security requirements of the Payment Card Industry Data Security Standard (PCI-DSS).

A key driver for the project was moving from a Capex to OpEx model by eliminating on-premise infrastructure. During the course of planning the workload migration, however, it was discovered that moving some of the older parking equipment servers wasn't practical.

Doing so would necessitate shutting down city parking ramps, which would create a significant disruption to operations and cut off essential revenue. These particular servers were also scheduled to be replaced in the coming year, which made the timing of a move less than desirable.

Additional complications included the renumbering of certain networks. That meant pre-migration changes were needed that required flexibility from both US Signal and MGR&P.

The US Signal Solution

US Signal's initial solution for MGR&P centered on development of and migration to a secure multi-tenant cloud environment. It would be built using US Signal's customer-managed, dedicated resource pools. They provide 100% dedicated compute, memory, and storage resources, and dynamically allocate resources by creating and destroying any number of VMs to fit each customer's applications and needs. They're also PCI DSS-certified, and powered by US Signal's protected network.

The workloads would be protected by US Signal's Enterprise Backup-as-a-Service (EBaaS) and Disaster Recovery-as-a-Service (DRaaS) solutions, both fully managed data protection services.

When it was discovered that not all of MGR&P could or should move the new cloud environment, US Signal devised a hybrid solution that would enable MGR&P to move some servers to the cloud while keeping those that weren't good candidates for migration on-site.

The flexibility of the multi-tenant resource pools enabled US Signal to accommodate the changes on the fly, and provided the granularity to adjust from a rightsizing perspective with the platforms that did move over.

The revised solution covers the servers remaining on-premise, protecting them with DRaaS and EBaaS the same as for those that migrated to the cloud. Server health monitoring is provided by US Signal's Remote Monitoring and Management, a managed service that includes performance monitoring, patch management, anti-virus, process automation, and remediation for physical and virtualized servers and network endpoints.

These services combine to provide a highly resilient monitored hosting environment with redundancy and managed recovery capabilities that meet and exceed the city's Disaster Recovery and Business Continuity objectives.

The Results

MGR&P now has a modern, cloud-based IT system in place to support current and future parking systems and initiatives. Its information systems coordinator can make changes anytime and from anywhere by accessing US Signal's vCloud Director, a platform that enables customers to manage pools of virtual resources themselves from a single pane of glass.

CapEx and labor requirements have been reduced by moving some of the servers to the cloud, freeing up internal resources and easing daily management requirements and costs. MGR&P also has greater insights into its resource usage allowing easier scaling and cost control. In addition, the department is enjoying the peace of mind that comes from increased resiliency, server health monitoring and data protection capabilities provided by the US Signal solution.

ABOUT US SIGNAL

US Signal is a leading data center provider, offering connectivity, cloud hosting, data protection, and disaster recovery services — all powered by its wholly owned and operated, robust fiber network. US Signal also helps customers optimize their IT resources through the provision of managed and professional services.

201 IONIA AVE SW, GRAND RAPIDS, MI 49503 / USSIGNAL.COM / 866.2.SIGNAL