

Opportunity Genesis: Generating New Markets for Software Communication Technology

Client: Fortune 500 producer of communications infrastructure equipment.

Challenge: With a strong technology development capability and a solid position in corporate networking products, this organization was looking to participate in the widespread adoption of personal Internet access. Specifically, the organization was interested in the potential incorporation of its communication technology into personal computers and the size of the market for the applicable technology.

Diagnosis: An assessment of the technology development process at this organization revealed that they had very strong algorithm/software creation capabilities and an equally solid intellectual property portfolio. However, the audit also indicated that the company's manufacturing and distribution capabilities were not well matched to the low margin consumer PC peripheral business.

This analysis led to the conclusion that the company could be successful developing software algorithms for PC communications and avoiding the rigors of commodity peripheral manufacturing. A preliminary analysis of the current PC architecture, however, confirmed that PCs could not support the implementation of real-time communications protocols without dedicated communication peripherals and/or plug-in cards. A substantial change would be required to realize this strategy.

Methodology: To gain insight into likely industry evolution and emerging opportunities, a detailed value chain analysis was undertaken. Through end user interviews and discussions with key players in the industry, as well as the study of market and technical literature to date, key dynamics in the value chain were identified. Specifically, the value chain was characterized with respect to critical requirements and economic imperatives driving the market for communications subsystems. The subsystem analysis led to the analysis of the current PC architecture with an eye on identifying the key architecture changes

necessary to support embedded software communications.

A stakeholder analysis was conducted to determine whose support was needed to affect the changes identified in the architecture analysis. Assuming this support, an economic model of the value chain before and after the proposed architecture changes revealed who would benefit and who would lose in the proposed scenario. This analysis also indicated the pricing and incentives required to attract the appropriate partners.

Results: Mapping the value chain and making recommendations based on that analysis resulted in the initiation of joint development efforts between the client and leading CPU and operating system manufacturers to implement PC architecture changes that would support embedded, real-time software communications. In addition, semiconductor vendors were approached and enlisted to develop the analog interfaces to public communications networks. This led directly to the development of reference designs for low cost, embedded communication subsystems that leveraged the company's existing communication software.

Informed by the value chain analysis, the company developed a highly leveraged licensing and OEM distribution model in partnership with leading component vendors far upstream from communication's established peripherals competitors. The upstream, disconnected nature of the ensuing business model led to the sales of millions of software licenses into the consumer PC market.

For the client, the Opportunity Genesis process began with a look at initial technology and production capabilities, proceeded to map those capabilities to the existing value chain, and analyzed potential market opportunity within a modified value chain. The identified market opportunity led specifically to augmented architectural designs in the product platform to support next generation software-based peripherals, resulting in the sale of millions of dollars worth of software licenses.

