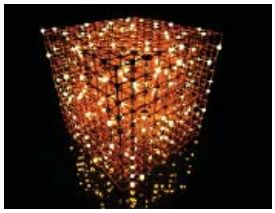

FINLEY ENGINEERING
INTEGRITY INTO EVERYTHING

THE ENERNET: THE CONVERGENCE OF THE ENERGY GRID AND THE INTERNET, PART III

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(Third in a Series)

In Part I of this three part white paper on "The Enernet," we looked at what the Enernet is and how it will impact electric utilities going forward. In Part II, we covered the challenges associated with moving forward with the Enernet. Here, in Part III, we look at how to actually begin moving forward with introducing the Enernet into your utility.

First, what is the urgency? As we see it here at Finley Engineering, we are on the tipping point of shifting from the Enernet being a luxury to becoming a necessity. A lot of this, of course, hinges on regulatory bodies. However, with the directions we are heading in terms of trends such as renewables, distributed resources, community projects, and energy storage, all of this will depend on a convergence of communications and energy delivery. As such, the question isn't if utilities will need to begin to participate, but rather at what point they will need to get involved, and on what schedule.

Where should a utility start? The foundational layer should involve developing a technology roadmap - where you want to go and how the various technologies will help you address your unique situation. That is, not everyone will need the exact same solution.

The second step, given the amount of data that will need to be handled, is introducing a solid and reliable backbone of communications. Most utilities are doing this through some type of fiber deployment. However, it may also be a hybrid system that includes wireless and some other cellular technologies. In either case, this communications network may be wholly-owned or shared.

The third step is determining how this communications network can and should integrate into your energy delivery system, with the future in mind, including steps to guarantee expandability and flexibility.

How can Finley Engineering help in this area? One strength that Finley Engineering has is having expertise and a rich history in both the energy space and the communications, broadband, and IP space. While some other firms are strong in one, they may not have expertise in the other.

This integrated approach is able to provide us with some insights into the two spaces working together that some other firms may not possess. It also helps to ensure a seamless project. That is, Finley Engineering can identify challenges that might arise on either the energy side or the communications side early in the process and resolve them early in the process, when they are the least expensive and the least disruptive.

If a utility works with two different firms (an energy firm and a communications firm) on a single project, there can be challenges associated with miscommunication, duplication of services, working at cross-purposes, etc. Over the life of the project, this not only leads to schedule delays and excessive and unnecessary costs, but ultimately, and most importantly, often results in a solution that is not the most effective one for the utility on a long-term basis.

As such, as the walls are "thinning" between communications and energy with the growth of the Enernet, we find ourselves being called more often by utilities for help in this area.

In fact, we have already been involved in some projects where some of the technologies that our communications people have been using have been incorporated into power monitoring and controls, allowing utilities to monitor and react more real-time to situations.

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About the Author:

Phillip Carroll, Vice President of the Energy Division for Finley Engineering, has been providing engineering expertise to the electric utility industry since 1987. Managing multimillion dollar projects around the country, Carroll has been responsible for the design of distribution and transmission lines, material specifications, contract administration, final acceptance and close-outs.

In addition, Carroll has been directly involved in and managed routing, right-of-way and environmental coordination, line design, foundation design, duct-bank design, material specifications, contract administration, and project management for steel, wood, and concrete transmission lines up to 345 kV and underground and overhead distribution lines up to 34.5 kV.

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