



PUND-IT, INC.

MARKETPLACE UPDATE

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IBM's Technology Collaboration Solutions (TCS)

Driving Innovation Industry By Industry - Focus: Medical Devices

By Charles King

During the past half decade the IT industry has experienced significant changes in the way solutions are developed and delivered to market. Some of these shifts have stemmed from vendors' efforts to sustain or increase market share, while others have resulted from continuing industry consolidation trends. But the most profound changes have arisen from the continuous evolution of technologies which has, in turn, led to increasingly capable yet also increasingly complex solutions.

As a result, IT vendors and developers find themselves firmly behind a go-to-market eight ball; to remain competitive they must deal effectively with ever more complicated processes and technologies, yet to do so requires increased effort, education, and investment. Partly in response to this dilemma, IBM has focused increasingly on what the company calls collaborative innovation; a development framework supported by IBM and a wide variety of its partners and customers. One of the best examples of this approach is the company's Technology Collaboration Solutions (TCS) organization.

IBM TCS – New Ways of Working

Part of IBM's Systems and Technology Group (STG), TCS integrates employees and solutions from the company's Microelectronics, Technology Development and Manufacturing, OEM Component Sales, STG Intellectual Property, Next Generation Telecommunications, and Engineering and Technology Services (E&TS) organizations. According to IBM, the group reflects the critical role R&D plays in driving business growth, as well as a major shift toward collaborative innovation in developing new solutions. The company designed TCS to help customers gain access to the IBM digital technologies and integration teams that can help them compete and win in emerging markets.

According to IBM, TCS offers clients some particular value opportunities:

- **To address real client concerns** – As IT becomes ever more powerful and complex, it becomes increasingly difficult for developers to establish or maintain a competitive edge. TCS allows IBM clients to leverage their existing skills with IBM's insight and leadership across a range of existing and emerging technology products and services.
- **To help clients collaborate with IBM** – TCS engagements are designed to deliver maximum advantages to customers by helping them to collaborate with the IBM organizations that best fit their needs. As a result, customers can rethink and reinvent their R&D operations and the products they bring to market.

- **To leverage IBM assets and expertise** – Technical specialization provides the basis for great solutions, but it can blind companies to emerging opportunities. By providing easy access to a wide variety of IBM services and solutions, TCS can help customers drive innovation in both existing and new products and services.
- **To engage with clients above and beyond the datacenter** – Increasingly, technology is enhancing and differentiating products and services well beyond traditional bounds of IT, which translates into vast new opportunities for solution developers. IBM intends TCS to help the company align with clients, partners, and channels in the development, distribution, and manufacturing of new products.

Innovating with TCS – Medical Devices

How do TCS engagements work in the real world? Here are two examples that demonstrate how TCS efforts aided IBM clients in the medical device industry.

Mayo Medical Ventures

Mayo Medical Ventures develops commercial solutions from research conducted at the Mayo Clinic in Rochester, MN. In 2002, the group began working on a new generation of compact Magnetic Resonance Imaging (MRI) devices to create high resolution images of wrists, forearms, elbows, hands, and fingers. Named Mayo Clinic BC-10 MRI Coils, these units can help improve diagnosis of injuries and diseases, in some cases eliminating the need for invasive procedures such as arthroscopy. Mayo has used the coils clinically to diagnose cartilage degeneration, nerve compression, ligament injuries, tendon abnormalities, tumor detection, bone injuries, and scarring within the wrist.

Mayo engaged IBM TCS engineering teams to help create a production level of the Mayo-developed prototype device, with the goal of improving the MRI experience for patients and technicians by offering a line of state of the art solutions available for use outside of the Mayo Practice. Some of IBM's design changes offered swift, practical rewards; adding viewing windows in the sides of BC-10 made it easier for technicians to align the coil with the affected anatomy. IBM manufactures the BC-10 MRI Coils in Rochester, MN, and they became commercially available in early 2004. Revenues realized from their sale support Mayo's clinical practice, medical research, and education activities.

Medtronic, Inc.

Based in Minneapolis, MN, Medtronic develops and markets a range of medical devices for use in areas including cardiac rhythm management, neurological, spinal, and ENT surgery, cardiac surgery, and vascular procedures. Medtronic contracted with IBM TCS for help in designing the CareLink programmer, a specialized computer used to communicate with implanted cardiac devices such as pacemakers, defibrillators, and cardiac resynchronization devices. In a clinic or hospital, a doctor or nurse can use a CareLink programmer to collect device data for analysis. If necessary, a doctor can use the CareLink programmer to adjust how the implanted cardiac device works.

Though Medtronic was well versed in designing successful cardiac devices, it wanted to improve upon its programming platform that allowed clinicians to review data in real time. IBM co-developed and designed the CareLink programmer with Medtronic, with the company maintaining critical control of the process to ensure the health and

safety of patients, and to make certain that regulatory processes and requirements were met correctly. After wrapping development of the CareLink programmer, Med-tronic engaged IBM to manufacture critical components of the new system.

Mission Accomplished?

Significant changes have altered the way IT solutions are developed and delivered to market, but the most profound changes have arisen from the continuous evolution of technologies, resulting in increasingly capable yet also increasingly complex solutions. Partly in response to this, IBM has focused increasingly on collaborative innovation; a development framework exemplified by the company's Technology Collaboration Solutions (TCS) organization. TCS helps company customers leverage IBM services, skills, and digital technologies for the development of new, innovative solutions.

IBM TCS is pioneering new ways of working with clients, changing static development practices into dynamic, innovative collaborations. TCS provides a wide variety of offerings that can be tailored to fit customers' individual projects or needs. From a practical standpoint, these efforts can help IBM customers better integrate technologies, reduce costs, cut time to market, and identify growth opportunities. As a result TCS efforts have helped a host of satisfied customers develop and deliver to market highly innovative, competitive commercial products. If organizations are considering how best to use digital technologies to gain competitive advantage or expand into new markets, we believe they would do well to investigate IBM's Technology Collaboration Solutions.

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