

BLUE CUBE STRATEGIC Technology Management

Information technology can dramatically enhance an organization's business, operational and economic performance. This is the underlying principle behind our Technology Management Practice where we work with our clients to advance and optimize their use of information technology solutions. And, as business and technology strategists, we can help our clients manage the full technology and product life cycle from the assessment of business requirements, development of technology roadmaps, to market introduction and adoption. Our practice is multi-dimensional and cross-functional in capability and scope:

- In the design and execution of our management consulting services, we utilize proprietary technology tools and methodologies to deliver markedly increased performance and productivity for our clients.
- In helping our clients successfully bring technology solutions and products to market, we provide consulting services specifically geared to clients in information technology-driven industries.
- Working with end users across a broad spectrum of industries and markets, we identify, recommend and help implement information technology solutions.

INDUSTRY SPECIALIZATION: Blue Cube Strategic's Technology Management Practice is segmented into four areas of specialization: *Information Technology Infrastructure, Information Security & Privacy, Telecommunications & Networks, and Software Development & Prototyping.*

IT Infrastructure

In this area of specialization, we work with our clients to identify, understand and achieve the real benefits in using information technology within their organization and within the context of industry requirements.

Our IT Infrastructure consulting activities and competencies enable us to:

- Perform IT reviews and identify technology applications and solutions in terms of business and performance impact.

- Provide clients with an in-depth understanding of the technology issues and trends that enhance marketplace adoption of new products and services.
- Advise and guide management on strategic growth opportunities, operational and performance paybacks, and implementation requirements.
- Monitor the emerging market potential for IT-driven products, services, and content.
- Develop IT product marketing strategies to promote business development and growth.
- Create targeted business development solutions by combining technology, services, and market strategies.

We work collaboratively with our Information Technology Infrastructure clients to help them understand and manage technology and product life cycles. We identify and assess business and marketplace requirements that will drive new technology development and govern the timely market adoption of new products, systems and services.

Information Security and Privacy

Information security is increasingly assuming a mission-critical function in today's information economy. With organizations connecting to global networks, network intrusions are escalating. And, with evolving advances in computer and network technology, there are more immediate information security and privacy vulnerabilities. Detailed information about individuals is more accessible, and more easily collected and shared. With disclosure of non-public information more at risk, companies, institutions, government agencies and consumers must take precautions to protect against the misuse of that information. It is industry's responsibility and obligation to develop and implement information security and privacy protections for its patrons that will ensure the security and confidentiality of non-public information.

So, what are the remedies and safeguards that industry must provide? Blue Cube Strategic has taken the posture that information infrastructure protection is now the new battleground for information security and assurance. Security must be incorporated in every



component of IT infrastructure – from the design and development through to implementation. We are working with, and monitoring industry and government to help identify, evaluate, implement and manage information security and privacy solutions for our clients. With companies opening up their information technology infrastructure and internal resources to the external world, information security is needed to meet a broad range of security requirements to combat the potential penetration, disablement and disruption of networks and communications systems.

New technology trends are also requiring increased reliance on security assurance in critical infrastructures that include:

- Electronic Commerce/Internet-based networks, systems and applications
- Wireless systems and mobility solutions
- The convergence of the Internet, wireless systems and increased access options
- Increasing use of shared environments

In all these infrastructures, the protection of network integrity, internal data and intellectual property, and proprietary information shared with partners, suppliers and customers requires far reaching information security solutions.

At Blue Cube Strategic, our Information Security and Privacy program underscores our commitment to ensure that information networks and systems consistently enhance our clients' mission-critical business operations. Our security and privacy consulting services focus on the following:

- Security Awareness Programs
- Security Strategy and Policy Development
- Security Infrastructure Planning, Architecture and Design
- Business Enabling Security Solutions (PKI, AAA, Wireless)
- Risk Mitigation Services
- Industry Security Compliance Requirements
- Security Product/Vendor Evaluation and Selection

- Internet/Intranet/Extranet Security
- Secure E-mail and File Transfer; Secure Data Storage
- Secure Wireless and Mobility Solutions

Telecommunications and Networks

In today's highly competitive and technology-driven world, telecommunications and network providers need expertise and information to help them make strategic management, marketing, and product and service decisions. Blue Cube Strategic's Telecommunications and Networks services include *Business, Marketing & Sales Strategy Planning, Emerging Technology Development, and New Product & Service Management*. We help our clients with the development of strategic and tactical plans for deployment of network and system technologies, and new product and service introductions. We will review new business directions and product line enhancements, and perform competitive evaluations and projections of technology and market trends. With an emphasis on linking technology management with business expansion, our competencies and specific disciplines include:

- Voice and data services
- Integrated voice and data networks: ISDN, frame relay, ATM and LAN/WAN applications
- Wireless Systems and Mobility Solutions
- Convergence of Internet, wireless systems, and growing access options. (Wireless, broadband access, fiber optic networks, satellite, DSL)
- Internet/Intranets/Extranets
- Messaging systems
- CATV Networks

As active participants in a study, project, or evolving program, we carefully appraise a client's business requirements, working either individually or as a team to help support and monitor our clients' business goals and objectives.

The markets we serve include: Telecommunications wireline carriers and manufacturers, wireless service and equipment providers, Internet/E-Commerce, industry organizations and institutions, and end users.



Wireline/Carrier Networks

We provide a wide range of wireline market and technology management consulting services to domestic and international telecommunications companies and institutions. Our clients comprise leading industry players as well as new and potential market entrants.

Specifically, our wireline consulting engagements cover a broad range of markets: telecommunications local and interexchange services, CATV, network and equipment manufacturing, and government. The specific activities that we support for this industry segment include Industry and Competitive Analyses, Market Feasibility Studies, Market Demand Analyses, Comparative Technology Assessments, Emerging Products and Services Evaluations, Regulatory and Public Policy Analysis, and Strategic Alliance Analysis, Trends, and Strategies.

Wireless Service and Network Providers

Wireless technology is revolutionizing telecommunications around the world. We assist wireless carriers in developing their long-term strategies for network expansion and M-commerce opportunities. We help wireless network and equipment companies analyze the potential impact of developing technologies, and help them design proactive strategies for next-generation services and equipment.

With the rapid growth in wireless networking systems, mobile commerce and other wireless applications, there are increasing opportunities for exploitation. As a result, wireless security has become a major industry issue and challenge. With the continued rapid growth in wireless and mobility solutions, and associated security concerns, we work with wireless carriers and network providers to identify end-to-end wireless security technology solutions, and wireless security marketing and sales strategies.

Mobile commerce is increasingly emerging as a major E-commerce facilitator. M-commerce is creating a whole new wave of technology, equipment and service opportunities for this market and our clients. These new opportunities, in turn, are also introducing new

business models requiring the support of mobile infrastructures. We work closely with our clients to help them identify, select and manage the appropriate M-commerce technologies, equipment and services to support their customer base and market growth. In particular, we work with our clients to develop new business strategies and business models that accelerate the adoption of trusted M-commerce applications.

To support our end user clients' increasing reliance on wireless information technology and mobile commerce, we help them understand and adopt the necessary wireless and mobility service and product strategies that take advantage of the latest technologies and standards.

Internet/E-Commerce

Blue Cube Strategic's Internet/E-commerce program focuses on security, risk management and supply chain management issues and solutions for E-commerce and M-commerce. Our Internet/E-commerce clients include telecommunications and wireless carriers and equipment manufacturers, ISPs, and ASPs. Our E-commerce activities are multi-dimensional and apply to most industry segments. Our services include:

- Business Development Strategy and Planning
- Supply Chain Management System Strategies
- Technology Management and Integration
- Information Security and Privacy
- Risk Management Services
- Internet/Intranet/Extranet Strategies

Electronic commerce supports the use of many technologies, and represents more than just an Internet-based infrastructure. For this market segment we help our clients identify, develop and deploy those key technologies, and security and risk management services that will ensure the growth and profitability of their Internet/Intranet/Extranet and E-commerce activities. In particular, we work with clients on business, technology and security strategies for E-commerce/Internet-based networks, systems and applications.



Internet technologies have evolved to allow supply chain and inventory management systems to be operationally integrated across multiple trading partners. We have worked extensively on software for a supply chain management practice called Collaborative Planning Forecasting and Replenishment (CPFR). This practice, a trademark of the Voluntary Inter-Industry Commerce Standards Committee (VICS), allows retailers to harmonize ordering and expected demand such that retail shelf space utilization is optimized. The core of this practice is a sophisticated sales forecasting process, that, when coupled with open network data exchange facilities, lets retailers bring product to the shelf “just in time.” At Blue Cube Strategic we work with E-commerce providers, B2B exchanges and end-users to integrate such forecasting systems with the technology.

Security is a major issue and requirement for the successful deployment of E-commerce and M-commerce solutions. With the threat of both internal and external attacks on networks, systems, and services, it has become incumbent upon E-commerce providers and facilitators to identify and implement state-of-the-art information security technology and applications as core components of E-commerce strategy and infrastructure. We leverage our Information Security & Privacy services to help our clients promote security and trust services as business enablers for electronic communications and transactions over advanced networks, the Internet, Intranets, and Extranets. Security and trust services provide:

- Authentication and Authorization
- Confidentiality and Privacy
- Integrity
- Non-repudiation

End-User Services

In recommending the most effective telecommunications and network solutions for our end-user clients, we provide needs assessments, equipment evaluations, and project implementation management services.

Our technology expertise includes switching, connectivity and bandwidth issues, terrestrial and satellite microwave transmission systems, Internet/Intranets/Extranets, E-commerce, video services, multimedia, and wireless systems.

Software Development and Prototyping

Blue Cube Strategic works with clients to provide technology solutions that increase productivity and enhance profitability both for information-intensive industries and professions, such as market research and consulting, as well as technology companies. To this end, our consulting activities include the development of custom software for both our Information Management practice as well as for product management engagements with technology clients.

Information management engagements typically involve creating customized, productivity enhancing applications according to client specifications. For example, we have created utility applications that automate repetitive and labor-intensive tasks, and that can perform complex calculations used in project management and implementation activities. These customized algorithms allow our clients to work with greater speed and precision. We also develop software to automatically update existing research reports and presentations when new data becomes available under our PerMetrics’ suite of products and services.

Product management engagements revolve around developing and using prototypes as a tool for more effective product management. Developing software products is always a tricky proposition, not just because of the technical hurdles, but because of the institutional ones as well. Does the marketing department understand what they are launching? Does senior management understand how the new product will complement existing products and services? Do the engineers have enough information to construct use cases? And what do the clients think is coming down the pipeline? We use our proprietary consulting methodology to gather information from all the involved constituencies and then build a prototype



that will serve as a common reference point as we continue to manage the product development process.

From a management consulting perspective, our product management engagements can provide the following evaluations and comparative assessments for our clients:

TECHNOLOGICAL CHANGE: The consequence of technological change on ① the product life cycle, ② the competitive landscape, ③ marketing and sales distribution channels, and ④ vertical market integration requirements.

MARKETING RESOURCES: Identification and assessment of the resources required for product/market success: financial, manufacturing, technical, marketing, and managerial.

THE PRODUCT LIFE CYCLE: Opportunities for product success from conception, through market and business development planning, through to full-fledged deployment.

NEW PRODUCT DEVELOPMENT: Evaluation of new products and enabling technologies from the earliest stage of development.

