

TurboWorx, Inc.

A High Value-Add Business Model for the Software Company

TurboWorx is a global software company that provides integrated, end-to-end solutions for creating, managing and accelerating compute- and data-intensive applications and workflows in heterogeneous distributed computing environments and grids. TurboWorx's open, standards-based products leverage SmartGrid technology to deliver order-of-magnitude improvements in the automation and acceleration of collaborative workflows and processes across disparate data and applications, leading to substantial return on investment for the enterprise, its customers and partners. TurboWorx focused initially on the research and development segment of the life sciences vertical. TurboWorx has extended its offerings to other industries dependent on high performance technical computing - financial services, process manufacturing, automotive, energy exploration and production, aerospace, and information-based medicine. In aggregate, these industries generate IT expenditures of well over \$200 billion annually.

Since its inception, the company has been closely associated with the computer science department at Yale University - a source of much of its intellectual capital. In 2002 it hired Jeff Augen as President and CEO. Mr. Augen, a founding executive of IBM's Life Sciences business, has a 20-year history in information technology and computational biology - both as a business executive and a former research scientist. The company's management team also includes talent derived from other compute-intensive industries such as financial services, process manufacturing, automotive, energy exploration and production and aerospace.

In September of 2003 TurboWorx launched its latest generation of workflow products. At the time of this writing the

company had secured several dozen large commercial customers in life sciences R&D and electronic design automation (EDA) segments. These products are designed to solve a pervasive, but little understood problem in commercial computing - workflow automation and distribution.

TurboWorx Solutions

There is a general tendency to think about technical computing applications as stand-alone entities. However, most computationally intensive problems involve many distinct but interrelated steps, each requiring a different algorithm or application. The solutions to such problems are best visualized as workflows composed of discrete components linked by logical constructs (i.e., loops and conditionals such as if-then-else and do-while). Assembling the various components into a single logical solution and distributing the solution into a clustered computing environment is rapidly becoming an important focus

"As we evaluated technology solutions, it quickly became clear that TurboWorx's open, standards-based products best matched our business priorities — low cost of ownership, rapid deployment, and return-on-investment. As a result, TurboWorx has provided us with an invaluable technical solution that automates the creation and execution of complex workflows in our mixed compute environment."

Thodoros Topaloglou
Sr. Vice President of Scientific Computing and IT
MDS Proteomics, Inc.

in virtually every technical industry. Properly executed, the solution can become a true source of value creation for engineers, portfolio managers, researchers, and any other professionals who spend large amounts of time attending to individual components of a complete solution. Additionally, many processing steps involve successive iterations that can readily be distributed for parallel processing on separate nodes of a compute cluster. TurboWorx solutions include mechanisms for creating parallel versions of individual components of a workflow.

The value of TurboWorx's software is enhanced by the fact that the solutions are completely platform independent. The customer may choose to deploy the application in a

cluster of commodity-priced machines, a large mainframe environment, a UNIX network, or any mix that can be imagined. Additionally, the ability to optimize the use of existing hardware can dramatically reduce a customer's expenses. Moreover, TurboWorx software allows a large cluster of computers, regardless of the nature of the individual machines, to be utilized as a virtual supercomputer. Commercial applications benefit greatly from built in fault tolerant features designed to automatically move applications to new nodes in the event of a failure in the cluster.

Finally, TurboWorx's solutions are location independent. Solutions can be deployed in heterogeneous distributed computing environments and grids where applications are geographically distributed. GRID enablement is further enhanced by unique queuing mechanisms that assure the performance of solutions that are distributed across networks that display variable performance.

TurboWorx's technical value proposition is based on five key features:

- ◆ The interface allows customers to easily create and manage complex workflows that integrate diverse applications and data;
- ◆ Solutions are composed of distributed workflows across heterogeneous computing environments including GRIDs;
- ◆ Intelligent routing of data and applications to unused compute resources is a core component of the underlying technology;
- ◆ End-users experience lightning-fast computing speed by utilizing the resources of the entire organization and without requiring end-users to know which servers run their applications and where their data physically resides;
- ◆ TurboWorx provides uncompromised flexibility for Power Users while allowing IT organizations to maintain control over enterprise resources.

TurboWorx's Business Strategies

TurboWorx's strategy is primarily based on leveraging unique high value intellectual property to create true business value in a rapidly growing segment of the computing market. This strategy is a stark contrast to other small software companies that typically strive to provide a "better" solution to an already well-understood problem in a crowded marketplace. This strategy is critical to the company's success because it allows TurboWorx to level the playing field with respect to large competitors who are capable of deploying tremendous resources to solve a particular problem.

In the software industry it is often the case that a small company with a new idea suddenly and unexpectedly finds itself eclipsed by a much larger vendor. Not surprisingly, large IT vendors often establish relationships with small companies with the intent of identifying promising markets and technical opportunities. Such relationships represent a double edged sword because while providing the smaller business partner with access to the reach and business power of the larger entity, the relationship also creates business exposure. TurboWorx avoids this exposure by bringing intellectual capital to the relationship that cannot be easily replicated by any size organization.

About TurboWorx, Inc.

TurboWorx provides the only integrated, end-to-end solution for creating, managing and accelerating compute- and data-intensive applications and workflows in heterogeneous distributed computing environments and grids. For more information, please contact Saq Alladin, Director of Business Development, TurboWorx, Inc., at 203-944-0460 x406 or alladin@turboworx.com.

slice through business problems, automate complexity
visit www.TurboWorx.com for more information

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