Why MVNOs and Carriers Aren't Right for Your M2M Application

Table of Contents

INTRODUCTION

No matter your industry, deploying a machine-to-machine (M2M) application is a complex endeavor. Based on your business requirements, you must consider different technologies (wired, WiFi, cellular, etc.) and if you determine that cellular is right for your company, then there are many more options to consider. You must first know that there are three distinct types of companies that can connect your cellular M2M devices: mobile/cellular carriers, MVNOs and Aeris. To select the provider that is best for you, you must first know the facts. We understand that cellular M2M is complex and confusing – in the following pages, we hope to clarify the situation.

What is a Carrier?

A mobile or cellular carrier provides connectivity services to mobile phone subscribers. Mobile/cellular carriers must acquire a radio spectrum license from the governing authority to be able to operate in the region of their choice. Carriers are also known as: MNOs (Mobile Network Operator), CSP (Carrier Service Providers), wireless carriers and cellular companies. Examples of mobile/cellular carriers are Verizon Wireless, AT&T, Sprint, Vodafone, Airtel, and so on. In addition to consumer cellular services, they also provide M2M cellular services.

What is an MVNO?

A mobile virtual network operator (MVNO) is a wireless communications services provider that does not own the radio spectrum or wireless network infrastructure over which the MVNO provides services to its customers. An MVNO enters into a business agreement with a mobile network operator to obtain bulk access to network transport services at wholesale rates, and then sets retail prices independently. MVNOs depend on carriers not only for connectivity but also the tools for managing M2M applications.

HOW IS AERIS DIFFERENT?

The Aeris Network

We sell solutions, not just connectivity. Today, Aeris Communications owns and operates the largest North American cellular network built from the ground up exclusively for machines, and we are expanding globally. We do not support any consumer traffic or handsets. Our solutions include both the network services and the tools necessary for the most demanding and mission-critical M2M communications. Because Aeris operates the underlying network infrastructure, it is able to make rapid modifications to meet its customers' ever-changing requirements.

Aeris is, in fact, carrier-agnostic. If our network does not reach a spot and another carrier does, we provide the strongest signal from the nearest tower for you, with no interruption in service.

This is incredibly important for mission critical applications like delivery services or healthcare monitoring devices. For example, PeopleNet Communications chose Aeris because we optimized their coverage area and reduced the latency for their customer's trucks to connect to the network. Traditional carriers only optimize their cellular coverage based on their cost of delivery and they always prefer to leverage their own towers in their markets, even if the coverage they provide is weak or intermittent.

The Aeris Platform

Our device management tools provide complete visibility into the network and your devices to ensure the fastest troubleshooting. Our approach to device management and billing ensure maximum efficiency and profitability for your M2M deployments. Our customers have real-time control of their machines, enabling them to provision, activate, suspend and cancel devices individually, or in batches, at the touch of a button.

Machines require information to make decisions, delivered in a consistent and reliable way. The Aeris platform provides the level of information required for optimal machine performance. Aeris has the unique ability to combine device network behavior and traffic in a way that provides clear identification of problematic devices and predictive models of behavior. This significantly reduces operational costs.

Aeris also provides real-time machine performance reports and daily cost summaries to help customers make better decisions and control cost more precisely.

Aeris Professional Services

Perhaps most importantly, our expert team can help you plan, create, deploy and manage your M2M program. Since 1996, we have done nothing but M2M. We have seen where the industry has been and we know how it's going to evolve. With this knowledge, we partner with our customers, like Chubb Insurance, Con Edison, Honda, Hyundai, Johnson Controls, PeopleNet, Rand McNally, Robert Bosch and VeriFone, to not only help them lower the total cost of ownership for their M2M applications, but also adapt their business models to take advantage of the technology's growing capabilities.

The Problem with Traditional Carriers

Traditional carriers like AT&T and Verizon are very well-known brands because of their consumer businesses, which naturally attracts the interest of companies looking to deploy an M2M application at a low-cost. Perhaps these large carriers are able to be low-cost, but they manage their services and pricing for mobile consumer handsets, not machines. Meaning they do not serve M2M applications well since their priority is higher-revenue consumer handsets. They cannot create unique, technical solutions nor can they cater to their customer's business model. Furthermore, because traditional carriers focus on mobile handsets rather than machines, it is possible that their network will become flooded with handset traffic. This handset traffic hinders machines' ability to communicate reliably.

Questions to Ask a Traditional Carrier
- How can you adjust rate plans to serve the specific needs of my business?
- What percentage of your network traffic is M2M?
- My fleet devices are mobile and operate routinely in remote areas, can you help me select carriers on the fly to ensure coverage everywhere?
- Can you help me quickly determine if my device is registered on the network and where?
- Can you help me determine the cause of an SMS delivery failure?
- Do you notify me of local/regional outages if I am a small customer?

The Problem with MVNOs

As an alternative to a traditional carrier, companies seeking M2M services look to an MVNO. It is true that MVNOs will be more M2M-focused with industry knowledge to offer customers. Unfortunately, they do not own or operate the core network. Since MVNO is providing service using somebody else's network, they do not offer any elements of the network infrastructure. Thus, the networks, the systems, the connectivity, the numbers in the cellular devices, etc., are generally owned and operated by the underlying carrier. Therefore, MVNOs cannot create the custom solutions that M2M customers need, nor can they provide detailed reports on devices. Most importantly, at best, the MVNO's network performance will always be the same as the performance of the underlying carrier; at worst, it may be quite limited by their contract with the carrier.

Questions to Ask an MVNO
- Can you customize my rate plans on a per-application basis to meet my varying transmission needs?
- Can you optimize rate plans on a per-device basis?
- Can you do usage pooling across rate plans for devices on different rate plans?
- How quickly can you troubleshoot device and network problems with my application? What is your average response time? Resolution time?
- Do you give me complete visibility into my deployment? Can I quickly see if a problem lies with my device or the network?
- In what ways do you help me lower the total cost of ownership for my M2M application?
- Can you tell me if the network thinks my device is in an active session? Can you tell me if my device

is on or off?
- Can I retain a device phone number if I have to cancel services for 6 months to a year?

The Solution: Aeris

For M2M, you need a solution partner, not just a commodity carrier or virtual operator. By choosing Aeris Communications, you can get the best of both worlds. Unlike an MVNO, Aeris owns and operates its own network infrastructure for M2M services. This includes the cellular network infrastructure and service elements, as well as many other non-cellular systems and connectivity elements.

The device presence, authentication, and operation are managed and controlled by the Aeris network infrastructure. For example, device numbers are assigned by Aeris. These numbers are stored in the systems owned and operated by Aeris. By deploying our own network elements, Aeris provides innovative and unique solutions that are not possible from MVNOs, or even traditional carriers; for example, dynamic hot-lining of mobile-originated calls. Perhaps more importantly, and because we control every element of the network and infrastructure, we can help you get your M2M application operational faster than anyone else.

The Most Reliable Network in the M2M Industry

The Aeris Network was built from the ground up for machine communications only; for this reason, it is extremely reliable. Extensive testing has revealed, for example, that our success rates for delivery of SMS messages are higher than any other mobile carrier. And consumer handset traffic will never interfere with the mission-critical needs of our customers.

For example, the Aeris E-Call Direct solution was created to allow automotive companies, like Hyundai and Honda, to increase the reliability of responding to car crashes. At the request of the automotive OEMs, Aeris created a new network solution to improve the speed and reliability of delivering both crash data and a voice phone call from a car to a call center agent who can bring assistance. During drive tests, our automotive customers found the Aeris solution reduced processing time of some crash events from ninety to less than twenty seconds.

Deepest Visibility into Your M2M Application

Businesses operating M2M solutions need to remotely control their devices to manage costs and ensure quality of service. However, traditional carriers often restrict insight into their networks, and offer limited self-service control features. At Aeris, we believe that our customers should have complete visibility into their M2M deployment.

Since Aeris built its own network infrastructure and is carrier-agnostic, Aeris is able to provide our customers unparalleled access for integrating their own operations. Using our APIs and the AerPort web portal, we provide real-time device information (provisioning state, billing rate plans, network location, etc.) and traffic information (number of SMS messages sent, quantity of bytes used, etc.). Customers can organize and report this real-time information in any way that suits their business.

For example, if a customer application uses SMS to deliver data, Aeris provides a confirmation in the API that the SMS is delivered successfully. Similarly, if a customer wants to perform an action, like powering the device on, the Aeris Platform performs actions based on the customer's defined events.

Complete Control over Billing System

Aeris Communications designed and built its billing and rating infrastructure with the ever-changing needs of our customers in mind. Aeris works in close partnership with its customers to understand and examine each one's unique business requirements and match their cellular costs according to their business model. With Aeris, customers aren't forced into a traditional carrier "one size fits all" rate plan.

M2M application supply and distribution chains are very different than those for consumer handsets. For

example, M2M customers require connectivity for testing and distribution without a recurring monthly cost. With Aeris, customers are able to test devices to ensure quality throughout their supply channels, without having to incur monthly recurring costs until the device is deployed commercially. At that point, the device automatically switches to a billable status that is customized to the customer's particular business model. This process is automated, based on usage triggers that are customizable to each customer's business requirements.

Aeris is unmatched in our ability to provide customized billing, multiple rate plans, and models that match the business requirements of customers -- and fully support them in-house. This flexibility has allowed many of our smaller customers to start or stay in business and it gives all of our customers the power to fundamentally change their business models.

Direct Customer Support

The expert Aeris team provides 24/7/365 support. Our customers don't speak with untrained call center agents; they get dedicated, expert network engineers who specialize in M2M applications. Aeris' Network Support Engineers have access to systems and data that provide extensive logging and monitoring functionality -- optimized for M2M, and unmatched by any MVNO or carrier. They can resolve customer issues proactively, and at a speed that MVNOs and carriers cannot match. For example, when a customer calls because one of their refrigerated semi-tractor trailers carrying $5 million of temperature-controlled products is off-line, our M2M experts have the skills to diagnose and resolve the issue on the first call.

Our Network Support Engineers are trained to not only resolve problems quickly, but also help you lower the total cost of ownership for your M2M application. For example, we have been able to optimize M2M supply chains by working directly with customer factories testing the RF environment and recommending process changes to increase the efficiency of production and testing. Aeris customers can also rely on us to provide the cellular expertise for certifying devices for use on the network, as well as developing and testing programs to allow customers access and real-time feedback on network performance.

SUMMARY

Aeris provides solutions for companies that have mission-critical M2M applications for which they need consultation, network connectivity, tools for managing M2M applications, and superlative support. Our complete focus on M2M gives us an advantage over the carriers whose first and most important line of business is consumer devices. Aeris is not an MVNO or carrier. We are a customer-centric, M2M service provider with support and tools that traditional carriers and MVNOs do not provide.

 Since 1996, we have done nothing but M2M. We partner with businesses of all sizes to not only help them lower the total cost of ownership, but also maximize the value of their investment in M2M with new services and tools that make sense for their business today and long in the future.

Aeris is more than just a network. We are inspiring companies to change the way they think about and use M2M communications. By combining our years of experience with technological expertise and ingenuity, Aeris is able to adapt and deliver intelligent M2M solutions that are specifically tailored to fit each customer. For customers, that translates to having the freedom to pursue new and emerging commercial opportunities without hindrance by network limitations or rigid rate plans and business rules.

To learn more, contact us at info@aeris.net or 1-888-GO-AERIS in North America or +44 118 925 3202 in Europe.

Did you like this whitepaper? Share with your friends.

f 🐦 in g+ ✉