

Today, an alternative to the ILEC infrastructure or new CLEC construction has emerged and is available in several metro areas. This alternative relies on utility-based infrastructure other than the traditional ILEC telecommunication infrastructure. Specifically, telecommunications networks that use the electric utility infrastructure to achieve metro, last-mile access and building access physical diversity. Historically, electric utilities deployed telecommunications infrastructure to manage the electric grids, but the use of that infrastructure was most often limited to basic electric utility operations. Recently, some electric utilities have “gone into the telecommunications business” by utilizing their assets such as rights-of-way, towers, poles and conduits for telecommunications infrastructure, where wireless antennas are used for cellular networks and fiber optics for telecommunications networks. The use of this infrastructure is logical from a commercial, economic and environmental standpoint. Putting cellular antennas on existing electric towers is more economical and less environmentally intrusive than building new towers. Likewise, running fiber optic cable on or through electric infrastructure is more economical and less environmentally intrusive than trenching for new fiber optic cables.

Some electric utilities offer both lit and non-lit (e.g., dark fiber) services directly to the marketplace. Examples of this in California are Southern California Edison Company, Silicon Valley Power (the municipal utility of the City of Santa Clara) and Alameda Power and Telecom. Other utilities such as Pacific Gas and Electric Company have entered into arrangements with CLECs like IP Networks. PG&E provides IP Networks access to its right-of-way, poles and conduits, where IP Networks deploys the fiber cables and electronics and markets telecommunications services. Both of these models are physically similar in that they rely on the electric utility infrastructure. They only differ in the degree to which the electric utility is “in the telecommunications business”, the amount of capital and resources at risk and whether the utility is acting as a telecom provider or not.

What should be interesting to customers and mission critical facilities like data centers in particular is the physical alternative that the electric utility-based telecommunication infrastructure can provide. Whether it is based on an electric utility providing service (e.g., Silicon Valley Power) or a CLEC utilizing electric

utility infrastructure (e.g., PG&E/IP Networks) it provides customers both commercial/carrier and physical diversity. This can be true at the (i) building entry level, (ii) the local loop level and (iii) the metro level.

The use of the electric infrastructure also provides another unique advantage. Electric infrastructure is deeper in the street than traditional telecommunications infrastructure and often is separate from telecommunications. Even when utilities share common trenches, the electric infrastructure is deepest in the trench. **Figure Y** depicts a typical common trench set-up showing telecommunications, gas, cable TV and electric infrastructure. Telecommunications systems such as that run by IP Networks either uses vacant electric conduits or shares electric conduits using inner-ducts. We like to think of this as the “electric fence” around our telecommunications network. The additional trench depth provides an added layer of security.

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