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OPALCO / Rock Island Broadband Success Story

OPALCO and its wholly-owned subsidiary Rock Island Communication have built a hybrid fiber and LTE wireless network that is currently serving 3,700 customers – and growing – in San Juan County. In our rural, remote territory with 15,000 meters spread over 20 islands, this communications system solves a number of critical problems for the utility and its members: public safety, controlling system maintenance and outage costs, connection to resources and the greater world.



Our business model is unique and has driven us to early success. Key components are:

- Building the network on the utility's fiber optic backbone
- Members/Customers share cost for middle mile build out
- Members/Customers pay for last mile connections
- Focus on public safety; coordination with first responder agencies county-wide
- Wireless LTE Partnership with expert technology company (T-Mobile US)
- Establishes an early revenue stream to minimize start-up loans for operations

Frequently Asked Questions:

Q: When did OPALCO begin its broadband project?

A: Starting in 2000, OPALCO began sharing surplus fiber with larger institutions (public safety, government, schools, libraries) in the County to meet their demand for connectivity.

Q: What was the initial driver behind your project?

A: San Juan County was a severely underserved community for modern communications, with sole reliance on a national carrier that made little to no ongoing investment in its infrastructure. As with many co-ops, the very initial driver was a need to better communicate with key grid infrastructure (substations and submarine terminals).

Q: What propelled you forward, given all of the challenges and barriers?

A: A complete failure of an undersea fiber cable belonging to the national carrier disconnected the county for 10 days in November 2013. The immediate impact on emergency management systems, the economy and normal daily life initiated our current course of action.

Q: What services are you offering?

A: We offer broadband and voice service. We do not offer traditional TV, taking the view that if you deliver a superior connection, people will adjust their consumption habits to streaming services. We also offer a full suite of IT services: hosting, email, technology classes, etc.



Q: What technologies are you utilizing?

A: Our core network is an active Ethernet fiber to the home/premise (FTTH) supplemented with an LTE fixed wireless network. We entered into a long-term partnership with T-Mobile US, whereby we share investment and capability allowing Rock Island to offer a private fixed wireless solution separate from T-Mobile mobile service, while using the same shared wireless equipment. We do deliver some services via public spectrum WiFi in community gathering area as well as reselling legacy DSL connectivity.

Q: Did you hire any new personnel for this project?

A: We have hired an extremely dedicated and talented group with a wide range of skills including technology, finance, marketing and retail experience. Perfecting our team culture has been one of our largest challenges. Proving internet services is a competitive business and requires a slightly different attitude and sales mentality. Our top-notch IT team – including our partners at T-Mobile US– are key to our success.



Q: What are the demographics of your service area?

A: We are an older, seasonally driven economy and demographic. Our service territory has an average age of 52, compared to a Washington State average age of 38. Additionally, 35 percent of the home ownership is part-time / seasonal residents.

Q: How do you address access to service for low-income households?

A: OPALCO has programs in place for seniors on fixed income, members with disabilities and low-income households. Members who are eligible for these programs on the power side, are automatically eligible for the same discount (\$25-\$55/month) on their broadband bills with Rock Island. In addition, the LTE network build out favored more

densely packed neighborhoods near the village centers where low-income housing is clustered.

Q: What broadband offerings already existed in your marketplace?

A: The primary offering was substandard legacy DSL internet delivered over an aging copper infrastructure, mixed with minimal cable and satellite. DSL was either provided by the incumbent carrier or resold via local ISPs.

Q: Was there a competitive response to your offering?

A: We acquired the largest local ISP in an effort to expand our existing customer base and get closer to our subscriber break-even targets right from the beginning. The ISP also provided an existing cash flow from the start.

The incumbent carrier started to upgrade portions of our mutual service area using governmental grants. However, those efforts were short-lived; the cost to upgrade infrastructure in our County is very high and our pricing and baseline service offering is beyond their best capability. Based on substandard service for a number of years, there remains an overwhelming desire from folks to move away from the incumbent for better service.

Q: What is your organizational structure? Who holds the broadband assets?

A: OPALCO is a 100 percent equity owner of Island Network LLC, doing business as Rock Island. OPALCO maintains ownership of our backbone infrastructure, while Rock Island owns all distribution assets installed.

Q: How does the partnership with T-Mobile US work?

A: OPALCO and T-Mobile initially came together over a common LTE spectrum: we both own bands in 700MhZ. In a no cash agreement, OPALCO provides access to poles, power and fiber backhaul; T-Mobile US supplies the LTE equipment, maintenance and a managed virtual network operator (MVNO) arrangement through which we can deliver fixed wireless services. We each have access to each other's LTE spectrums and we benefit from T-Mobile's tremendous technical expertise and continual upgrades to equipment.



Q: How have you funded the project?

A: Our unique business model is the key to our early success: the project was largely funded by the customers who subscribe to the service – with the significant bonus of the investment of equipment and expertise from T-Mobile US.

OPALCO's fiber optic infrastructure that connects our electric grid together serves as the communication backbone for our internet service (Rock Island). Originally OPALCO (parent cooperative) funded initial start-up operations until such time as Rock Island secured an ongoing loan for operations and capital investment from CoBank. Rock Island customers share middle mile costs and cover their individual last mile build out costs. To date, over \$2.5M has been contributed by the internet customers to get connected. OPALCO offers incentives to offset the cost of connection: a construction incentive of \$1,500 toward the last mile (to the home/business); and a discount incentive for those willing to cover their entire construction cost (\$20/month) on fiber installations for as long as the customer lives at that service address.

From the start, Rock Island worked with self-organized groups of homeowners in HOAs, road or water associations who assessed themselves to share middle mile construction costs in their neighborhoods.

A newcomer to the island from Southern CA, a semi-retired attorney who is now living on island full-time due to their fiber-to-the home connection, recently summed it: *"Your business model astounds me – how did you do it? The co-op members pay for the backbone infrastructure in their rates over the years. You get the neighborhood to share the cost of the middle mile and homeowners to pay for the last mile. We pay a connection fee to hook up and a subscription fee every month. Don't get me wrong – I'm happy to pay it and we love our connection. I'm just admiring your business model."*

Q: How does the broadband project benefit the electric co-op?

A: Exponentially. Primarily, the expansion of fiber and addition of 38 LTE sites throughout our remote island territory has increased the safety and communication for our crews in the field. It has enabled the greater automation of our system through installation of more devices in the field that can be monitored remotely. And, it has given us a leap of progress in preparing our grid for the foreseeable future of balancing more member devices on the system, more local distributed power and positioning OPALCO to serve as a balancing authority as member participation increases – for energy usage, generation and storage. The biggest challenge utilities face in their task to embrace more and more renewables will be high-speed, two-way communications. This project provides us with the perfect platform to meet our current and future needs.

Q: Any surprising outcomes to date?

A: The continued demand is greater than we imagined, but more so the degree to which we've been able to solve the cell coverage gap in our community – thanks to our partnership with T-Mobile US. This was a surprise and the benefits to our electric utility, public safety and our co-op membership are huge.

Q: What is your long-term measurement of the success of this project?

A: On a practical level: cash flow positive. Our primary focus is to meet the needs of our membership in our rural, remote area: for quality of life, public safety, education and economic development and connection to the larger world. On a wider community level, we'd like to see growth in the social and economic capabilities of our now connected island communities. Our long-term goals are to put a gig into every building and 100 Mbps in every hand.

Q: What are the fundamental ingredients that have resulted in the success of providing internet services to your membership, electric utility and community?

A: The following:

- Strong and vocal member support
- A committed cooperative board of directors
- Cooperative leadership that understands the long-term importance of connecting the grid together with fiber optic communications to keep rates low as possible in the future
- Members willing to help fund their individual connections
- Ability to generate revenue early from fixed wireless service

Q: What resources can OPALCO / RIC offer to other co-ops facing similar challenges?

A: We are exploring providing internet service outside our service territory and replicating our model in like communities. Our team is currently exploring a structure for replication on a limited basis and will be taking meetings in Q2 to initiate discussions with other co-op territories that meet our criteria. The best fit will be electric co-ops with: 1) a commitment to make fiber-optic improvements to their grid, 2) where access to broadband coverage is limited and 3) co-op leadership that have a long term approach to keeping rates low and are concerned about public safety. And, 4) for this

business model to work, the co-op must have a membership that is willing and able to invest in the cost of deployment. Contact fhildreth@opalco.com for more information.

Qualifications of Project Team:



Foster Hildreth is the general manager OPALCO, which distributes power to 15,000 meters across the San Juan Islands in the far northwest Washington State. He also serves as President of Rock Island Communications, a wholly-owned communications subsidiary of OPALCO.

Mr. Hildreth joined the OPALCO team in 2006, and took the reins as general manager in September 2014. In that role, he oversees all of OPALCO's departments and functions, including engineering, business development, accounting and finance controls, reporting and member services, communications, capital projects, and hiring key personnel. Mr. Hildreth earned his bachelor's degree as well as his master's in business administration and finance from the University of Southern California. He lives on Orcas Island with his wife, two children, their dogs and a flock of chickens.



Gerry Lawlor is the Executive Vice President of Rock Island Communications. Gerry brings a very unique background and experience to San Juan County having spent 14 years on the East coast, and traveling the world working in the global financial arena. His experiences range from trading and selling fixed income and derivative securities for Banc of America Securities and Goldman Sachs & Co. – to building, deploying and managing Global Trading exchanges and enterprise Risk Management Platforms for global institutions.

In 2011, after 10 years in Manhattan, he and his wife moved to San Juan County to start a very new adventure of island living. During 2011 and 2012 he was the Chief Operating Officer of Razor Risk Technologies (an Australian public company). There he restructured and repositioned Razor in the face of major change in the financial industry. During this time, Gerry helped lead negotiations with the TMX Group in Canada to acquire Razor and merge its global operations.

Trying to undertake his responsibilities of managing a global staff and customer base from his home office on a DSL connection frustrated Gerry enough that he had to do something about the problem. In the summer of 2014 he joined forces with Foster to charge the path out of the technical wilderness and establish the business model we see today.



Alan Smith is the Senior Vice President Engineering for Rock Island Communications. Alan is one of the fortunate few who call the San Juan Islands his childhood home, and even fewer who have built a career here. At age 17 Alan was given a job at the local power cooperative, OPALCO, where he began to learn the utility industry. After 11 years at the cooperative, Alan gained the experience of a seasoned veteran, designing and deploying all aspects of the co-ops' electric grid and Smart Grid Fiber Network.

For Rock Island, Alan oversees all plant and infrastructure related to the Fiber and LTE fixed wireless platforms. He is responsible for all engineering, permitting, network and joint utility coordination, management of internal field crews, and the management of all 3rd party contractors who build and manage the plant.



Dan Burke is the Senior Vice President of Sales, Marketing and Operations for Rock Island Communications. Dan came to the islands via San Francisco where he lived for 15 years in the center of the Internet startup explosion. Since 1995, Dan has worked with dozens of Internet startups, building and successfully contributing to five Internet company exits over his career. Dan has specialized in building startups, getting them run optimally and helping them to reach their business plan goals.

Consulting from a home in the Rosario area of Orcas Island in 2011, Dan was shocked to learn he couldn't get a DSL connection. He discovered that neighborhood was an 'exhausted' DSL area for CenturyLink, and that a connection would never be available. Torn between a 12-month lease and a high-stakes telecommuting day job, Dan turned his sights toward the Internet crisis in San Juan County and how he could help to solve it.

Dan oversees all of the onboarding programs for fiber and LTE Fixed Wireless for the company, manages all customer support functions including the Rock Island and T-Mobile retail operations.

Adam Kelly is the Senior Vice President for Technology and CTO for Rock Island Communications. As CTO, Adam is responsible for the technical design, implementation and management of Rock Island's carrier-grade network, providing residential and commercial broadband, metro-Ethernet, and Utility communications county-wide.

Adam has over 30 years of experience designing and building high-performance/high availability infrastructure platforms and networks for tier-1+2 banking institutions and exchanges, military bases, energy companies, state and federal governments, education institutions and commercial clients.

A lifelong racing sailor (and inveterate coastal dweller) – the combination of Island lifestyle and the opportunity to build a next-generation multi-service network resulted in Adam moving from Australia to Orcas Island at the beginning of 2016 to join the Rock Island team.



Chris Schmidt, Senior Vice President and CFO manages the accounting staff and all financial concerns for Rock Island Communications. Additionally, Chris acts as a company-wide resource for legal and human resources matters.

His experience includes 4 years working as an auditor for the Public Accounting Firm Moss Adams specializing in Financial Institutions, Not-for-Profit Organizations, Manufacturers, and Utilities.