

TENDRIL NETWORKS, INC.

It was September of 2007, and Adrian Tuck anxiously awaited his upcoming meeting with Tendril's Board of Directors. Since joining Tendril Networks as CEO a year earlier, he had gained the support of management and investors by successfully guiding the company to win key contracts within the wireless sensor network industry.

But today would be different – Tuck would now be faced with the task of persuading the board to scrap its existing business model and go in a different direction altogether. While he was confident that it would be the right choice, he anticipated resistance from some board members. There had been many ups and downs in the industry, and none of the applications had emerged as a clear leader. At this critical point in the start-up's life, the wrong decision would almost certainly put them out of business in the coming months. He wondered how best to convince them that this idea was worth pursuing.

WIRELESS SENSOR NETWORKS

Wireless sensor networks (WSN) were conceived and developed largely through research conducted at MIT and Berkeley, funded by the Defense Advanced Research Programs Agency to find a wireless solution to battlefield sensing. By installing many small sensors sprinkled like a “smart dust,” remote activity monitoring could be enabled in dangerous or hard-to-access areas more easily and economically than with wired systems (Khemapech, Duncan, and Miller 2005). To achieve this goal, very small, inexpensive, low power, low data radios were developed in conjunction with research to successfully network these components.

As explosive growth in personal communications drove down the costs of radio devices in the late 1990s, the costs associated with installing and maintaining wired communication systems continued to rise. This phenomenon suddenly rendered WSNs more economical than the wired communication systems currently being utilized. Further, Moore's Law¹ suggested that in the coming years the distinct advantage offered by wireless sensors in terms of cost, size, power, flexibility, and distributed intelligence would only increase (Allgood, Smith, and Manges 1999).

¹ Moore's Law, asserted by Intel co-founder Gordon Moore, states that the number of transistors and resistors on a chip doubles every 24 months, and has generally held true over the past 40 years.

By 2002, the research conducted at MIT and Berkeley in developing WSNs had led to other collaborations and the formation of several start-up companies including Dust Networks, Ember, and Millennial Net. These companies leveraged the technology to provide monitoring services in fields such as physical security, building systems (e.g. energy, HVAC, etc.), and industrial processing. Enabling communication across networks of common commercial or household items, WSN technology essentially created an “Internet of things.”

However, differences between the very small, low power radios of WSNs and their more traditional counterparts presented challenges for early adopters of the technology. Initially, much of the industry focused on developing the technology, ensuring that the technology could operate reliably. By 2004, large scale pilot projects were underway, successfully demonstrating that the sensing networks could be effectively installed.

While pilot projects proved to be successful from a hardware reliability standpoint, several proprietary wireless networking standards were prevalent, fragmenting the industry and keeping prices high. To combat this issue, members of the industry came together to form the ZigBee Alliance, endorsing ZigBee as the standard of choice for WSN applications. Together, they would ratify the first wireless networking and control standard, ZigBee v1.0, in January 2005.

With the feasibility of WSNs no longer in question, the future looked bright for the industry. However, as pilot projects progressed and larger embedded control system vendors like Philips Lighting, Johnson Controls, Honeywell, and Siemens took notice, it became clear that meaningful deployment on a large scale would likely require more than monitoring. Custom in-house control programs were being developed, but these took anywhere from five to ten man-years to produce. There had to be a better way.

TENDRIL NETWORKS

Tendril Networks was founded in September 2004 to address operational issues facing the WSN Industry. There were five co-founders: Tim Enwall, who had previously founded a technology advisory firm and served as Vice President and Research Area Director after the firm was acquired by Gartner, Inc.; Matt O’Kelley, who had started and sold a software development firm; Randy Willig, who had been the Director of the Conceptual Product Group at National Semiconductor; and two other engineers. In characterizing the state of the industry at the time, Tim Enwall, Tendril’s first CEO, noted:

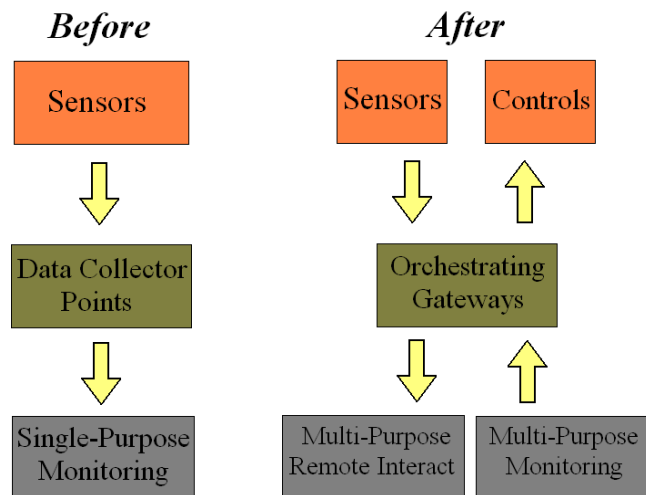
Nobody focused on the operational issues of the network, which consist of monitoring, network management, network performance, and upward integration into the rest of the enterprise... We put money in the bank in September 2004 and started to develop a product that would address those operational issues for wireless sensor and control networks.²

² The Wall Street Transcript, “Company Interview, Tim Enwall, Tendril Networks,” August 21, 2006, <http://www.twst.com/notes/articles/aer618.html>

In March 2005, as Tendril worked to complete a beta product, it secured \$3 million in venture funding from four firms, including the U.S. Government-backed In-Q-Tel. The beta product, called the Tendril Network Operations Platform, was completed a few months later in June. As the first of its kind, it expanded the WSN market to include wireless sensor *and control* networks (WSCN).

The Tendril Network Operations Platform is a software platform that translates between sensor networks and PCs on an Internet Protocol network to orchestrate system-wide or network-wide operations. For example, through use of the platform, a system monitoring the physical security of a door could also respond to a signal, adding a controlled action to the system in the form of an alarm or locking mechanism. In essence, the platform provides a central brain for the network, allowing each sensor to respond appropriately to a specific command. This technology expanded the capabilities of WSNs, allowing smart services to be incorporated where only monitoring existed before (Exhibit 1).

Exhibit 1



The compatibility and ease of integration with existing sensor networks set the Tendril Network Operations Platform apart from its competition. In addition to supporting the ZigBee standard, Tendril's product was also compatible with several protocols including Ember's proprietary EmberNet (a precursor to ZigBee). The compatibility and flexibility in the software design allowed it to be integrated into any application within five days. With a comprehensive software package, that could be conveniently and quickly installed, the Tendril platform was head and shoulders above the competition.

Being first to market with a product afforded Tendril the opportunity to lead the industry. This would prove important as it built partnerships with key WSCN hardware providers including Texas Instruments, Ember, Freescale, and Atmel. Leveraging these partnerships to effectively market its products, Tendril provided free samples of its software in development kits

of its well-established partners, building interest in its platform and attracting large customers like Johnson Controls.

By early 2006, major semiconductor suppliers and industrial control and building automation companies like Siemens, Philips Lighting, and Schneider-TAC, began to enter the WCSN market. Projections for the network operations platform software market indicated that it would make up 10% of the nearly \$10 billion radio technology market by 2010. Despite the powerful competitors entering the market, CEO Tim Enwall felt confident about Tendril's prospects as the industry moved forward.

We are the first with a commercial product, with the first customers, we're the first with major partnerships, we're the first with a large number of partnerships. So we are positioning ourselves as the leader of the software category that must exist on top of a hardware category.³

On the strength of its new product and leadership within the industry, Tendril secured \$5.25 million in Series B funding in August 2006 to further its sales and marketing efforts. Recognizing his weaknesses as well as his strengths, Enwall saw the need to bring someone new to the company to lead these focused efforts. After months of searching for the right fit, Tendril identified the interim CEO of a partner company, Adrian Tuck of Ember, as a "prototype" of the sales and marketing expert it needed.

ADRIAN TUCK

Adrian Tuck began his career after attending the British Army's prestigious officer training academy, the Royal Military Academy at Sandhurst. Graduating near the top of his class, Tuck became an officer in the British Army and led troops to various parts of the globe. In 1993, Tuck left the army, admiring the income of bankers and the challenge of marketing as he considered his next move. Successful interviews with both banking and advertisement firms gave him confidence, but left him dissatisfied with the opportunities that stood before him. It wasn't enough. Merging his interests, he defied his parents, who were teachers and would prefer he take a "proper" job, and began searching through wanted ads posted by UK based start-up companies.

At the time, Connect Communications Group, a telecommunication services provider based in London, was in need of someone to help direct the company and "get things done." With nothing to lose, Tuck responded to its posted want ad and convinced Connect that, despite his lack of a business background, he was the right person for the job.

Over the next five years, Tuck learned the ropes of operating a start-up company. Despite feeling that for the first three years he wasn't adding much value to Connect, he would eventually realize that he could "spot opportunities and craft solutions to meet those opportunities" – a process he enjoyed.

³ The Wall Street Transcript, "Company Interview, Tim Enwall, Tendril Networks," August 21, 2006, <http://www.twst.com/notes/articles/aer618.html>

I got into a role where I was running the professional services piece of the company... architecting and essentially selling solutions. In my family, the concept of sales was the guy with 25 watches in his briefcase, but I found that I really liked it. The thrill of the chase and securing orders was incredibly rewarding, and so I did more and more of that with this company.⁴

A business opportunity with Oracle, a large enterprise software company, introduced Connect and Tuck to California and the United States. At the same time, Connect began working with a high-end enterprise software and services company called Soft-ex, buying its software and providing it as part of a service to Connect customers. In the process, Connect found that it was making more money on the software than Soft-ex. After becoming familiar with Soft-ex's business model, Tuck arranged a meeting with Henry Woods, the company's CEO and founder.

I talked to the CEO and said "Look, I think you're doing this all wrong" and he said "Well, why don't you come on board and fix it?" Soft-ex had an office in Boston, which was where my wife's company was headquartered. So, we made the decision to move and I would become the President of the US operations of that company.

Signing on with Soft-ex, Tuck spent the next two years facing the challenge of running a turn-around business in a recessed market. The work required nearly constant travel around the globe, which soon proved to be untenable. In 1999, Tuck decided that he could not find balance with Soft-ex, and began to search for another opportunity.

I started talking to people locally. Someone had introduced me to a guy called Jim Brown, who was a partner at a venture firm called Polaris. Jim had been an Apache pilot in the US military and I had flown helicopters when I was in the British military, so we had that in common. He reached out to me and said 'We're looking at investing in these two guys out at MIT – they've got an idea, but there's no one to run it. Why don't you come and take a look.

Robert Poor and Andy Wheeler had both recently graduated from MIT, focusing their graduate research on wireless sensor network technology. Robert Poor's research efforts and dissertation focused on the development of technology for multi-hop mesh networking, a key component of today's short-range, low-power wireless standards, while Andrew Wheeler developed smart communications networks to manage sensor information.

After meeting with Tuck, Poor and Wheeler suggested he also meet with Bob Metcalfe. Metcalfe, an electrical engineer and businessman, not only formulated Metcalfe's Law,⁵ but played a large role in the invention and development of the Ethernet, winning the IEEE Medal of Honor in 1996 for his efforts. Metcalfe believed in Poor and Wheeler's work and was eager to

⁴ Ryan Karlin and Rois Langner, "Interview With Adrian Tuck, Tendril Networks, Inc.," November 16, 2009.

⁵ Metcalfe's law states that the value of a telecommunications network is proportional to the square of the number of connected users of the system.

find someone to take the idea and run with it. Impressed by Tuck's qualifications and entrepreneurial success, Metcalfe encouraged Tuck to consider the opportunity. With an endorsement from Bob Metcalfe himself, Tuck could not let the opportunity pass by. In February 2001, backed by the investment from Polaris, the Boston-based company Ember was born with Adrian Tuck as the interim CEO and Executive Vice President.

During his five years at Ember, Tuck learned what it takes to build a business. With mentors such as Bob Metcalfe and Todd Hixon of DFJ New England Fund, Tuck learned how to frame business questions and how to successfully manage solutions to those questions.

I arranged that I would meet with [Hixon] for breakfast every Friday morning. Over the course of five years, that's a lot of breakfasts. It was fantastic for me because he's a really clever guy – he was the technology guy at Boston Consulting and built its technology practice... So you really have to be on your "A" game. You can't go in with a half-baked question; I did a number of times and he tolerated it. He forced me, I think deliberately but I didn't notice at the time, to get myself into the 'how am I going to frame this question to Todd?' frame of mind... He would give me advice, and force me to think about things. He never told me answers, but helped me frame my questions. Even now, I imagine our conversations and his advice and I form opinions based on imaginary conversations.

By his fifth year with Ember, Tuck had helped build the company into a leading ZigBee chip provider in the WSCN industry. Holding a seat on the board of the ZigBee Alliance, Ember was positioned to lead within the ZigBee standard as well. With several awards behind the company and a strong leadership position established, Ember would now need an executive adept at running chip companies. Recognizing his strengths in the realm of building companies versus running them, Adrian Tuck saw this as a signal to transition out of the company as a new CEO was appointed.

Luck would have it that, at the same time, Tendril Networks was searching for someone like Tuck to help advance its sales and marketing efforts. Soon, he would be meeting with Tim Enwall to discuss opportunities with the startup in Lafayette, CO. Enwall and Tuck knew each other through the partnership their companies shared and, following some discussion and negotiation, Tuck agreed to take over Tendril as CEO in July 2006.

FINDING DIRECTION

Adrian Tuck joined Tendril at a key time for the company. With a successfully developed product, Tendril could now focus on expanding its market to full-scale sales and respond to the growth of the WSCN industry. Partnerships with Tridium, Texas Instruments, and Ember (now a leader in the ZigBee space) offered many business opportunities, and Tendril needed Tuck to help define its business goals.

Thus far, Tendril had focused technological and business efforts on solving problems related to how wireless networks communicated with enterprise computing environments. As Tuck learned about the business, he almost immediately recognized the potential for improvements.

The first step was to figure out that by going horizontally between these different standards, we were a mile wide and an inch deep. We hadn't solved anyone in any unique place's problems because we were spending all of our time working with fairly immature technologies. The biggest risk as a startup is that you become a sort of QA department of some big company—so you keep finding problems. This is a problem as firstly they don't like you because you keep throwing up problems, and secondly it just takes up engineering cycles.

Applying its product to applications in several industries and across several standards, Tendril was forced to essentially create custom solutions for each customer. These applications varied wildly in terms of scope, size, and cost, preventing the company from developing any discernable pattern or model for building revenue.

As a result, compliance with a single networking standard was neither a priority nor an advantage for Tendril. The introduction of the Tendril Network Operations Platform provided solutions for diverse applications through its compatibility with several proprietary standards. However, Tuck saw this ambivalence as a potential liability if Tendril were to shift focus to a single application within the WSCN industry. Through his past experiences at Ember, he was convinced that several competing standards within an industry would perpetuate fragmentation already present, wasting resources and hindering development.

Recognizing the need to focus efforts on one application, Tuck proposed two solutions. Leveraging his connections to the ZigBee Alliance and his former company, Ember, Tuck pushed Tendril to consider the benefits of supporting both in an effort to verticalize the company.

We made two decisions... one was to bet on ZigBee and guess that everything else would fall by the wayside. That allowed us to put all of our resources into one class of problems. The second was to bet on Ember because the other ZigBee solutions were fairly immature.

A board position with the ZigBee Alliance would increase Tendril's opportunities to influence WSCN standards and advance its products; however, the process of joining was no minor feat. A place on the board required not only a \$70,000 investment, which at that point was a lot of money for Tendril, but also an application and voting process to receive the board's approval.

There is a very big difference between following a standard and leading a standard. Leading a standard allows you to influence the way it goes but takes a tremendous amount of resource, and the immediate impact is that you're solving problems for your competitors that are fast followers. But I had been on the ZigBee board with Ember, so I had already been a board member and I knew

enough about how ZigBee worked to know that the real power in that standards body sits on the board and the ten or so board members who govern the standard wield the real power.

I had amassed a reasonable amount of goodwill whilst I had been an Ember board member as a guy who got a lot of things done. At the time we made the decision, Tendril was a 13 person company, and the other people on the board were Motorola, Freescale, Siemens, and so on. We were not an obvious candidate for a board position, so I had a window of opportunity to leverage the goodwill and the relationships I had built up from my time with Ember that would evaporate very quickly if I didn't jump on it quickly... there was only a small window where I could get the vote to go my way.

As it would turn out, Adrian Tuck and Tendril would be attractive to the ZigBee Alliance, despite the disparity in size and function between Tendril and the Alliance's current board members. While Tuck was looking for a single vertical industry on which Tendril could focus its business, ZigBee's Vice President of Business Development, Brent Hodges, was doing the same for the wireless networking standard. Hodges, a Harvard Business School graduate who had been Adrian Tuck's first business hire at Ember, saw Tendril as a company that could help complete the vision and solution ZigBee offered.

UTILITY FOCUS

Shortly after Tuck joined the ZigBee Alliance, Southern California Edison (a major California utility provider) and meter makers Itron and Cellnet (now Landis+Gyr) began attending Alliance meetings. These companies had been working to enhance communications within the electric metering infrastructure for residential and commercial buildings, and were interested in learning how ZigBee chips might enable them. The idea of applying ZigBee networks to energy management was not new, but Tuck and Hodges saw the potential to partner with them, providing the opportunity for all parties to benefit. Still searching for a clear direction to take his company, Tuck spotted an opportunity in smart metering that might present itself if major players in the utility industry pursued this technology.

Tuck knew that he would need to learn more about the energy and utility industries if that was where his company would be heading. Knowing that Itron and Cellnet were both interested in board positions with the ZigBee Alliance, Tuck identified the situation as an opportunity for all to benefit. As a veteran of the ZigBee Alliance who had been voted to the board twice himself, he was well-equipped to coach the companies through the politics of the organization, and with his help both were quickly elected to the board.

What I was able to do was cash in on that goodwill. I basically helped them onto the board and I was then able to sit with them and say "Okay, help me, explain this market."

With Itron and Cellnet now alongside him, Tuck convinced the board to support Brent Hodges in finding a strategy to anchor ZigBee's efforts to the smart energy market. As VP, Hodges was able to attend meetings that a vendor could not, acquiring access and information critical to the advancement of these goals. It was soon apparent that the decision to focus on smart energy would be necessary for the forthcoming success of ZigBee, Ember, and Tendril.

I needed a market where I could get a customer and get far enough down a path to demonstrate success in a market that looked like it was going to be big in order to justify raising more money – otherwise we were going to be out of business. The final two candidates were commercial building automation – replacing wires in thermostats, and we had a project with Johnson Controls that was looking pretty good, but at every turn it was slowing down. Whereas [with smart grid], it was the “California has got to solve this problem otherwise everyone's going to have brownouts” kind of thing, and so the decision was driven by that.

With funding paramount to any future for Tendril, the only thing holding him back was the possibility of running out of capital before securing another venture round.

Once I thought this was where I wanted to go, I flew to New York to meet Stu Ellman of RRE Capital, who had backed me at Ember. He has a house out in the Hamptons and he was out there for the summer, so I flew into New York, drove out and stayed in a motel near his house and met him for coffee. We spent three or four hours there that morning, and I sort of bared my soul and said “Okay, here's where I'm at: I've got ten months of cash left, this is what I'm thinking of doing – going after this smart energy market. It looks intriguing – what do you think?” He said “Look, I get it. It looks good. Go build your product. Get a customer. Then come back and talk to me and we'll look at funding your Series B.” He asked a lot of hard questions about why and how, but I felt that I had a tacit agreement that if I went and delivered on this thing that there was a path to funding.

Forcing myself to frame the opportunity to him was such that it got my thinking clear. I remember the car drive back from the Hamptons to LaGuardia and that's kind of where I made the decision. I said “Okay, I think if I can pull this off he'll back this business.”

SMART GRID TECHNOLOGY

The Smart Grid concept consists of an evolving set of technological innovations, expanding the capabilities of the existing electric grid to greatly improve monitoring, communication and control of energy distribution and use on national and global scales. As technology advances and populations grow, consumers continue to use more and more energy while electricity suppliers struggle to meet the demand. Since 1982, the growth of electric transmissions has fallen behind peak demand for electricity by 25% every year. At this rate, limitations inherent to the current electric power infrastructure will soon restrict its ability to meet demands.

The electric grid and power system is 99.97% reliable. However, power outages and interruptions still result in losses of billions of dollars every year. In the past 40 years, the United States has witnessed five major blackouts, three of which have occurred in the past nine years. The Department of Energy estimates these outages cost Americans approximately \$150 billion each year, equating to about \$500 per person.

The U.S. grid is due for an upgrade. The infrastructure supporting the power system dates back to the years of Thomas Edison. Throughout its lifetime, the system has met society's needs, allowing electricity to be used as soon as it is generated and supporting more than 1,000,000 megawatts of generating capacity, routed to businesses and homes through more than 300,000 miles of transmission lines. However, new technologies require a shift in how the grid works – both in infrastructure, and in the way consumers think about power.

With a smarter grid, technologies and operating platforms can be engineered to more effectively integrate renewable power sources such as solar and wind and enable better power management. These capabilities will allow utility providers to control electric loads if demand peaks too high, such as turning off or dimming lights in commercial buildings or ramping down electric use associated with heating ventilation and air conditioning systems when the heating and cooling needs are unnecessary. Simultaneously, consumers will be empowered to monitor the price of electricity in real time, and will be able to program appliances to turn on or off accordingly.

The reliability and responsiveness of the power system can be improved as consumption is reduced and managed more effectively. Smart Grid technologies are intended to address energy issues on both small and the large scales. On the largest scale, these technologies could help reduce carbon emissions and dependence on foreign oil. On a smaller scale, individuals would be able to better control their energy with a greater understanding of how the grid works.

MAKING THE CASE FOR SMART ENERGY

With a clear direction now set and a short amount of time to get moving, Tuck headed back to Boulder determined to convince the rest of the company to follow him into smart energy. To do so would require more than just an idea and a speech – he would need to create a realistic path to more funding, and fast. It was now late summer 2007, and with little more than eight months of cash available, any change in direction would have to happen quickly to give the company time to make the case for raising another round of Series B capital.

Before finding a customer, a product had to be developed. To meet the needs of a major utility and to understand what utility providers were looking for, Brent Hodges suggested that Tuck meet with Don Cortez. Cortez was CTO of CenterPoint Energy in Houston, and was considered to be a forward thinker in the industry.

Brent got me dinner with [Don Cortez] and we shared two bottles of wine, and I talked through as much of what I knew. He helped me, and we formed an opinion

about what the product set needed to be. Then we made a decision to spend \$50k with a design firm mocking it up, creating screen shots of this thing.

The idea was to leverage the company's technology and expertise in orchestrating monitoring and control systems, applying those principals to home energy management. In addition to Tendril's software platform, the offering would include hardware components for network monitoring as well as a user interface for power and device management. By allowing dialogue and control between homes and utilities where none currently existed, both parties would benefit. Utilities stood to gain a greater understanding and control of consumer behaviors, while the consumer was empowered to better understand and manage their energy use. Further, Don Cortez's experience and insight gained through years with an electric utility would lead to a more informed product design.

We had started down a path assuming every home has a thermostat and an Internet connection. The big wake-up call in the process was Don Cortez saying "40% of my customers don't have thermostats, and 40% don't have an Internet connection, and I need to be able to deliver a solution to them." That led us to really start thinking about the set of architectural constraints we would set... and it's always easier to go up a bandwidth curve than it is to come down. So if you've built a system that imagines the Internet and suddenly it's not there, you really have to start again in some senses.

Armed with newfound knowledge and a product concept providing an end-to-end solution, the last piece was to acquire a potential customer from whom some revenue projection could be justified. At the end of a ZigBee Alliance teleconference, Reliant Energy's representative noted that it was interested in finding a partner in exploring smart energy. Seizing the opportunity, Tim Enwall, who had represented Tendril on the call, quickly contacted the Houston energy provider to arrange a meeting.

We got a meeting, we went in, and they liked it. This was in August of 2007, and we got [Reliant] to broadly agree to do a project together. We proposed to them a \$5 million project in a couple of stages. To put that in context, we had probably done \$70k of business in the prior year.

The proposed deal would include product installation at a cost of about \$2 million, with an annual licensing fee of one dollar per meter. Focusing on utilities, a single industry large enough to generate deals of this size with a reasonably homogenous customer base, would allow Tendril to build a consistent rate structure that it had previously lacked. This would open the doors for Tendril to generate much higher revenues than the company had ever seen before.

Just three months after deciding to pursue smart energy, Tuck had gained potential partners in Itron and Cellnet, created a feasible product design, and found a potential customer from which it appeared great revenues could be realized. He felt as though the time had come to approach Tendril's Board of Directors and shift the company's resources, focusing in this direction.

APPROACHING THE BOARD

The opportunity to land a \$5 million deal provided a compelling reason to make a shift in a new direction. However, this great opportunity would also bring great risk. Tim Enwall recalled the situation:

The reward side was easy: *if* society goes down the path of enabling its electric grid with communications, it sounds like a nice, big opportunity... if we were able to go in this direction *and get a deal*. But we had had *one* 45 minute conversation with *one* guy at Reliant who expressed some interest in us. It was complete blind faith that we would be able to get the kind of capital we needed to operate on a deal.

With each passing month Tendril's capital continued to disappear, and the company needed to move toward funding in one way or another. Adrian had gone to great lengths to position Tendril for a run at smart energy, but anticipated apprehension from some board members.

We had some things going on outside of the smart grid that had potential, at least on paper – Johnson Controls, and other building automation people – and there was a sort of idea of having a bird in hand, and “should we leave it behind?”

Moreover, with little to no utility experience within the company and no existing market for the product, investors could reasonably be reluctant to endorse the shift. Even if the market and demand presented themselves, could Tendril deliver? After all, this was a software company; hardware production and management was certainly not considered a core competency.

Adrian felt strongly that Tendril should pursue this opportunity, but with so much risk to overcome, how could he convince the board that the reward would be worth the risk?

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STUDY QUESTIONS

- How viable was Tendril’s initial business model in the long term?
- In what ways did Tendril position itself to “cross the chasm” within the wireless sensor network and control industry?
- How important was it for Tendril to secure a leadership position in the ZigBee Alliance? Was it worth the investment?
- What are the implications of expanding the business beyond existing core competencies?