

Climbing The Ladder As an Engineer

In his 10-year career, Phillip Danner (B.S.Cp.E., '91), the recently appointed vice president of technology for GE Cisco, has successfully attacked every challenge — technical or management — with a strong engineering problem-solving perspective.

As a software engineer at GE Fanuc, he helped develop and upgrade industrial controllers used in life-critical operations. Later, as a project manager working on CPU firmware, his approach to coordinating technical teams on three continents earned awards for completing projects ahead of schedule and also for delivering projects on time with additional features. More recently, as manager of the company's technical support centers, he improved quality by 400 percent and revenue more than 90 percent. Now, at GE Cisco, a one-year-old joint venture, he is leading the creation of solutions for customers using industrial process and Ethernet-based technologies.

In each situation, he has relied on a standard problem solving approach. "Basically, I tend to identify the goals, then discover the problems. If a process is broken, I fix it," he explained. His approach has been successful even when he ventured into a world that is typically the reserve of MBAs and strategic analysts — not computer engineers.

Phillip Danner (BSCpE, '91), was recently appointed vice president - technology for GE Cisco Industrial Networks.



GE Cisco Industrial Networks



A Bad Process Problem

In his last assignment, for example, Danner took on the restructuring of the three technical support centers for global GE Fanuc operations. The technical support operation had a customer satisfaction rate of less than 20 percent. The median time it took to resolve an issue was 6.5 days. Morale was low, and staff members said they were getting stale.

“We had several opportunities for improvement with our current processes,” Danner said. Not only was he responsible for improving customer satisfaction, but also for profitability. Moreover, he was to report weekly progress to the CEO. “It is hard to show significant progress week to week, but I got the team members to share the vision and support the timeline. Also, the CEO was very engaged in our projects and supportive of the effort,” he commented. “I had a strong feeling that if we focused on the customer and put quality first, that good things would happen on the revenue side.”

Danner’s first action was to develop a knowledge base. “The same questions were being asked repeatedly: 80 to 90 percent of our callers were asking the same thing,” he explained. The problem in answering those questions, however, was the huge diversity of GE Fanuc products. “Everybody was a specialist in some group of products, but nobody could possibly know all of them,” he said. “That meant we were wasting time trying to match the expert to the



problem.”

With an established knowledge base, Danner hoped that everybody could become somewhat knowledgeable about most of the issues. “It took about five weeks to reach a payoff where this was saving us more than it cost.” As the knowledge base evolved, it was put on the web for easy customer access and a new automated call display telephone system helped direct callers to the appropriate specialist.

Danner said the most impact was made on the operation when they changed the core measurement. “We were measuring something that many technical services

operations measured — time to initial response,” he said. “We counted it if we received a message and an expert called back for more information and left a message on voice mail. Since you get what you measure, our process had evolved to maximize initial response.”

Danner started measuring solution time instead. “This was a paradigm shift to the team. We had been measuring effort and suddenly we switched to results. BAM! Now we could measure and resolve different components and bottlenecks. When it turned out that we were being held up by other groups in the company, that was resolved also. Most impor-

tantly, everything we did was focused on driving a metric that the customer could feel.”

Within a year, the group’s customer satisfaction had risen to more than 95 percent; the median response time dropped from more than 6 days to 40 minutes; 80 percent of questions were resolved on the first call; and profitability improved more than 90 percent.

Danner said that his engineering skills made the difference in this effort. “I was a manager,” he said, “but being able to understand the technical issues and having the ability to analyze problems were key.”

A Platinum Name Joint Venture

After his technical support success, Danner was appointed vice president of technology for a new joint venture that GE and Cisco formed last June.

GE Cisco Industrial Networks was established by its parent companies to assess, design and build network infrastructures for manufacturing plant floor and industrial environments. “Traditionally, Ethernet has been used to network offices, while plant floor information has been exchanged over proprietary networks,” Danner explained. “Although fast and reliable when used for plant floor communication, proprietary networks often cannot communicate with office networks,” he added. “With our venture, we are making it possible for industrial concerns to improve their information exchange and productivity.”

Danner’s role is to look at technologies in addition to those offered by Cisco and GE. “Since we’re a service company, we can

use whatever technology is necessary, regardless of who makes it. My job is to look at technologies and put together bundled solutions that will work.”

He chose remote monitoring and diagnostics as an example. “Power turbine manufacturers would like to pull data off turbines and analyze it. Their specialists could then tell power companies

‘I was a manager, but being able to understand the technical issues and having the ability to analyze problems were key.’

—Phil Danner

how to make changes to improve efficiency from 20 percent to 25 or even 40 percent.” Information today is typically exchanged through dial-up telephone lines, or not at all, he said.

Solutions could involve a virtual private network, line-of-site radio modems, and encryption, along with industrial technology such as switches that can withstand high temperatures and high pressures.

“The beauty of our joint venture is that GE brings the understanding of the industrial equipment and Cisco that of the networks,” Danner commented. “This job is very much back on the technology side.”

According to Danner, the new venture is like working at a start-up with deep pockets. “We are being asked to responsibly grow the company and build capacity as we generate demand. With parents of GE and Cisco, we know we will have the ability to ramp up as we need to.”

A Hokie Engineer Since Birth

Danner has enjoyed electronics technology his entire life. “I knew since I was five or six that I was going to be an engineer,” he said. “Then, when I got my first computer in the 5th grade, I started gravitating toward the computer end of the field.”

Danner also wanted to go to Virginia Tech since he was a child. “I can’t imagine having gone anywhere else. It offered such a strong academic engineering background. I had UVa as a backup, but I was going to go to Tech.”

After his first year, Danner was selected as one of the first three Bradley scholars. “I considered it an honor then, and over time it has become even more meaningful to me. I like to think they selected well.”

His favorite course was the second microprocessor design course. His first job at GE Fanuc after graduation was very much like the course. “We were doing real-time embedded firmware and you had to know the hardware.”

‘I had UVa as a backup, but I was going to go to Tech.’

He found he was better prepared for digital design work than many other entry-level engineers. “There were really smart people from other schools, but they had not had the hands-on experiences I had. They had not programmed chips.” Danner said that he assumes that other computer engineering programs have caught up to Tech in teamwork and hands-on efforts. “I’m also assuming that Tech is finding other ways to lead the field in computer engineering education.”