

## **IronPort Outsourcing and Offshore Development Center Case Study**

IronPort Systems is the emerging leader in the Internet Security Gateway market. IronPort's mission is to secure large enterprises and organizations from spam, viruses, spyware, and malware by deploying secure Internet gateways, which are actually physical boxes, i.e. appliances. Although this is a hardware solution, the key to our added value is our software. In developing software, the most important considerations are speed (time to market) and quality. Since our appliances are the "main switch" for email and Web traffic into and out of the largest companies in the world (42 of the G100) a small lapse in quality could affect the day-to-day business of hundreds of millions of end users.

Since the founding of IronPort in 2000, the company has today grown to over 500 employees spread throughout 25 countries worldwide. We are a software-intensive firm, and roughly 45% of our employees are engineers and technologists located in San Bruno, CA. In 2003 we looked to outsourcing to keep up with the demand for new features while keeping our development costs low. On the Internet, the threats that were challenging network security were getting worse. New words were developed like "phishing" and "spyware" and our customers looked to us to be able to keep their networks safe. Given our relatively young age as a company, and being a cash-strapped venture-backed concern, it was not practical to hire enough software engineers in the bay area to fulfill our promise to customers.

### **Staff Augmentation Model**

Today, IronPort has three outsourced development centers employing 60 persons in two countries, Ukraine and India. Growth of the outsourced teams happened slowly over time beginning in 2003. The first model used to increase development capacity was a staff augmentation model. With this model, development teams in San Bruno augmented their existing onshore teams with resources from vendors in other countries. This system proved very flexible for team leads and managers who were able to quickly get engineers working on projects with little time spent hiring. When projects were complete there was no further obligation to pay for the resources, making this model inexpensive as well.

However, after a short amount of time, the flaws of this outsourcing model began to reveal themselves.

1. **Productivity.** Engineers that were just starting on projects took considerable time to come up to speed on the projects. Quite often the engineers had no domain expertise in the technologies used to build our software requiring training. When Onshore technical leads gave assignments to the outsourced resources instructions would frequently be missed because of this technical gap. Internal tools to track progress and defects also took a lot of time for new resources to get the hang of. Often these tools were ignored and onshore leads would need to manage the outsourced resources to use the tools.
2. **Accountability.** When the quality of work that was submitted to IronPort from outsourced engineers did not meet the standards for our software it proved difficult to hold anyone responsible. The direct manager of the resource was overseas and not within the IronPort organization. Although we were successful having resources re-assigned to other non-IronPort projects, the replacement was frequently did not improve their quality.
3. **Communication.** Team leads and individual contributors' work days were separated by 8 and 12 hours from each other. This difference frequently lead to a several day lag between requesting an action and the commencement of work on that action. Typically a lead would need to clarify their initial request and the back-and-forth process of clarification would take days.

After actively trying various strategies to resolve these problems, IronPort came to believe that many were inherent in the model. Ultimately, for a firm like ours where software quality is the most important consideration, the augmentation model did not offer us ways in which to control the work process and thus output of our providers. We needed another model.

### **POD Model**

In 2005 we began experimenting with a new model for outsourced development which we dubbed the “POD” model. This stood for Project Outsourced Development and essentially meant that the complete project was being outsourced to be developed by our partners. Requirements were fed into the groups at the beginning of the project, software was delivered according to a timeline, and quality assurance was completed onshore.

This model had benefits, but they were limited. Resources that were brought onto projects were typically kept on multiple projects in a row for IronPort, thereby limiting the ramp-up time required. Tracking tools at the partner site were frequently used for project management, limiting the amount of time that individuals needed to come up to speed on IronPort tools. Managers and individual contributors were in the same office so accountability and communication issues were eliminated within the team. However, this model brought it’s own issues:

1. **Quality.** With Quality Assurance for software done in a separate location from software development, the product quality delivered from the POD was generally much lower than the quality generated by our onshore development teams.
2. **Trust.** Without having management and development in the same location, there was frequently a lack of trust regarding the number of resources working on a project and the number of hours. Each invoice from outsourcing partners needed to be verified and frequently errors were found.

### **New Requirements and a New Direction**

Given the rapid growth of our market, our entry into new markets with new products, and our inflexible quality standards, we decided we needed to solve the key problems that we were experiencing by undertaking offshore outsourcing. From our projections, it appeared that we needed to increase our engineering staff from 160 technical staff to 410 within the next three years. Competitive pressure forced us to consider how we could expand so rapidly and limit our expenses. The models that had been used in the past had experienced limited success, but the scale required for the future would not be supported by them.

To meet this new corporate goal we considered the two standard models, a captive center and a Build-Operate-Transfer (BOT) partnership model. The captive center would be a from-the-ground-up new facility that was owned and operated by IronPort offshore. The benefits were clear: IronPort’s culture of quality and innovation would be inherent in the operation with every new employee that was hired. However, this model requires significant up-front costs (building, telecom, networking, security, etc.) and a slow ramp-up time, particularly in the area of recruitment.

The BOT model is commonly seen as a clause in nearly every outsourcing contract today. It provides the option for a software company (the customer) to transfer employment of a team of outsourced developers to them after a term defined in the contract. The outsource vendor literally builds the team for their customer, operates the facility for the term, and then transfers ownership of the facility to the customer at the customer’s option. The benefits of this model are low start up costs, rapid hiring ramp ups (even taking existing headcount from the outsourcer’s “bench”), and low risk to salary and currency adjustments. However, the vast majority of BOT clauses are never executed. The outsource provider’s interests are in keeping the customer paying them on a monthly basis. There is also considerable risk at the time of transfer, similar to one company acquiring another, in terms of cultural fit and potential attrition of valued employees.

### **The Hybrid BOT**

To solve the problems of starting a captive center from scratch and the BOT models IronPort developed a model that we have termed a “Hybrid BOT.” In this model, IronPort will partner with an existing outsourced development partner to start a new facility. However, to facilitate the successful transfer of the facility at the end of the term, and to ensure the IronPort culture and processes are identical to the San Bruno facility we will place a management team from IronPort inside the facility from day one.

It is our intent that the IronPort India Technology Center (IITC) be a seamless extension of our existing engineering center in San Bruno. We expect that the IITC will be a first class engineering center and that it will perform similar work to the engineering group in San Bruno. Finally, we believe it is extremely important for success that the culture of the IITC be rooted in both local custom and IronPort tradition. This means that the employees must believe from the outset that they are committed to our goals and values and more importantly feel loyalty to IronPort as opposed to our partner.

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The strategy we will use to achieve our goals is:

1. **Skin in the game:** With IronPort management on the ground the culture and processes from IronPort will be present from day one. Trust issues will be reduced because executives will interact constantly and IronPort will be investing considerable resources in the success of the operation.
2. **Real projects:** Recruiting and retention are typically issues with captive centers that don't have a large brand above the door, such as IBM or Google. By providing the engineers with real projects – some of the most challenging problems and interesting innovations – we intend to attract the top talent in the local area and keep motivation high amongst the employees.
3. **Complete product:** Instead of offshoring small projects or augmenting larger projects from San Bruno we intend to move entire product development responsibilities for projects to the IITC, including quality assurance. This model will transfer accountability for timely, quality releases to the facility.

The Hybrid BOT model is not without risk. As we have progressed in this front several issues have come to light that we are working to overcome.

1. **Management conflict:** With two management teams on the ground there is the possibility that employees will question which group to be loyal to.
2. **Culture clash:** The IronPort culture will be incubated with the physical location of the outsourced development vendor. There is the risk that the cultures will not work well together.
3. **Partner business risk:** When working with any business partner you take on the risk that their business may not succeed.
4. **Branding:** One of the important factors in recruiting top talent is building a brand amongst the local talent pool. In locations known for outsourcing this is particularly true. The Hybrid BOT model shares the attention of the talent pool between two brands.

### **Choice of Location**

As we decided on the model, we also needed to decide on a location that would provide the best environment for our Hybrid BOT model. Through references we narrowed our decision down to five partners in India. Though our search however, there were several other countries that were promising. The size of talent pool, education level of the talent, and the communication factors led us to India to focus our search.

To narrow the choice of partners down, we weighed several factors:

1. **Talent Pool:** probably the most important factor in making this decision. We determined that there was no greater factor that could limit our success with the IronPort India Technology center than the size and education of the talent pool. Through an independently funded study our anecdotal beliefs were confirmed. The talent pool in Hyderabad was significantly larger than the pool in Noida (Delhi), and the focus of the engineering pool in Hyderabad was more toward product engineering than BPO centers. Since we were looking to hire experienced engineers (not college grads) the number of engineers with several years of experience was also greater in the south.
2. **Costs:** After looking at several factors related to costs the partners proposals were remarkably similar across many geographies.
3. **Infrastructure:** The infrastructure (airports, roads, power, telecom, and Internet connectivity) in the different geographies was clearly differentiated. For example, In Noida, electricity would generally fail 3-4 times a day while we visited. In Pune, the roads were almost impassable in the months after the monsoon. We found that Hyderabad had reasonable infrastructure, with many new roads and a new airport under construction. There were also one-stop flights from the Bay Area daily.
4. **Culture/Management fit:** We also found substantial differences between the management style and the company culture of the potential partners that we engaged. Some partners saw themselves as “product development companies” that had experience in taking complete ownership of product delivery. Others saw themselves as services companies and they demanded to do the work in their own proven model.

Ultimately, we decided to start our Hybrid BOT in Hyderabad, India. We have big ambitions for our Indian operation, which will go live in January, 2007. The initial team will consist of a General Manager and HR Operations director from San Bruno that plan to take the Hybrid BOT from inception to transfer over a three year period. During the operation IronPort will also rotate individual contributor engineers and quality assurance staff through the facility to ensure the IronPort culture, process, and values are translated to the new facility.