

Challenges of Information Security Management in a Research and Development Software Services Company: Case of WirelessComSoft

Varadharajan Sridhar, Sasken Communication Technologies

EXECUTIVE SUMMARY

WirelessComSoft, a software company based in India, provided research and development outsourcing support in an Intellectual Property strong wireless communication products and services space. Over a period, WirelessComSoft developed a robust information security infrastructure and complied with industry standard auditing procedures. However, implementing information security across its different world-wide sites, updating it in tune with evolving user needs, deploying robust business continuity architecture, and maintaining logical and physical isolation of clients' off-shore development centers were challenges that WirelessComSoft's security implementation team grappled with every day. The case presents how information security infrastructure at WirelessComSoft evolved, the challenges faced and the methods implemented by the information security team to overcome these challenges.

Keywords: Authorization, Data Protection, Disaster Plans, Security Management, Security Risk

ORGANIZATION BACKGROUND

WirelessComSoft was a focused wireless communication software company based in India, providing research and development outsourcing services. The core expertise of WirelessComSoft was in developing embedded communication software for companies across the communication value chain namely, semiconductor vendors, terminal device vendors, network equipment manufacturers, and operators. Global Fortune 500, Tier 1 companies in each of these segments were part of WirelessComSoft's customer profile. WirelessComSoft had its headquarters in Bangalore, India with development centers in Pune and Chennai in India and wholly owned direct subsidiaries in China, Finland, Japan, Mexico and USA. WirelessComSoft also created

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near-shore development centers at China, Finland, Germany, and Mexico to provide customer-centric solutions in the respective geographical areas.

WirelessComSoft was a key partner for leading wireless device vendors and carried out significant Research and Development (R&D) services contracts from its off-shore locations. WirelessComSoft also had a strong and unique presence in telecommunications software product development when most of the IT companies in India focused on services. More than 50 phone models and 50 million phones carried WirelessComSoft's Intellectual Property (IP) in communication protocols, multimedia engines and applications.

SETTING THE STAGE

Rapid diffusion of the Internet while bringing numerous benefits, also demonstrated the urgent need to craft effective information security management practices. The nature of business and the technology intensive workplace provided challenges in implementing a comprehensive information security management practice at WirelessComSoft. As telecommunications industry was very competitive with innovation being the key driver for sustaining competitive advantage, the customers demanded proactive information security practices at WirelessComSoft to prevent any possible IP theft and leakages. The clients often did assessment of information security controls, which as per the Chief Information Officer were more strict and comprehensive compared to even International Standards Organization (ISO)/British Standards (BS) audits. The clients also required elaborate self-assessment documents which created the need for WirelessComSoft to implement a robust information security infrastructure and perform its own security audits periodically. The self-assessment reports often served as eye-openers for WirelessComSoft as it required a re-look at some of the organization's information security policies, procedures and controls.

From being Bangalore, India centric, WirelessComSoft expanded its geographical reach to deliver global R&D services from its multi-site locations. Teams at WirelessComSoft's software development centers located at China, Finland, Germany, India (Bangalore, Pune and Chennai) and Mexico collaboratively worked on multi-site projects. The importance of information security became more pronounced when all the different sites were networked together to facilitate such multi-site projects. Figure 1 highlights WirelessComSoft's global presence.

Arora et al. (2009) contended that though IT services contributed to the bulk of off-shore revenue, there was increasing evidence of new product development and innovative R&D services being outsourced to Indian IT companies. Companies such as Microsoft, IBM and SAP Labs were shifting their new product development activities to India. WirelessComSoft, being one of the few Independent Software Vendors in India, catered to such R&D and product development outsourcing activity for Tier-I network manufacturing and semi-conductor companies in the US and Europe, by setting up dedicated Off-shore Development Centers (ODCs) at various locations. WirelessComSoft had to manage the confidentiality, integrity and availability of customer related information in the respective ODCs. The clients were very particular that teams working for them didn't share vital information outside their ODCs. WirelessComSoft had to ensure and protect the intellectual property of its clients with a highly secure physical and logical IT infrastructure.

Methodology Used

We use a single case study based approach to analyze the issues in managing information security in a geographically distributed software company providing R&D outsourcing services. Single

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