UBBA

Insights

Episode 3

Data, Data Everywhere!

Smart meter data…sensor data
…real-time data…
data historians…data lakes…
and now…network data.

Analytics Unplugged: Turning Network Data into Network Performance

Utilities are awash in data. The challenge is not having data but learning how to transform that data into business value and results that impact a utility's core business. This is true in specific utility systems and across the enterprise and now this is also the case for the utility's critical telecommunications network infrastructure.

Here's why all of this data matters: power outages cause severe societal impacts exceeding $120 billion annually in the US, affecting health, safety, and economic stability (Source: Science Direct). At the same time, utilities are investing in data analytics and AI to the tune of $6.5 billion annually (Source: Gartner).

> As the grid becomes increasingly digitized, the utility's telecom network becomes critical. Dave Mor, CEO at network security and asset management provider OneLayer called this out in his comments in a recent interview: "There are insights you can get from the telecom infrastructure about the network itself as well as the grid. The network is the key enabler. In today's operating environment it is important to use network data to be able to provide more insights and visibility into grid devices."

Dave Mor, CEO of OneLayer

Network Performance = Grid Reliability

As OneLayer's CEO Dave Mor suggests, the role of a utility telecom network becomes more important as grid operations become not only more digitally operated, but also more complex. Grid management concepts that were the wild west just a few years ago are now becoming mainstream operational systems: DERMs, grid edge computing and decisioning, real-time field service and asset data, for instance. All of these applications and systems require real- to near real-time data flows to maintain or improve grid reliability and resiliency.

These requirements come right back around to underscoring the importance of the network. The network needs to be low latency, high bandwidth, and “always on.” This is not always the case when the network is public, where areas like network traffic management and service prioritization are subject to competing needs that can range from other industrial digital traffic to kids playing video games.

Enter private LTE as a solution for the demanding 24/7 needs of the 21st century grid.

> *“Utilities used to have a relatively low volume traffic on their networks, so they could ‘get away’ with a mix of network resources that were disparate and over time became more difficult to maintain. As use cases have grown in scope and complexity, the network needs to have higher capacity, and better management of network traffic and availability. Utility telecom and operations leaders need to understand and optimize network traffic across their entire service territories, providing visibility to every endpoint. The call for private LTE is resoundingly clear.”*
>
> *Tom Wilson, Global Director of Cellular Products and Services at Hubbell*

As Wilson notes, being able to support a broader array of use cases is one of the reasons why private LTE is growing as a network of choice for utilities.

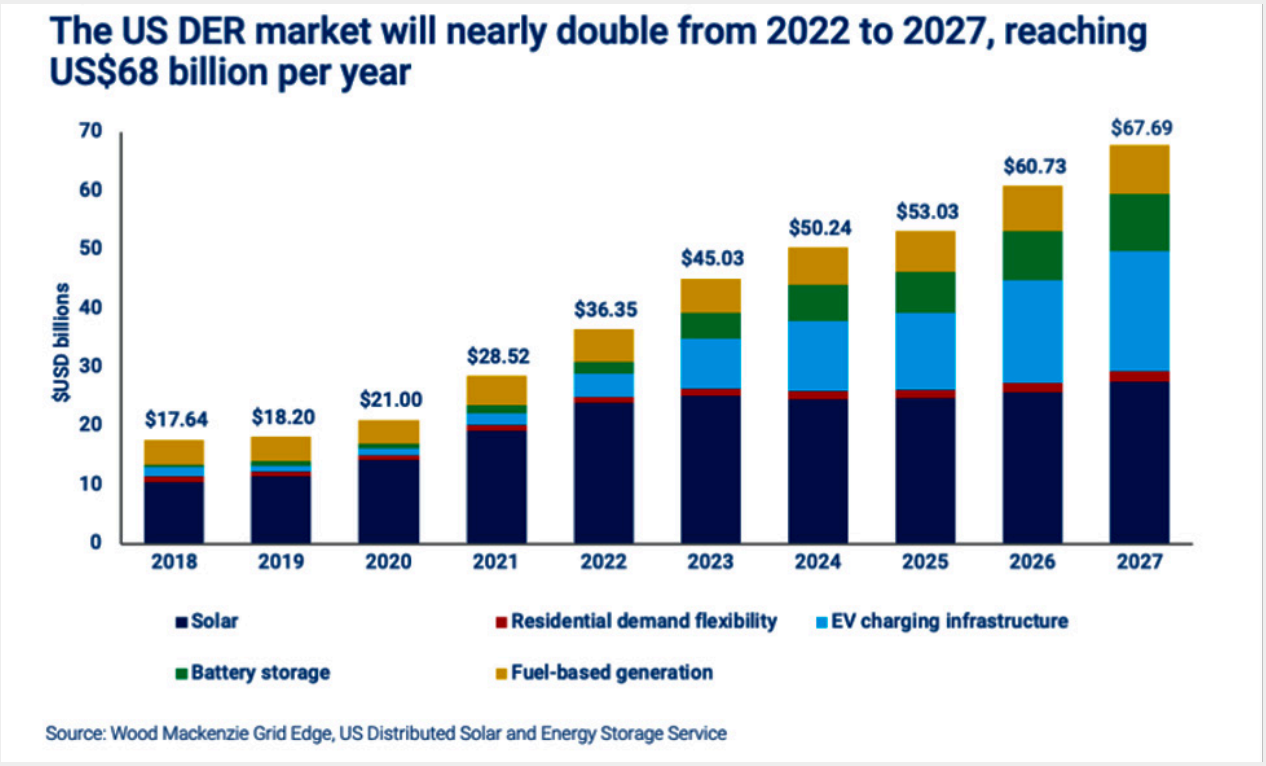
Reiterating the value of the network and its data, Jason Ervin. Senior Vice President, Telecom at Lower Colorado River Authority (LCRA) notes how he and the LCRA team leverage network data: “Private LTE brought LCRA’s mission-critical push-to-talk voice network to next-generation technology,” Ervin said. “It lets us capture operational data for predictive maintenance so we can stay ahead of issues rather than react to them.”

Improved Performance, One Device at a Time

In today’s utility operating there is a heightened focus on reliability and resilience. This reliability focus, while critical, has also become more complex in recent years as the operating model for the grid has evolved. The number of devices has exploded, which again underscores the foundational role of the network for advanced grid operations.

The figure below is just one example of the number of devices on the grid have grown and will continue to grow into the foreseeable future.

Figure 1. DER Growth in US utilities, 2018 – 2027. (Source: Wood Mackenzie.)



Ali Shah, Head of Technology for Nokia Mobile Networks in North America, provides another example the value of the network data and the foundational role that a private LTE network plays: "We see a wealth of data coming from every device on the network. The fundamental question is 'how do we use this data to dissect a problem in the network?' A good example of this is when a signal goes bad. This can have many causes (tower, antenna, cable, etc.). Using the network data, we can detect and isolate the problem before a truck is rolled. In this simple example, we see an improvement in grid reliability statistics, improved customer satisfaction, and more efficient (i.e., less expensive) filed operations. And it all starts with the network."

As the above examples demonstrate, a utility's telecom network is no longer a simple "check the box" exercise. The network should be viewed as a strategic asset that is enabling the 21st century grid. Increasingly, utilities are seeing that a private LTE network is the most effective path to value and future-proofing the grid.

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