

CSC

WORLD

ASIA'S UNFOLDING MARKETS

INSIDE

Financial Services Evolve

Defining Your Mobile Strategy

Energy-Efficient Data Centers

SAP in Practice



The CSC logo is a red square with the letters 'CSC' in white, positioned in the top left corner of the page. The background of the entire page is a photograph of a weather vane against a blue sky with clouds. A large blue diagonal shape is overlaid on the left side of the image, containing the main title text.

CSC

DOING BUSINESS IN THE CLOUD WHERE TO START?

Most large organizations can benefit from selective use of the cloud. But where? As the world's leading independent information technology services company we can help you reach the right decisions to make the shift to cloud computing successful. [CSC.COM/CLOUD](https://www.csc.com/cloud)

BUSINESS SOLUTIONS
TECHNOLOGY
OUTSOURCING

**SENIOR MANAGER
EDITORIAL SERVICES**
Theresa Nozick

SENIOR EDITOR
Chris Sapardanis

CONTRIBUTING WRITERS
Jim Battey
Beth Mallino
Jenny Mangelsdorf

CREATIVE DIRECTOR
Terry Wilson

DESIGNER
Deric Luong

ASSISTANT DESIGNERS
Kelly Dare
Marketing Shared Services — P2

EDITORIAL/SUBSCRIPTION OFFICE
2100 East Grand Avenue
El Segundo, CA 90245-5098 USA
world@csc.com

CSC
www.csc.com

THE AMERICAS
3170 Fairview Park Drive
Falls Church, VA 22042 USA
Tel: +1.703.876.1000

EMEA
Royal Pavilion
Wellesley Road
Aldershot, Hampshire GU11 1PZ
United Kingdom
Tel: +44(0)1252.534000

AUSTRALIA
26 Talavera Road
Macquarie Park NSW 2113
Australia
Tel: +61(0)2.9034.3000

ASIA
20 Anson Road #11-01
Twenty Anson
Singapore 079912
Republic of Singapore
Tel: +65.6221.9095

CSC WORLD (ISSN 1534-5831)
is a publication of
Computer Sciences Corporation.

Copyright ©2010
Computer Sciences Corporation
All rights reserved.
Reproduction without permission
is prohibited.

Comment on what
you've read in CSC WORLD.
E-mail us at world@csc.com.
Or write:
CSC WORLD
2100 East Grand Avenue
El Segundo, CA 90245-5098 USA

Inside CSC World

With Asia now owning some of the world's largest economies, multinational firms are hoping to capitalize on its diversity and growth potential. One area of growth is the insurance sector, where consumers increasingly prefer to do business online, forcing insurers to modernize their business processes.

CSC has been supporting insurance providers in Asia for more than 25 years. Today, we're working with both large, established companies as well as newer firms trying to gain market share. In our cover story, we look at Asia's developing insurance market and then spotlight two, diverse clients.

MetLife, the No. 1 life insurer in the U.S., is fighting its way out of the middle of the pack in India using our LIFE/Asia software. In Japan, Lifenet Insurance Vice President Daisuke Iwase explains how recent deregulations in the Japanese insurance market led to the creation of that country's first independent life insurance company in 74 years.

Mobile phones vastly outnumber personal computers in Asia, and mobile devices are experiencing rapid enterprise adoption worldwide. Our focus on mobility in this issue begins with csc.com Site Architect Chris Marin, who has been actively taking our corporate site into the mobile domain, creating mobile apps for various devices. "Defining Your Mobile Strategy: A Guide to Developing Mobile Apps" provides insights and recommendations for those just starting down the mobile path. An article from our Mobility Practice discusses the Apple iPad's potential usefulness in the enterprise and a case study explains how a BlackBerry Mobile App will help transform the hotel experience for Starwood Hotels' guests.

We do amazing things at CSC, and this year our Chairman's Award for Excellence once again celebrates the very best. We profile each of the 2010 winning projects, which are improving the timeliness of trains, repairing space telescopes, creating eco-friendly business models, transforming retail, helping offices go paperless and moving data centers into the cloud.

This issue's Green Corner focuses on our feature-rich product lifecycle management solutions for engineering and manufacturing clients. With our global alliance partners IBM, Dassault Systèmes and Siemens, we are providing cutting-edge and power-cutting data centers.

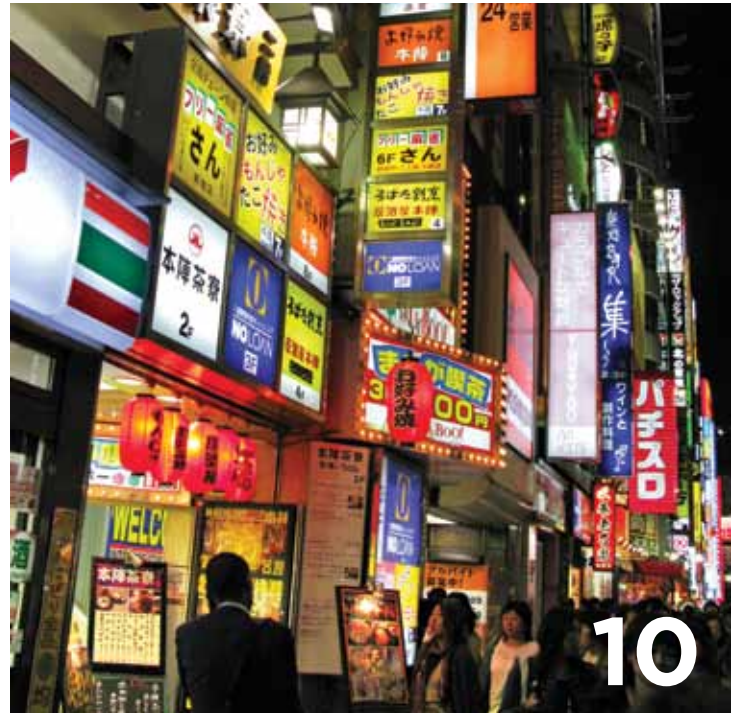
Two examples of another key alliance relationship are presented in this issue's In Practice section. We profile transformative projects completed for telecoms company iBasis and printing giant Agfa Graphics using SAP.

Lastly, the Summer 2010 issue of *CSC World* is proudly our first 100-percent digital issue of the publication. For your convenience, we invite you to download this issue to your Amazon Kindle or Apple iPad or sign up to receive every issue automatically via e-mail at www.csc.com/subscribe.



As always, you can find us at www.csc.com/cscworld and please e-mail your comments or questions to world@csc.com.

Theresa Nozick
Editor, *CSC World*



COVER STORY

4 Asia's Unfolding Markets: Financial Services Firms Vie for Stronghold in Emerging Economies

As the world's economies recover from the global recession, more eyes are turned to Asia's diverse markets and growth potential.

8 MetLife India Seeks Its Way Out of the Crowd

As the No. 1 life insurance company in the U.S., MetLife is using our software to establish itself as a major player in the booming Indian economy.

10 Online Insurer Breathes New Life Into Market

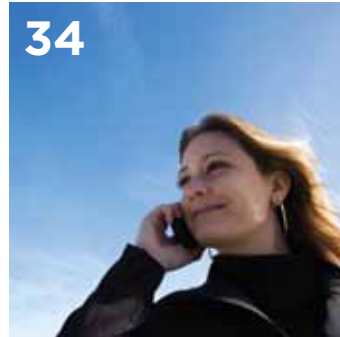
Japan's life insurance market is changing and online-only providers like Lifenet are well positioned to offer fresh choices for consumers.



22



34



ON CSC.COM

Our 6,000 dedicated SAP consultants have completed 2,000+ SAP implementations in 50 countries. Learn more at www.csc.com/SAP.

We're ranked #5 in *Fortune* magazine's list of the world's most admired IT companies. Our frequent awards and recognitions are listed at www.csc.com/awards_rankings.

Our Unified Communications as a Service (UCaaS) solutions help companies innovate the way they conduct business. Get more information at www.csc.com/ucaas.

Join the conversation about achieving meaningful use of electronic health records at www.csc.com/meaningful_use.

FEATURES

13 We Do Amazing Things: 2010 Chairman's Award for Excellence

Our people are everywhere, improving the way we work, travel and look to the stars. Each year, we recognize our very best.

19 The Eye of the Beholder: How to Bring Innovation to Clients

We're pushing the boundaries of what's possible in technology and delivering that creativity as practical business solutions for our clients.

22 People Power: Tailoring Your Business to Attract 'Gen Next'

Every generation is highly valuable to an enterprise. But it's the "Millenials" who are forcing us to rethink what makes a workplace work.

FOCUS ON MOBILITY

24 Defining Your Mobile Strategy: A Guide to Developing Apps

Mobile is no longer something you can ignore. This guide will help you make the right choices and have a chance at success.

28 iPad for the Enterprise: Is the Time Right?

The iPad's primary focus is on consumers, but there's growing interest in how this device's potentially rich applications and usability could benefit vertical markets.

32 Starwood Mobilizes Hotel Experience With BlackBerry App

As one of the world's leading hotel companies, Starwood aims to have a presence on all leading mobile platforms and social media networks.

IN PRACTICE: SAP

34 Telecoms Company Calls for Global SAP and Cloud Capability

A smooth-running financial system is critical for global operations at iBasis, which benefits from our SAP competency and Trusted Cloud Services.

36 Printing Giant Innovates Processes With SAP

Agfa Graphics' just-in-time processes required a dynamic new SAP solution that guaranteed timely delivery to clients worldwide.

BY THE NUMBERS

38 2010 A&D Survey: Innovate or Perish

Results this year show that aerospace and defense firms must expand into new markets and reshape their workforces to succeed.

THE GREEN CORNER

40 CSC and IBM: Cutting Edge, Cutting Power Use

The need for Green IT solutions is on an upswing. Our product lifecycle management solutions improve engineering productivity while lowering overall energy costs.



ASIA'S UNFOLDING MARKETS

FINANCIAL SERVICES FIRMS VIE FOR STRONGHOLD IN EMERGING ECONOMIES

by Cal Harrison

As the world's economies recover from the global recession, more eyes are turned to Asia than ever before. Multinational companies see this diverse market with more than 3.8 billion people as a key growth area for years to come. While incomes rise and Asian countries open their markets to competition, demand for banking, investment, insurance and healthcare services is unfolding.

“Asia was certainly not immune to the global downturn, but there are signs that it is recovering faster than the rest of the world,” says Doug Benfield, managing partner and vice president of CSC's financial services organization in Asia. “While Asia has mature markets such as Japan and Hong Kong, where the market has been slower to recover, it also has emerging markets such as India, Singapore, China and Vietnam that are attracting a great deal of interest.”



Hong Kong is attracting financial firms.

Following the money

One clear indicator of that interest is the increasing merger and acquisition activity in the financial services sector. AIG, under pressure to pay back a \$180 billion U.S. government bailout, entered talks to sell its two international subsidiaries. MetLife is set to close on its \$15.5 billion deal to buy AIG's Alico, one of the world's largest life insurance companies with operations in Asia, Europe and the Americas. MetLife CEO C. Robert Henrikson described the deal as "a terrific opportunity to extend our lead and power in the marketplace worldwide."

Meanwhile, AIG's UK-based rival Prudential bid on another AIG subsidiary, AIA, but backed out of the deal when the two boards couldn't agree on the \$35.5 billion asking price. Instead, AIG chose to spin off AIA, now expected to be Hong Kong's largest-ever initial public offering. Another European insurer, Zurich, recently announced plans to expand its footprint in Asia, in Malaysia and Indonesia.

"These companies are simply following the money," notes Cyrus Daruwala, managing director of IDC Financial Insights, Asia Pacific region. "Instead of putting their money in mortgage derivatives or other exotic vehicles, people are investing their money in financial services, healthcare and agriculture — the real growth markets in Asia Pacific."

A fragmented market

Throughout most of Asia, there is plenty of room for competition for new business. While the region accounts for more than 60 percent of the world's population, insurance penetration is extremely low — accounting for less than .25 percent of global insurance market share and less than five percent of gross domestic product for Asia's developing countries, according to a 2010 study by AM Best. The amount of property covered by insurance is miniscule compared to Western practices. For example, losses in Indonesia from the devastating Indian Ocean earthquake in 2004 were estimated at \$4.5 billion, but the insured loss was only about \$500 million.

Despite the relatively low demand for insurance, in 2007 Indonesia was home to 94 registered nonlife insurers, with the top five players controlling only about 40 percent of the market, according to AM Best. That fragmentation is what makes developing countries in Asia attractive to new entrants.

"The multinationals entering these markets have an advantage in terms of technology and speed to market, and in many cases, they start doing business in these countries under a joint venture with locally owned companies," says Prakash Thomas, CSC's vice president of financial services sales and marketing in Asia. "This technological advantage helps large carriers introduce much more innovative products that the local companies have a hard time competing against. The biggest obstacle for these new players is getting regulatory approval, which tends to level the playing field."

Tapping in to the mobile channel

In Asia, where mobile phones vastly outnumber personal computers, financial services firms are looking for ways to exploit the mobile channel for selling and servicing insurance and investment products. Unlike Western consumers, who are more likely to buy from three or more different companies, Asian consumers are more likely to purchase a bundled product — such as a healthcare plan, life insurance, and motor vehicle and liability coverage.

CSC'S ABILITY TO SUPPORT THE EXPANDING MOBILE CHANNEL STEMS FROM MORE THAN 25 YEARS OF EXPERIENCE IN ASIA AS ONE OF THE REGION'S LEADING PROVIDERS OF INSURANCE ADMINISTRATION SYSTEMS.

"While most business is distributed through banks, captive agents and brokers, a growing number of consumers are beginning to use mobile phones to perform a wide range of transactions," Thomas says. "Those customer expectations are putting a lot of pressure on the financial services industry to modernize and take advantage of the mobile channel."

In fact, CSC is supporting a leading Asian insurer with a proof-of-concept for a comprehensive suite of mobile insurance apps that would give policyholders the power to view policy information, pay bills and apply for new coverage. It would also give agents the ability to manage new business and ongoing customer support. An innovative aspect of the plan is that these key insurance functions can be accessed by agents using just a \$50 mobile phone.

CSC's ability to support the expanding mobile channel stems from more than 25 years of experience in Asia as one of the region's leading providers of insurance administration systems. Today, these core systems process more than 100 million policies in nearly 40 countries, for a client base of almost 150 companies in Asia and Europe.

We combine our understanding of underlying systems with the ability to help organizations develop comprehensive mobile strategies, create mobile apps and manage the entire infrastructure.

Rapid expansion capabilities

Financial services companies in Asia are focusing on a growing middle class looking for protection and investment opportunities. Most of these new investors are highly risk-averse, so insurers must respond quickly to this growing demand with simplified products that have a guaranteed return on investment.

To support the need for rapid growth and bundled products, this year we introduced Integral™, a portable Java-based system that supports multilingual and multicurrency processing for life insurance, pensions, property and casualty/general insurance and group insurance. Integral's development was a collaborative effort among CSC's operations in India, China, Vietnam and the United States.

"Speed is essential to companies moving into a new country," says CSC's Benfield. "As soon as they get regulatory approval, they need to be able to issue policies, build a distribution network and demonstrate compliance. Integral is ideally suited for a wide range of situations — multinational firms seeking a single platform for international operations or domestic insurers wanting to launch a new product quickly or set up a new venture without disrupting their existing operations."

Serving the vast Islamic market

Another major potential growth area in Asia is Takaful banking and insurance. Takaful, the only type of financial transactions allowed by the Islamic religion, is gaining popularity in Islamic regions of Asia. Indonesia, in fact, has the world's largest Muslim population. Overall, an estimated 62 percent of the world's Muslim population lives in Indonesia, China, India, Pakistan and Bangladesh.

Under Islamic teachings, Muslims must avoid gambling and the risk posed by interest fluctuations. At a Takaful company, policyholders are member-owners, similar to Western mutually owned companies, except that principal and interest calculations are replaced with subscription and profit-sharing calculations.

To ensure they adhere to Islamic teaching, insurance products must be formally approved by a group of religious leaders, called a Shari'ah Board, which designates compliant products in the marketplace. The underlying insurance system is key to creating successful Takaful products. CSC has already implemented Shari'ah-compliant systems for seven different companies, and in one case completed the implementation in just eight weeks.

"It's crucial for systems to be highly flexible because of the need to tailor financial products to consumer preferences," Benfield says. "Companies that can deliver the right products at the right price — and are easy to do business with — will be the winners in this market." ■

CAL HARRISON is manager of editorial services for CSC's Financial Services Group.



METLIFE INDIA SEEKS ITS WAY OUT OF THE CROWD

by Chris Sapardanis

With the world's second largest population and a booming economy, India is fertile ground for business. It's been a little more than 10 years since the country opened its insurance sector to private companies, and firms of all sizes have set up shop in this vast, mostly untapped market.

Prior to the global economic downturn, annual growth rates of around 15 percent made India the fifth largest insurance market in the world. The country's biggest life insurance company is still owned by the Indian government, but other players are quickly garnering their own piece of this \$16 billion market.

Among the two dozen major firms in India is MetLife, Inc., which through its affiliates reaches more than 70 million customers in the Americas, Asia Pacific and Europe. But despite being the No. 1 life insurer in the United States, the company is in the middle of the pack in India and essentially has started from scratch to build its local business.

Entering the Indian market

Incorporated in 2001 as a joint venture between MetLife International Holdings, Inc., and private investors, MetLife India is evolving into a strong brand, operating through a diversified distribution approach. It serves customers by offering a range of products to individuals and groups at more than 600 locations through its bank partners and company-owned offices staffed by more than 50,000 financial advisors.

"We're positioned as a long-term player," says MetLife India Managing Director Rajesh Relan. "Our vision is to be the most formidable player in the Indian life insurance industry, and to grow faster than

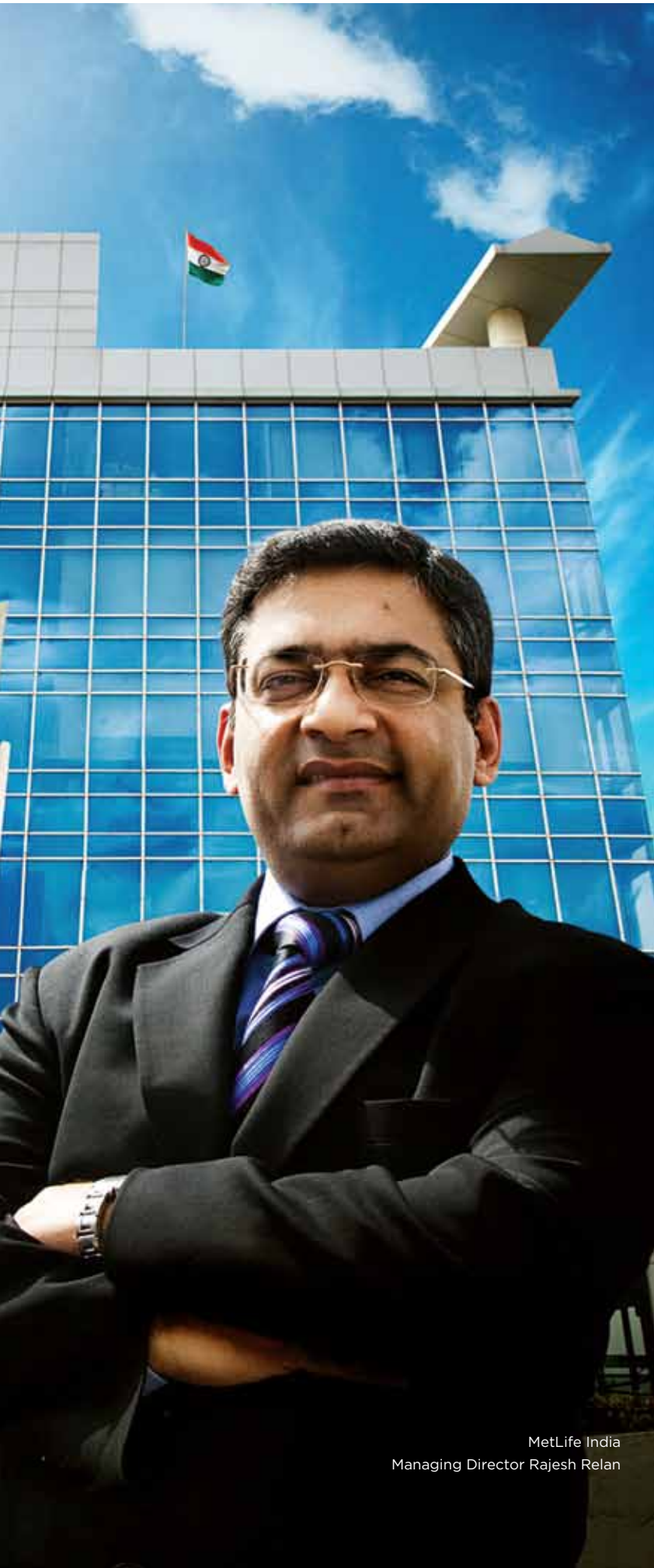
CLIENT: MetLife India

CHALLENGE: Replace an unstable core policy administration system with a solution that supports new product launches and growth objectives and provides better auditing controls and customer support.

SOLUTION: CSC's LIFE/Asia, the most recognized online, real-time life administration system in Asia.

RESULTS: Improved employee morale and customer service, and new product support and other robust system capabilities have lifted MetLife to the top five fastest growing insurance companies in India.





MetLife India
Managing Director Rajesh Relan

the industry. The strategy is to clearly establish ourselves as India's trusted life insurance specialist, with a brand that stands for peace of mind, financial strength and fair dealings with the customer."

Upon joining the company in 2006, Relan was faced with a core policy administration system that had a number of shortcomings, including a limited ability to sell or change products, and numerous bugs, defects and auditing issues. The system, designed in Portuguese by a firm in Brazil, also lacked direct vendor support, which frustrated MetLife's employees. In 2007, they began planning to replace it and the following year selected CSC's LIFE/Asia software.

"LIFE/Asia was being used by some of the other large players in the country and that showed it was a best-in-class product," Relan says. "There also was on-ground support from CSC and readily available India-specific functions."

Launching a new legacy

Once LIFE/Asia was selected, CSC moved one million policies from the old system to the new with no major issues, giving MetLife a fully functioning and well-supported operating platform on which to grow its 140-year-old global brand in the Indian market.

LIFE/Asia has around 150 installations in nearly 40 countries. In India, LIFE/Asia has more than 50 percent of the market share among private life insurers. It helps manage all aspects of policy administration, introduces new lines of business, sets up new distribution channels and provides an architecture that enables the integration of disparate systems with an overall IT infrastructure.

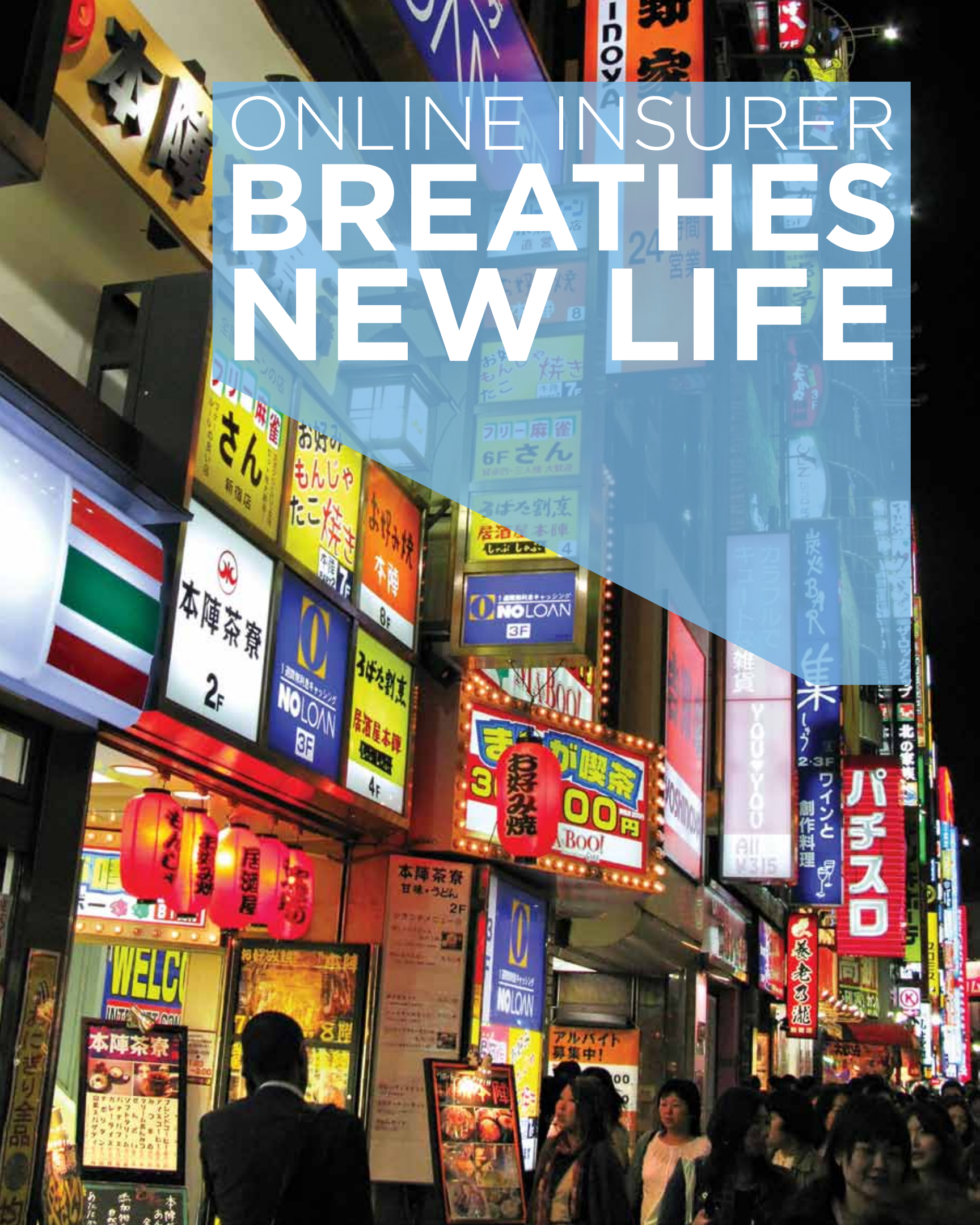
The launch at MetLife India boosted employee morale. Trust was established between agents and customer service representatives and the shaky audit controls of the past were replaced by those soon noted as a best practice for the company.

"If you look at it from all stakeholders, whether it's the employees, agents or our counterparts in the United States, there's been a complete turnaround in thinking about MetLife India," Relan says. "There is a general sigh of relief in terms of working with this system. The product is robust, scalable and the volume is handled. Anything that we've wanted to get done, like setting up new products, is much easier than it was before. All of those things give us confidence."

Since the system went live, MetLife has ranked among the top five fastest growing insurance companies in India, according to monthly reports. Prior to LIFE/Asia, the company traditionally ranked only in the top 10. ■

CHRIS SAPARDANIS is a senior writer for CSC's corporate office.

ONLINE INSURER BREATHES NEW LIFE



by Chris Sapardanis

INTO MARKET



"WE BELIEVE THERE'S HUGE POTENTIAL FOR EMERGING MARKETS TO LEVERAGE THE INTERNET."

— Lifenet Vice President
Daisuke Iwase

Japan is a world leader in high-tech innovation, but its life insurance industry has some catching up to do. The traditional method of selling life insurance through agents is regarded by many as inefficient, over-priced and old fashioned. Consumer needs are changing and they want less-complicated products.

Those best positioned to offer a fresh approach to consumers are the same companies that can take advantage of recent deregulation - new companies that aren't bogged down by legacy processes and paperwork. That's the plan for a group of seasoned insurance executives and entrepreneurs, who created Lifenet Insurance, Japan's first independent life insurance company in 74 years.

Lifenet is one of only two Internet-based life insurance companies in the country. The startup began in 2008 with \$130 million in venture capital and looks to chip away at major carriers' market share by offering simplified life insurance products.

For Vice President Daisuke Iwase, the founding of his company comes at a perfect time. He says premiums for comparable coverage in Japan are up to three times higher than in the U.S. or Europe. And the country's "exclusive" agents are not providing customers with enough relevant and competitive information to make decisions.

The Harvard Business School grad believes distributing life insurance directly over the Internet will solve many issues in the Japanese market. He recently discussed the insurance sector in Japan and how Lifenet benefits from working with our company.

What are your biggest challenges?

IWASE: Our business model seems very simple but everyone has been skeptical from the start about selling life insurance over the Web. While a lot of other financial markets have gone online, such as banking, brokerage, auto insurance, etc., for one reason or another that direct model has not applied to life insurance.

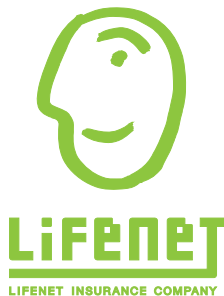
In addition to our initial challenge to raise enough money to start the business, we continue to confront the general consumer perception that life insurance needs to be bought face to face. Another challenge was getting licenses from the Japanese government. The last time a purely independent insurer (not a subsidiary of foreign or general insurance firms) was awarded a new license was in 1934.

After we got up and running, another major challenge was how to get known to the public. It's very difficult to raise awareness unless you spend lots of money on marketing. But we couldn't spend much because the whole idea was to cut costs.

How does CSC help you?

IWASE: At the end of the day, good products and services prevail. When we designed our products, they had to be inexpensive. We realized this by really thinking through the business processes and IT systems architecture and eliminating all the various expensive and complex features that traditional life insurance products have.

We're using CSC's package software called LIFE/J. By depending on CSC for our customer management system we can really focus on the Web interface and our internal work flow process that helps us accomplish a consumer-oriented and innovative approach.



In the beginning, we had a very short timeframe to meet our go-to-market target. We started an IT development project in August 2007 and were in business by May 2008. So we really had a limited amount of time to not only build a base system, but also the Web interface, which is the heart of the customer experience.

We needed a solution that could get up and running very quickly and had a good track record within the market. LIFE/J is almost a standard or 'de facto' application in the market among our peers. Many of our colleagues had joined us from our competitors and they were familiar with CSC and its software package and had good things to say about it.

From our perspective, in the Japanese market, working with CSC was the right decision for us and we've been very happy with the experience.

What are your company's growth plans?

IWASE: There will be opportunities to introduce new products and distribution channels and move into international markets. We believe in this online insurance model and in mobile insurance as well. We're very excited about looking to expand into international markets and we believe there's huge potential for emerging markets to leverage the Internet.

“EVERYONE HAS BEEN SKEPTICAL FROM THE START ABOUT SELLING LIFE INSURANCE OVER THE WEB.”

If you think about telecommunications companies, in many emerging countries they have bypassed building out landline communications and moved directly to mobile (wireless). It's similar in big countries like China or India where we could avoid establishing a physical sales agency network and go directly online or mobile and really rationalize that sales process. We're excited about those opportunities.

How can IT improve your business in the future?

IWASE: The life insurance industry is very labor intensive and faces challenges in increasing speed and customer satisfaction. In our case, the customer directly inputs their information on the Web and all that comes in directly to the system and is digitized. That saves so much cost, ensures accuracy, and customers don't have to wait for paper copies. They can directly access our Web site and their data and make changes if they need to.

In the case of the finance industry, all their products are very tangible so in a way finance companies can potentially rationalize business processes using IT. But because insurance is a long-term contract, it will be difficult for existing insurers to move everything online. They have existing contracts that go back five to 30 years that they have to administer using conventional paper processes.

I'm not saying everything should be digitized because there's a lot of value to the "human touch" aspect of the business. But managers can still look at the high value add of online processes to at least eliminate costly administrative work. ■

.....
CHRIS SAPARDANIS is a senior writer for CSC's corporate office.



WE DO AMAZING THINGS

2010 CHAIRMAN'S AWARD FOR EXCELLENCE

by Lisa Braun, Laura Szczybor and Theresa Nozick

Whether helping trains run on time, offices go paperless, or sending data centers into the cloud, CSC has been doing amazing things for clients for more than 50 years.

We put our ingenuity to work to create solutions that help clients solve technically complex, mission-critical challenges and provide future business opportunity.

Each year, we honor the more innovative projects by presenting the teams and individuals with the Chairman's Award.

"The Chairman's Award for Excellence recognizes the depth and breadth of innovation at CSC," says Michael W. Laphen, CSC's chairman, president and CEO. "These projects bring tremendous value to our clients, who look to CSC for ingenuity and efficiency in solving their mission-critical problems."

THE RECIPIENTS OF THE 2010 CHAIRMAN'S AWARD FOR EXCELLENCE HELPED OUR CLIENTS ACHIEVE ...

100% Digitization Automating Land Registration in Denmark



After using a paper-based land registry system in Denmark for more than 450 years, it was time to digitize the process.

Under the Danish Ministry of Justice, the Land Registry Court administers the registration of rights on all properties in Denmark, covering such things as ownership, deeds, easements, and mortgages. The system was time consuming, averaging two weeks processing time; managed a high volume (more than five million cases per year); and maintained an archive of 80 million paper documents. The information in the land registry books is legally binding and the Government of Denmark is liable and accountable for any mistakes.

The objectives of the project were to modernize and improve efficiency by digitizing 100 percent of the process, automating 60-70 percent of the process within five years, reducing costs, and improving consistency. A CSC team, lead by Ulle Tonne Bech, Hans Jayatissa, Henrik Korsbæk and Claus Ljunggren, developed eTL, the Danish digital land registry system.

The system is an important part of a large IT ecosystem that supports the property sales and mortgage sector in Denmark. It is integrated with a large number of public systems, including the Danish PKI infrastructure to handle authentication and legal signatures. Based on an event-driven service-oriented architecture, the system uses secure Web services for its internal and external portals to address the needs of its various stakeholders, including caseworkers, citizens, and financial institutions.

CSC developers kept the architecture design simple, creating a system that was easy to deploy and maintain. eTL is built almost entirely on open source technologies on the Java/JEE platform

using an Oracle application server and database. Through agile principles and a test-driven approach, the team have ensured a constant high quality of the produced code.

The workhorse of the eTL solution is its core engine, which handles legal decisions for 80 different types of cases, each of which had its own paper-based process.

Deployed on September 8, 2009, eTL has successfully met the project's outlined objectives. With eTL's automation, self-service features and reduced process time (many cases are decided in milliseconds), Danish citizens are able to register rights on properties themselves and avoid costly lawyers' fees and the need for interim financing. With online access to a single source of land registry information, citizens can also subscribe to the system to track a specific property.

The eTL system is a core part of the property sales and mortgage sector in Denmark. To take advantage of eTL, the Danish financial sector created a central hub, e-Nettet, to handle land registration data shared by the banks and eTL. eTL has also enabled the financial sector, like Denmark's citizens, to be more self-sufficient, taking over certain work previously done by lawyers.

With the eTL project, the Danish government has made a tremendous breakthrough in its global digitization strategy and has vastly improved service for its citizens.

Space Telescope Repairs

Applying Innovative Software Processes in Orbit

The Hubble Space Telescope (HST) has been transmitting fantastic images of the cosmos for more than 10 years. But in January 2007 its flagship camera, the Advanced Camera for Surveys, suffered a power failure. CSC team members of the HST Payload Flight Software Team, including I-Ming (Annie) Chien, Dennis Garland, Michael Kelly and Wendy Lindboe, were key contributors to the design, development and testing of the flight software needed for the repair, which was the first on-orbit board-level repair by a NASA crew.

The camera repair was added to the already planned Service Mission 4 (SM4) scheduled to launch in May 2009. To meet the mission deadlines, the CSC team based at NASA Goddard Space Flight Center, designed, developed and tested the software in eight months, a dramatically compressed schedule with no room for error. Further, two new instruments being installed as part of SM4 had been designed to complement the camera, elevating the need for a flawless repair.

Our team applied well-established software processes to what was originally viewed as a hardware problem, modifying the processes and changing from the traditional waterfall model

that historically has been used for flight software to a rapid prototyping approach.

A major part of the repair involved interfacing the camera to a new application-specific integrated circuit (ASIC). The work also involved the integration and testing of field programmable gate array technology. These technologies represent an innovative advance in space flight hardware because they can replace custom hardware with software, which is much faster and less expensive to create.

The CSC team treated the ASIC as a flight software change in order to verify its compliance with proven space flight system integration processes used at Goddard. This shortened the system integration effort significantly while ensuring quality.

As a result of the combined efforts of the CSC team, the mission crew, and the scientists and engineers at the Space Telescope Science Institute and Goddard, Hubble's main camera is now able to provide more than 80 percent of the scientific observations for which it was designed.

An Online Presence

Positioning the Leading Web Merchant in France

French retail giant Fnac faced economic and market pressure to have a stronger online presence. It wanted its online shoppers to benefit from what was best in its brick-and-mortar stores: sales expertise and customer service.

In 2007, Fnac turned to CSC to help design and implement an Internet transformation program. We had already helped them build and launch their online music distribution service on Fnac.com in 2004. Now, the transformation program would align capabilities between Fnac's 149 stores and Fnac.com. After three years, the program has positioned Fnac.com as the leading Web merchant in France in terms of traffic. Our team consisted of Laurent Atlani, Joseph Tempier, Ali Haghypour and Frédéric Bouin.

The transformation program had three thrusts: a new business model based on an online marketplace strategy, the switch from being product- to customer-oriented, and international deployment.

Fnac was the first non-pure-Web company to open an online marketplace for third-party sellers. Today some 6,500 sellers offer roughly 2.4 million products on Fnac.com's MarketPlace, which was launched in May 2009. People can make purchases from the Web, a store, or their mobile device.

Fnac is harnessing the customer information captured via the Web to customize offers, promotions and recommendations on Fnac.com as well as enrich the customer's in-store experience. To this end, "My Fnac" was launched in October 2008 to give customers a personalized experience and to enable the company to define customer segments and create targeted offerings.

An international platform was created from the French solution and rolled out to Italy, Spain and Portugal, with plans for rollouts in Brazil, Belgium, Greece, and Switzerland. The core system had to be designed to plug rapidly into any local logistics back-office system. Italy and Spain are reporting strong improvements in sales and order handling.



A Sustainable Business Model

Turning a Recycling Program into a New Customer Offering



It's widely reported that the majority of people worldwide keep their old mobile phones, even if they don't use them. French telecommunications company Orange recognized this inefficiency as a huge opportunity. With CSC, it set out to transform its process for collecting old phones into a revenue-generating, environmentally friendly proposition.

The Eco Orange program is providing a second life to mobile handsets, while also helping improve customer loyalty, increase their purchasing power, provide eco-friendly benefits, and enable developing countries to obtain inexpensive mobile phones. The customers benefit by either paying less for a mobile replacement or by upgrading their mobile device to a superior model.

Eco Orange was developed within Orange Care, a new end-to-end portfolio of care services for customers, from the time they purchase a device to when they retire it. With this program, Orange has improved customer satisfaction and decreased its environmental impact, all without affecting its operational margins.

A CSC team, including Jean-Vincent Cazaux, Sébastien Marie, Maryna Fedrigo and Olivier Douville, designed the Eco Orange concept and managed its implementation and the required reverse logistics. The program used a standardized system applicable to multiple countries (the program was launched in eight European countries simultaneously), and the process included the whole value chain. Orange was intent on being a leader and proving that new, inventive actions were possible on a massive scale.

The Eco Orange concept is to collect old mobile phones and laptops from users, whether Orange customers or not. If the item is in poor condition, Orange recycles it. If it's in good condition, Orange issues a credit voucher that customers can use, in Orange shops, toward the purchase of a new mobile phone or another item.

The recycled phone is sold for parts or, if in good condition, refurbished and resold. Money from parts sold goes to charities like the World Wildlife Fund. Refurbished phones are sold to developing countries through brokers.

Eco Orange combines economic efficiency, social equity and environmental protection in a sustainable business model. The solution can be applied in any country with minimal modifications; it can be extended to other telcos, the retail sector, and organizations that have products that can be recycled.



A Next Generation Data Center

Launching NASA Into the Cloud

NASA's Jet Propulsion Laboratory (JPL) was out of data center space and CSC helped them determine the cost of building a new 10,000-square-foot data center would be \$40 million. JPL needed an alternative, cost-effective approach to keep up with continued exponential growth in computing demand.

CSC had already led a virtualization effort at JPL to maximize the compute capacity of existing data center floor space; now it was time to take the next step, to cloud computing.

JPL partnered with CSC to understand cloud computing and embark on a journey that has led to establishing JPL as a cloud leader in the U.S. federal government. The goal was to not only solve the compute capacity problem, but do more with less, enabling more of JPL's budget to be focused on NASA's missions of space exploration and climate change research and less on IT.

This was the first time CSC had undertaken a cloud project with the complexities of a NASA environment. Our team of Virinder Dhillon, Neil Kronimus, Todd Lucas and Joseph Marphis drew on extensive experience and expertise in technical architecture, design, engineering, networking and security to devise a secure way to handle a federal customer who needs to be compliant with the Federal Information Security Management Act (FISMA).

As a result, CSC successfully demonstrated the use of trusted clouds in the federal sector and created a cloud solution for federal clients.

CSC's Trusted Cloud Services (powered by Terremark) provide JPL with compute, storage and network services. JPL is CSC's first customer for its highly secure Trusted Cloud environment, which meets JPL's stringent security requirements. The cloud is flexible and fast, enabling JPL to provision servers in minutes with a few mouse clicks. JPL can be more responsive to business needs, and only pays for cloud services used.

The cloud solution for JPL was the first cloud to meet federal compliance regulations for security, reliability and transparency. In addition, it was the first community cloud built using VMware virtualization technology, which facilitates easier migration from VMware-based enterprise data centers.

New capabilities were developed to provide a secure virtual private network connection between a community trusted cloud and private data center resources, to enable cloud bursting into a trusted cloud, and to use trusted cloud infrastructure as a disaster recovery site for continuity of operations planning.

Punctual Trains and Happy Passengers

Controlling the Swiss Rail System

A precise dispatching system designed and implemented by the Swiss Federal Railway (SBB) with CSC is helping them run like clockwork. The Rail Control System (RCS) was developed over four-and-one-half years by a team of about 100 rail and technology experts. CSC's Matthias Krista, Benedikt Soom, Frédéric Auberson and Gilles Iachelini played key roles in the architecture, business analytics and software implementation.

RCS is a powerful solution for analyzing complex interactions between trains and provides fast, accurate operational data to dispatchers, ultimately keeping trains on time and passengers satisfied.

RCS provides near-real-time information on the current operational status of approximately 2,000 trains, 3,000 kilometers of track, and corresponding switches and signals in the Swiss Federal Railways system. Overall punctuality has improved from 94 percent to 96 percent, making Switzerland the leader in international punctuality statistics.

With RCS, timetables can be denser, allowing more throughputs, and traffic forecasts are more accurate. This enables dispatchers to detect conflicts and reroute trains quickly. RCS is the only system of its kind that manages extremely detailed data, for a network the size of the Swiss railway, using sophisticated algorithms that deliver data updates to dispatchers within one second.

One of the chief innovations of RCS is more accurate forecasting. A specialized algorithm was devised for forecasting simultaneous train journeys for all trains, including a highly efficient method for calculating the networkwide impact of delays.

The system receives and handles several hundred messages per second from different peripheral systems (e.g., timetables, train position sensors), processes these messages within a fraction of a second, calculates train journey forecasts, and delivers the resulting changes to hundreds of railway dispatchers and customers.

To do this, RCS uses a fast, message-oriented architecture, data grid technology, and high-speed graphical user interfaces. Once messages from peripheral systems are received, they are forwarded to core server components, which handle several thousands of messages per second.

A temporal subset of the data is stored in an in-memory data grid. This unique design means that database queries can be substituted with high-performance object queries distributed across the grid. Queries are executed in parallel, improving performance by up to an order of magnitude versus a traditional database query. This "database on steroids" can be scaled up by simply adding compute servers at a fraction of the cost of an additional database server.

Data reaches the dispatcher at a workplace consisting of eight high-resolution monitors. The Java-based application provides the main functions for train dispatching. Monitors are powered by innovative client and graphical user interface software that processes and displays data in near real time. The software displays the results of intensive parallel processing of detailed business data, such as track occupancy data and connection timetables, and redraws up to 18.4 million pixels per second. ■



LISA BRAUN is a senior writer for CSC's Leading Edge Forum.
LAURA SZCZYBOR is communications and marketing manager for CSC's Leading Edge Forum.
THERESA NOZICK is senior manager of Editorial Services for CSC's corporate office.

THE EYE OF THE BEHOLDER

HOW TO BRING INNOVATION TO CLIENTS

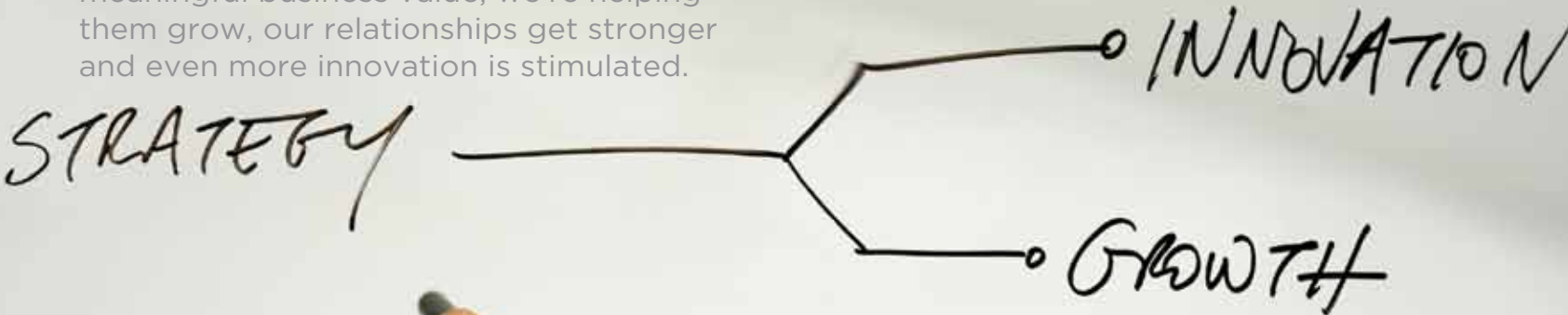
by Ann-Marie Johnson

The spirit of innovation has been a cornerstone of our company since its founding. We strive to bring value to our clients by pushing the boundaries of what's possible in technology and implementing that creativity in a practical business solution.

Innovation keeps us afloat and helps our clients be successful. When we deliver a creative solution to a client that brings meaningful business value, we're helping them grow, our relationships get stronger and even more innovation is stimulated.

But it isn't easy. Throughout CSC, there's a conversation happening. It's about finding your innovation style, measuring it and maximizing the tremendous range over which innovations can be developed.

Recently, leading executives representing different geographies, industries and accounts discussed how they bring innovation to their clients. Here's a snapshot of their approaches:



MANAGING DIVERSITY TO MAXIMIZE PROBLEM SOLVING

DAN HIMMERICH, consultant, solution guide and innovation leader for CSC's Financial Services Group.

Research tells us that different people perceive novelty differently and relate to innovation and change differently. These differences are at least partially "hard wired" into our personalities. The core work we do involves solving customer problems – problems that come in a variety of shapes and sizes. In order to ensure that we bring the best solution to our clients, we must pay attention to the most critical problem-solving tool in our arsenal – our minds – and we ought to understand a bit how our cognitive problem-solving processes work.

People are oriented to prefer certain styles of problem solving. Style preference for an individual is consistent over time, and can be observed, measured and classified. The likely outcomes of problem-solving teams can similarly be generally predicted – if you understand the style preferences of team members. By understanding the mix of problem-solving styles in a team, and orienting to the likely style preferences of the customer, a team leader can better align a solution approach.

For example, what if I had a client whose definition of innovation equated to creating minor improvements to existing structures (incremental change), but my definition of innovation equated to doing things entirely differently (radical change)? Then, innovation in my context would likely be perceived as too risky, and probably too "off the wall" to work (from the customer's perspective).

"IT BECOMES THE CHALLENGE OF LEADERSHIP TO ESTABLISH AND PRESERVE BROAD STYLE DIVERSITY WITHIN A TEAM, AND THEN TUNE THE TEAM TO PROBLEM SOLVE IN A WAY THAT IS MOST APPROPRIATE FOR THE CUSTOMER, AND FOR THE PROBLEM."

— Dan Himmerich

One typical challenge with problem solving teams involves the natural migration from broad diversity (in style) to less diversity in style. Team members whose styles are similar find it easier to communicate, work together and trust each other – thus, there's a natural tendency to recruit "people who are like me." However, "style-alike" teams also suffer from a reduced ability to solve problems that require solutions that fall outside their preferred approach. Problem-solving teams with an affinity for radical change can be very effective when "doing things differently" is the objective, but not so effective if "doing things better" is the goal.

It becomes the challenge of leadership to establish and preserve broad style diversity within a team, and then tune the team to problem solve in a way that is most appropriate for the customer, and for the problem.

IDENTIFY A DESTINATION AND TIMEFRAME

VINCENT POWELL, sales director for CSC in EMEA.

Everyone can have great ideas, but not all great ideas and innovations are worth keeping. Early on, you must identify how you will separate the ideas worth promoting from those you can filter out. You can do this by understanding how ideas satisfy accepted goals within a defined timeframe.

"INNOVATION IS NOT A RANDOM ACTIVITY, NOR IS IT AN ACTIVITY PERFORMED ALONE. SUCCESSFUL INNOVATION REQUIRES A SYSTEMATIC APPROACH DIRECTED BY SOME CLEAR GOALS AND TIMELINES."

— Vincent Powell

For example, getting a man on the moon was an incredible feat. But it began with John F. Kennedy, who said "I believe that this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the moon and returning him safely to the earth." This goal provided a clear framework for directing and accessing innovation efforts over a specific timeframe.

This "directed innovation" is innovating for a purpose, to achieve a goal where all parties understand the value and timeframe. Our business and our clients' business are tied by the value we create from the innovation we deliver. If we can share goals it's more likely we will be able to provide greater value to clients and greater value for our company from the innovation we identify.

Using timeframes can help with managing "off-track" innovation. This type of innovation involves experiences where you start out on a journey but end up somewhere unplanned. For example, the work surrounding the moon landing missions spawned thousands of spin-off innovations. Many technologies and everyday products that exist today are a result of that program, including computer processors, engineering software and powder drinks. While these may have contributed to the original goal, the value has been delivered through a different set of goals and timeframes. If we understand the goal (which may be different than the original goal) and timeframe, we can understand when best to pursue such innovation to maximize value.

A typical innovation cycle would be: Establish goals and timeframe for value; generate and identify ideas; filter and synthesize (combine ideas together); identify themes and expected value; incubate and test innovation themes; launch new innovation; obtain feedback (positive and failure); recognize and realize the return and; finally reward those involved.

Innovation is not a random activity, nor is it an activity performed alone. Successful innovation requires a systematic approach directed by some clear goals and timelines.

TAILOR THE RIGHT SOLUTION

BARRY FREEDMAN, CTO for the DuPont account and former chief technology officer for CSC's Aerospace & Defense group.

Innovation is important to our commercial A&D clients. IT is increasingly being used to promote innovation across their businesses, including reducing costs and waste, producing greater business speed and agility, and creating competitive differentiations in their end products.

Everyone should have an account innovation program where you identify stakeholders and get them involved. It takes creativity to make innovation a part of your account's DNA, so it's important to develop a repeatable innovation process. Every account has different complexities and needs to be approached differently. Pick and tailor something that works for you and your account.

We align our group's innovation efforts to meet our clients' needs. For example, we roll up account-based innovation activities into our A&D strategy and client plan, connect innovation with organic growth and new business initiatives, and host a monthly thought leadership series for our account management and clients, which showcases the kind of innovation that is important to our clients.

“EVERYONE SHOULD HAVE AN ACCOUNT INNOVATION PROGRAM WHERE YOU IDENTIFY STAKEHOLDERS AND GET THEM INVOLVED.”

— Barry Freedman

Internally, a working group of A&D peers regularly share innovation best practices from all accounts, present solutions that can be leveraged, and foster an innovation network among A&D CTOs and architects.

We try to include all our stakeholders in our innovation programs including our partners who actively support our A&D accounts. Understanding where they are driving innovation has helped us shape new service offerings that have delivered tangible value to our client base.

REVEAL THE VALUE

CHUCK MCCARTHY, CSC's program director for the innovation arm of the U.S. Department of Transportation at the Volpe Center.

We have a very complex operation, with more than 225 job orders, delivering software solutions with over 30 releases each weekend to our customer. Our approach to running an innovation program is to present it to our customers as part of a strategic plan.

“WE AUTOMATE THE WAY WE INTERFACE WITH OUR CUSTOMER, WHICH ALLOWS US TO MEASURE OURSELVES AND FURTHER IMPACT THE PROGRAM THROUGH INNOVATION.”

— Chuck McCarthy

Since what we see as innovative and what our customer finds innovative may be different, we build innovation directly into our process improvement programs and the customer eventually sees the benefits of that value.

An example of this approach is our enterprise program management system (EPMS) which is our project management system. The customer didn't initially see a value and was not inclined to invest in this approach, but in the end of implementation they couldn't live without the management reports it generated.

Our partners also play an important role in planning technical leadership and consulting. We have approximately 50 specialized partners on the program and we leverage their innovative organizations so our customer can have the best of all worlds.

Additionally, we automate the way we interface with our customer, which allows us to measure ourselves and further impact the program through innovation. ■

ANN-MARIE JOHNSON is director of strategic initiatives for CSC.

PEOPLE POWER: TAILORING YOUR BUSINESS TO ATTRACT 'GEN NEXT'

by Mark Milleker

For the first time in history, there are four generations in the workforce. A shaky economy has older workers postponing retirement and a dwindling skilled labor pool has younger ones being recruited on campus. The result is an increasingly complex working environment, in which leaders face management rules that are interpreted differently and not clearly defined.

While each generation has its own values, world views and motivating factors, in many cases the most sought after are the youngest: the Millennials (aka Gen Y). In our industry, technology makes the world go around. And these "Digital Natives" who grew up on Xboxes, cell phones and PCs, represent a highly talented and educated group of workers primed to develop into the next generation of leadership.

That doesn't mean we're forsaking the Matures, Baby Boomers and Gen Xers. Every generation is highly valuable to an enterprise. But we already know how to recruit and retain them. It's the Millennials that are a developing challenge because they force us to rethink what makes a workplace work.

Recruiting a generation

According to a recent survey of midsized and large U.S. companies by the U.S. Department of Commerce Office of Technology Policy, approximately 190,000 IT jobs are unfilled because of a shortage of qualified workers. Gone are the days of deep pools of engineering grads and others capable of doing high-end technology work.

The report found the formal, four-year education system is producing only a small proportion of the IT workers required and that severe shortages of such workers could undermine U.S. innovation, productivity and competitiveness in world markets.

Additionally, the U.S. Bureau of Labor Statistics employment projections for 2008-2018 show employment growth is concentrated in the service-providing sector, continuing a long-term shift from the goods-producing sector of the economy. Among industries projected to have the most employment growth in this period are professional and business services: management, scientific and technical consulting; computer systems design; and employment services. Altogether, these industries are expected to add 2.1 million jobs.

This shrinking workforce means competition for the brightest talent will be decided by who is the most creative during recruiting. For any company, unfilled jobs mean unrealized revenue. It's time to do what it takes to be the employer of choice for Millennials. In order to survive, you must generate a robust pipeline of candidates.

Traditional job-recruiting practices of the past, such as newspapers, job sites and career fairs, don't appeal to Millennials. As today's leaders, we have to find tailored approaches to attract these people. In addition to using social media for recruitment, another way is to seek them out while they're still in school.



Matures: > 63 years old, born before 1946

Baby Boomers: 46 to 63 years old, born 1946 - 1964

Gen Xers: 30 to 45 years old, born 1965 - 1980

Millennials: < 29 years old, born 1981 - 2000

We're actively recruiting this generation on campus, getting them involved in a position with CSC that they can move into full-time after graduation. Students are savvier today in obtaining work experience before graduation than previous generations, who may have looked at summer jobs more casually.

Developing human capital

Just as important as recruiting workers, is what you do after you hire them. Millennials aren't interested in being chained-to-a-desk workaholics like their Boomer parents. For managers, this requires creative thinking.

One of the key things about Gen Y is they work all the time, but prefer not to work under a time-clock approach. I get a lot of productivity out of my people, but I don't require them to do it during set hours. If they're prone to come up with innovative ideas or creative thoughts outside the core 9-to-5 setting, provide them with the technology that enables them to do that (if that's possible, depending on client needs).

We must teach our leadership teams to be creative in the way we use our human capital. Part of it is educating them on what makes this generation tick and how you can leverage them.

Overcoming clash points

Every generation has strong views about the one it follows or precedes, and there are genuinely different value systems and behaviors among them that reveal themselves in the workplace.

It's important to understand your workforce, know their belief systems and tailor your approach accordingly. There's no "one size fits all." Conflict has been around since the beginning of time, even between employees of the same generation. However, potential generational "clash points" often arise in career perspectives, work-life balance and performance feedback expectations.

Managers need to recognize that Millennials work differently than they themselves did. But it's even more complex than that. Within the individual generations, the impact of culture cannot be dismissed. For example, a Millennial from Canada grew up with different beliefs, people of influence and life events than a Gen Y'er from India. So while most Millennials want to build a career parallel to their life, not one that dominates it, a manager's job is understanding the unique characteristics of each generation and then learning how best to provide opportunity for them.

This issue is all about leadership. There's a big difference between being a manager and being a leader. A leader innovates, develops, focuses on people, inspires trust and has a long-range view. The rigid practices of the past are no longer necessary. Today's practices should offer the right level of flexibility that allows employees to be more satisfied and productive, which in the end, means more satisfied customers. ■

Visualizing Innovation in a Millennial Age

Aristotle called it a natural and primary means for learning. Einstein used it to arrive at some of his theories. And Millennials are poised to lead tomorrow's successful businesses by applying age-old visualization techniques to modern-day software development.

We're calling it Vis-EDGE, an entirely new and innovative process that allows company stakeholders to visualize and interact with working models and simulations depicting complex technology software solutions. iRise, the underlying technology, provides a simulation of desired processes in advance of solutions being coded, interfaced and put into operation.

"Gen Y is perfectly suited for this work," says Paul Taroli, global director for CSC's Center of Excellence for Visualization. "They have been raised in a digital and wireless world, growing up with the Internet and mobile devices, and playing in 3D Avatar worlds. They work seamlessly between mind and hand, to create and communicate." Millennials are a natural match for what Taroli calls a key role in the Vis-EDGE process — the Visualization Designer.

"The benefits are numerous," he says of Vis-EDGE. "Our client stakeholders get to participate and see the final end-state solutions before we build code. That means we can achieve a higher fidelity requirement with better end-state quality, greater customer satisfaction, and in typically less time-to-market. Our customers get the most out of their software development investments."

Unlike other solutions, Vis-EDGE does not require software implementation. It's a visualization process that bridges the gap in communications between business and IT, with significant customer-documented ROI. Vis-EDGE's catchphrase, "Win More, Deliver More," is based on an unambiguous set of metrics validated by more than 30 case studies to date, documenting a proven 20 percent improvement in project timeline/cost reduction.

CSC has trained more than 60 consultants in Vis-EDGE globally. Armed with 56 hours of training, 46 of which are classroom-based training hours, these newly minted visualization consultants are taking user-interface design and software development to unparalleled levels in as many as three continents.



For more information, please contact Paul Taroli at +1.256.777.2154 or ptaroli2@csc.com.

.....
MARK MILLEKER is vice president of CSC's North American Public Sector Civil and Government Health Services group.

DEFINING YOUR MOBILE STRATEGY

A GUIDE TO DEVELOPING APPS

by Christopher Marin



Every day brings news of yet another development in the mobile world — new platforms, new capabilities and new ways to conduct business. eMarketer¹ estimated that mobile will constitute 40 percent of all Internet traffic by 2013. In short, mobile is no longer something you can ignore.

If you are fortunate, you've already taken the time and effort to define your mobile strategy. If you're just getting started, this guide will help you sort through the myriad of choices you will need to make to have a chance at success.

Define your objectives

Forget about networks, frameworks or any other tactical minutiae that can bog you down before you even begin. As simply as possible, define goals such as “reduce customer support costs by enabling mobile users to access our portal instead of calling our hotline.” After explicitly defining the objectives, figure out what metrics will enable you to determine the success of the project. Only after the objectives and the key metrics have been written down and accepted by all of the key stakeholders should you begin to address the tactical questions, such as the devices to target.

Pick a phone, any phone

Trying to target all of the mobile platforms is a recipe for disaster. Get as accurate a picture as possible about the devices your intended audience actually uses. If it is an internal project, and your company has standardized on a particular platform, you are in luck. But sample some users to verify that they indeed have the device and carry it with them, as there can be discrepancies. If the app is for external users, or customers that have not standardized on a single platform, you'll need to do some research. Start with server logs or the data in your analytics services. Tools like Omniture and Google Analytics have dedicated mobile reports, and supplement this data with information obtained from surveys and analysts.

If your target users have a dominant platform, you are fortunate. If not, don't despair. Take a hard look at your top two or three devices. Do they share similar characteristics, such as are they all Android devices, even if they are made by different manufacturers? If not, classify them by category. For example, are the majority high-end smart-phones or older devices with more limited feature sets?

WebKit An Emerging Standard

What do the iPhone, Android, Nokia, Torch and upcoming BlackBerry 6¹ mobile browsers have in common? They all make use of an open source rendering engine called WebKit.²

This software started out as part of the Konqueror desktop browser, and was adopted by Apple for its Safari browser. Google was so enamored with it that it also uses WebKit for its own desktop browser, Chrome. Palm's webOS is an interesting anomaly in that the operating system itself incorporates the WebKit browser rendering engine. This allows native applications to be written directly in high-level Web languages, saving valuable development time.

All this means WebKit is emerging as the de facto standard for the mobile Web. The fact that it is speedy, lightweight and handles the latest standards such as HTML5 means mobile developers can now easily access technologies that their desktop brethren, who are forced to support legacy browsers, such as IE 6, can only dream of.

¹ “BlackBerry 6 coming in third quarter of this year.” <http://www.engadget.com/2010/04/26/blackberry-6-coming-in-third-quarter-of-this-year/?icid=engadget-iphone-url>

² WebKit, <http://en.wikipedia.org/wiki/WebKit>

Choose your app type

Ideally, you should pick one platform for a prototype, and then make the choice between building a Web, native or hybrid app.

Web apps are mobile applications you can deploy on your own Web servers. Because they don't require an external approval process, you can get this type of app up and running quickly. Additionally, new features or bug fixes can be added on the fly. A Web app is also more portable because it is possible to write it once and have it work across multiple devices, often with only minor tweaks. For example, if you are targeting high-end smart-phones like the iPhone or Android, the app can be crafted so that it works on both platforms.

Web apps are written in HTML, CSS and JavaScript, along with any number of server side technologies. Since these are the same languages used for desktop Web development, there is a large talent pool available. Taptu², a mobile search company, conducts large-scale audits of mobile and native apps, and they contend that in the future, mobile is likely to be dominated by Web apps, as the growth rate is much higher than native apps, your other choice.

Native apps are written for specific platforms, and since they are typically written in a lower level language, they take longer to produce. Forrester estimates the average native app takes about six months to develop and costs between \$20,000 and \$150,000.

The advantage of a native app is that developers can access all of the functionality of the device, including features such as the accelerometer, camera and low-level graphics. Once the application is developed, it needs to be submitted to the online store, and often go through an approval process for that particular platform. For example, iPhone apps must be submitted to the iTunes store and Android apps can be distributed through the Android Market. GetJar³, the second largest native app store (with 68,000+ apps, versus the 150,000+ apps on Apple's store and 50,000+ on the Android Marketplace⁴), handles native apps for BlackBerry, Nokia and Android devices.

A hybrid approach

Tools such as Appcelerator's Titanium or PhoneGap enable a hybrid approach to mobile development. Applications can be created relatively quickly using high-level Web development languages and then compiled and delivered as native apps. While not suitable for applications that require low-level access to the hardware, such as games, the





CSC's Mobility Practice

Our Mobility Practice dates back to 2004. Since then, we've introduced numerous wireless and 'mobile' capability areas, including wireless-capable handheld device management, cell and various wireless network services, plus the ability to develop and support both corporate and line of business applications that can operate in a wireless, anytime, anywhere context. We've concentrated our mobility expertise and capabilities into offerings that include Mobile Executive, Mobile Unified Communications, Mobile Worker, and related Mobility Strategy Services. In addition, many of our verticals have created mobile apps, for example our Financial Services Group recently released a mobile first-notice-of-loss application.

According to CSC's Global Mobility lead Leonard Simmons, our Global Mobility Program has shown linear growth of 70 percent annually since introducing our Mobile Product catalog of solutions and services. He adds that we will see significant growth over the next few years.



To learn more, visit
www.csc.com/mobility.

typical information management application can work with this method. The iTunes app on the iPhone uses this hybrid approach⁵. Another benefit is these frameworks typically enable output for multiple platforms, further reducing development costs.

Key in context

After choosing the platform and the approach (Web, native or hybrid), you need to start developing the application itself. Before a single line of code is written however, you need to determine what you are trying to accomplish.

Mobile apps are not simply desktop apps with less screen real estate. There are unique benefits and drawbacks to the medium that must be taken into account for the project to be successful. Where will this app be used? Can location or other data be used to optimize the experience? What's the ideal session length? Given the small display, what absolutely must be displayed and what can be jettisoned? Answering these and other questions before creating the application can make for a much improved end product. A good source book is *Mobile Design and Development*.⁶

Ready for launch

If you developed a native app, it will probably need to be submitted to an online app store for your users to access it. The wait time for Apple's iTunes marketplace has improved, but you should build time into your schedule for this process.

The Android Market, BlackBerry App World and others tend to have similar, albeit less restrictive setups. If you developed a Web app, the launch will mirror whatever process you normally use for desktop Web sites or applications. The final step in either case is to keep a close eye on the key metrics you initially defined to make sure your goals are being met and to update the app accordingly. ■

1. eMarketer June 2009. <http://www.emarketer.com>

2. "The State of the Mobile Touch Web." <http://www.taptu.com/metrics/TaptuMobileTouchWebReportJan2010.pdf>

3. "Multiplatform app stores reach beyond smart phones." <http://www.reuters.com/article/idUSTRE63N1AE20100424>

4. "Android Market clears the 50,000 app mark, says AndroLib." <http://www.engadget.com/2010/04/23/android-market-clears-the-50-000-app-mark-says-androlib/?cid=engadget-iphone-url>

5. Allan, Alasdair, *Learning iPhone Programming*, O'Reilly Media, 2010. Also available online at <http://oreilly.com/catalog/9780596806446>

6. Fling, Brian, *Mobile Design and Development*, O'Reilly Media, 2009. Also available online at <http://oreilly.com/catalog/9780596155452>

.....
CHRISTOPHER MARIN is the site architect of www.csc.com.



IPAD FOR THE ENTERPRISE **IS THE TIME RIGHT?**

by Phil Grove, Srinath Ramaraju and Trevor Kirk

News generated about the iPad since its launch in April is well deserved. In its first 80 days of production, Apple sold three million iPads. And sales estimates for 2010 climb as high as seven million units for the year¹.

Steve Jobs classifies the iPad as a third category of device, fitting somewhere between the laptop and smartphone. He further characterizes this category as better than a laptop and a smartphone in the following key areas: Web browsing, e-mail, photos, videos, music, games and eBooks (Apple, 2010).

Clearly, the iPad's primary focus is the consumer market, much like the iPhone was after its release. However, like the iPhone today, there is considerable interest within the enterprise market where verticals could benefit from the potentially rich applications and usability of this device.

Many types of companies could find the iPad useful, such as those looking to increase sales opportunities, improve the visibility and usability of their data to customers; publishing, training or entertainment companies looking for another way to deliver content; and enterprises interested in extending corporate data and services to consumer devices.

Disrupting the market

The iPod disrupted the music player market. The iPhone disrupted the smartphone market. Apple, well known for its innovation, progressive thinking, “hip” factor, marketing approach and brand name, is now disrupting the netbook/tablet market. With the release of the iPad, Apple has jump-started what could have been considered a fairly stagnant market where innovation is concerned.

Already more than a dozen competing devices have surfaced from confirmed sources such as Samsung, HP, Dell, Cisco, Fujitsu and Lenovo to rumored developments from Google, Microsoft and even RIM. The entire market has been reacting in an attempt to catch up to what Apple is doing in hardware, user interface and application distribution (App Store), even though the hardware or software itself may not be superior in some regards to competing devices.

There is something about the energy and momentum that Apple creates when it releases products that demands attention. There is also speculation that the iPad will disrupt the e-reader (Kindle) market².

As there are a few well-publicized gaps in the iPad today such as a lack of multitasking, camera, mouse support, printing, GPS (in Wi-Fi only models) and expandable storage, it is important to make an objective assessment of the iPad in the enterprise to determine whether iPad should be deployed, where it would be most effectively utilized and how best to support it when employees bring their own iPad into the workplace.

For this, and for any new technology reviewed, CSC utilizes a bottom-up assessment based on work styles, in addition to a top-down business requirements assessment to define appropriate product selection. We feel the introduction of Apple’s iOS 4 will propel the iPad into a more enterprise ready state. iOS 4 has introduced more than 100 features including security, device management and application improvements, as well as multi-tasking.

Securing the enterprise

Overall, one should presume that the risks that currently concern an enterprise regarding iPhones should be applied to the iPad as well. In fact, many feel the risks are even greater given the additional capabilities of the iPad, including the most immediate threat of phishing attacks and browser exploits³. The iPad employs the same encryption as the iPhone, which was effectively rendered worthless soon after its release⁴.

Gartner says, “In creating the perfect road warrior machine for the mobile workforce, Apple has created a repository for gigabytes of sensitive corporate data without any apparent way to a) secure it or b) remote-wipe it should the machine be lost or (more likely given its initial highly desirable status!) stolen.”⁵

At a high level, this is true. However, this is also true with other technologies. USB drives, SD cards and many other portable devices have gigabytes of capacity as well, are just as portable and are easily overlooked in the overall methodology for securing corporate data. Strategically, any enterprise’s approach, as it is at CSC, should secure corporate data wherever possible to mitigate risk of data loss regardless of the end point.

Furthermore, “Whereas the iPhone was never likely to be used to store gigabytes of corporate data, however, the iPad is designed for just that. And the use of basic office productivity applications means that some means of quickly and easily getting the documents on and off the device is required. A quick look through the new SDK reveals that it will be achieved by making those documents available via a mountable share – a far cry from the current situation where applications and their data are sandboxed.”⁵

Evaluating iPad within the enterprise

The fact that millions of iPads are being sold is important for an enterprise to consider. Although laptops and smartphones have

CSC Mobile Enterprise

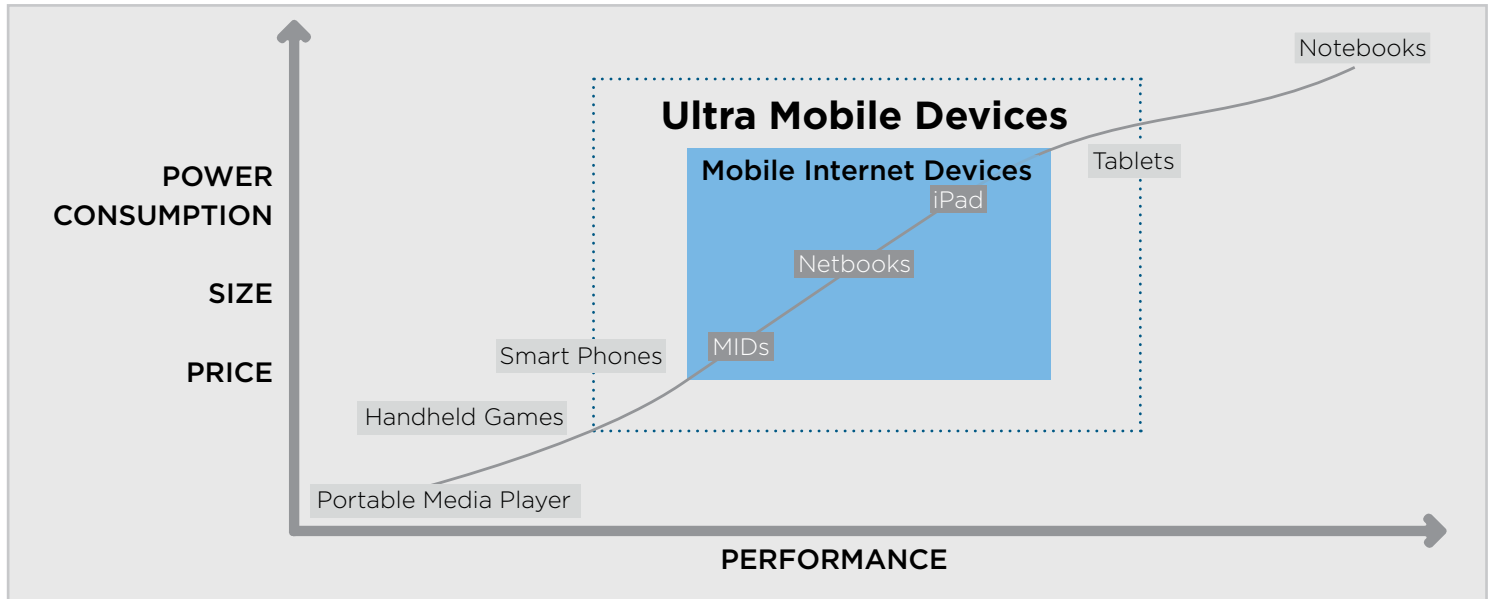
We’ve packaged mobility products with industry-proven standard CSC elements such as service model, help desk, operations and lifecycle management, within these portfolios:

- **Mobile Executive** includes personal information management (PIM) calendar, contacts and corporate address book, corporate e-mail, managed desktop-like service for handheld devices (HHD), delivered over the air (OTA) – by utilizing wireless connectivity.
- **Mobile Worker** features wireless enablement of line-of-business and enterprise applications, customized application development and support services for wireless capable HHD, managed desktop-like service for ‘specialized’ HHD (e.g. ruggedized, industrialized, etc.), OmniLocation (CSC location intelligence solution) services (GPS/GIS).
- **Mobile UC** (Unified Communications) extends corporate iPBX services to handheld devices (one phone, one number and one voicemail), voice and data integration, presence-based services, wireless expense management (WEMS) and communications-enabled applications (CEA).



For more information about our mobile offerings, visit:
www.csc.com/mobility

Diagram 1



filled an important role in mobilizing business processes, that role is well understood. In energizing the market between the laptop and smartphone, devices like the iPad, fueled by strong annual growth, will present an important opportunity for additional use cases in the mobile work force.

From field workers to knowledge workers, from doctors to a mobilized sales force, from an insurance agent to an artist – the use cases for mobile devices are many. In the enterprise space, the focus should be on finding the right device for the job.

It is clear that the iPad falls between the Ultra Mobile Devices and Mobile Internet Devices classifications (Diagram 1). The typical profile of a user with this category of device is one who is frequently on the move and interacts with business processes and information from a limited set of applications.

Keeping in mind the profile for a mobile worker and the application interaction, here are a few use cases to further clarify the potential fit for the iPad within an enterprise. As enterprises evaluate the iPad for inclusion in and integration with business processes, many more will emerge.

- **Procurement Approval:** An executive off site at a customer engagement is corresponding via e-mail with supply chain regarding a vendor agreement for the customer. Using the sales opportunity as leverage, supply chain works a new deal with the vendor providing additional savings. A purchase order is issued and an e-mail is sent to the responsible executive. Using the iPad, the executive reviews the work order and approves the purchase. Updated costs are applied to the presentation material and sent to the executive. In a follow-up meeting later that day to finalize the deal, the executive uses the iPad's support for VGA output to present the updated opportunity with the new price.

- **Health Care/Patient Care:** In the U.S., hospitals have begun piloting an application for the iPad to deliver content that helps patients and their families better understand common medical procedures. A Florida hospital is using an interactive Q&A video featuring a young boy and his stuffed toy as he undergoes a CT scan. The videos are relevant to a particular age group, engaging, entertaining and conversational. Patients can view videos and testimonials on iPads in the hospital or download the content directly to their iPad at home or while traveling⁶.
- **Health Care and Virtual Desktop:** Due to fiscal and functional challenges, a California hospital is turning to the iPad to display key information, more effectively enabling their mobile health-care workers such as hospice and home health nurses. By using the Citrix Receiver for iPad application, the hospital system can view radiology images, ECG results and other key results. A \$600 - \$700 iPad integrated with virtual desktop services becomes a compelling alternative to a touch screen medical tablet, which can cost upwards of \$3,000. "Battery life, cost and the ability to have a virtual desktop on the iPad appear to be the three key drivers of iPad implementation in healthcare right now."⁷



- **Field Service:** A field worker is alerted to a repair and dispatched to a remote site. After having been guided to the site via interactive maps and directions, the arrival of the field worker on site updates the backend “Trace Me” functionality. While at the site, the worker can pull up a health history for field equipment, and view previous work orders or a schematic for the equipment in need of repair. Once the job is complete, work order management integration sends the details of the completed work to close out the job in the work order system, complete with pictures.

Finding the right device, for the right job

The delivery of any new technology should follow a phased approach, beginning with an Assessment Phase, transitioning to a Business Case and Planning Phase and ending with a Development and Deployment Phase, as outlined in Diagram 2.

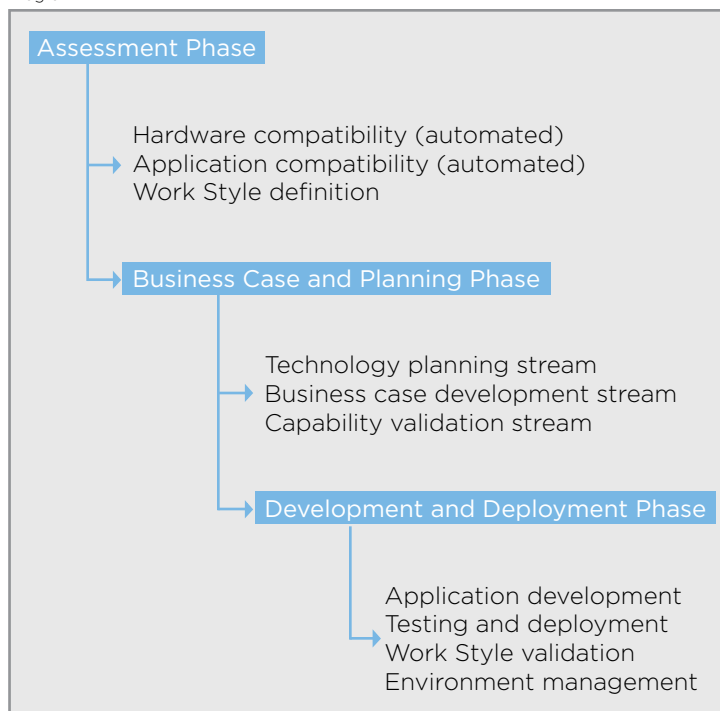
User needs are broad, ranging from stationary to mobile or from simple operations to complex engineering and data-intensive jobs. On the software side, substantial progress has been made in order to meet specific needs, even for professionals in specialized niche sectors. Hardware is on the same trend and we have seen and will continue to see many more devices brought to market.

With CSC Work Style Assessment, the business drivers, events and scenarios are analyzed and combined in a top-down methodology to determine a list of objectives. In addition, the people, places and technology are analyzed and combined from the bottom up to determine an appropriate work style. It is only then that the right device for the right job can be ascertained and given its proper position within an enterprise’s priorities for technology adoption.

Conclusion

The iPad certainly is an intriguing device. From the core applications that were re-tooled for the iPad’s hardware specs (browsing, e-mail, calendar, contacts, photos, eBooks, games and videos), it is clear the user experience, interaction, integration and adaptation in the device have raised the bar for lightweight mobile devices. But is that reason enough to invest up to \$800 in the iPad for enterprise use?

Diagram 2



Apple’s Tim Cook cautions the public when they hear the term “enterprise”, indicating the actual enterprise market is only 10 percent whereas the consumer market is 50 percent, which is where Apple’s “heart, soul and DNA are.”⁸ So to say that the iPad is consumer focused is a foregone conclusion.

It is interesting to note very similar shortcomings still exist with the iPhone, and yet 75 percent of *Fortune* 100 companies are either deploying or currently testing the iPhone for deployment, with 50 percent of *Financial Times* 100 doing the same thing⁸. ■

Download the full iPad white paper, including a description of the CSC Work Style process and a comprehensive evaluation of the device at www.csc.com/ipadpaper.

References

- 1 iPad.org. (2010, February 18). iPad Sales Projections. Retrieved April 21, 2010, from [ipad.org: http://ipad.org/ipad-sales-estimates/](http://ipad.org/ipad-sales-estimates/)
- 2 Segan, S. (2009, May 5). How the Apple iPad Could Kill the Kindle. Retrieved April 21, 2010, from PCMAG.COM: <http://www.pcmag.com/article2/0,2817,2346545,00.asp>
- 3 Leyden, J. (2010, January 29). Experts fret over iPad security risks. Retrieved March 23, 2010, from The Register: http://www.theregister.co.uk/2010/01/29/ipad_security/
- 4 Chen, B. (2009, July 23). Hacker Says iPhone 3GS Encryption Is 'Useless' for Businesses. Retrieved March 23, 2010, from Wired: <http://www.wired.com/gadgetlab/2009/07/iphone-encryption/>
- 5 Walder, B. (2010, February 4). Bob Walder. Retrieved March 23, 2010, from Gartner Blog Network: <http://blogs.gartner.com/bob-walder/2010/02/04/apple-ipad-security-considerations/>
- 6 Hoeksma, J. (2010, April 14). US hospitals pilot iPad video apps. Retrieved April 21, 2010, from eHealth Europe: http://www.ehealthurope.net/News/5828/us_hospitals_pilot_ipad_video_apps
- 7 Husain, I. (2010, April 21). California Hospital ordering iPads for healthcare. Retrieved April 21, 2010, from iMedicalApps: <http://www.imedicalapps.com/2010/04/hospital-ordering-ipads-healthcare-use/>
- 8 Ritchie, R. (2010, February 23). Apple COO Tim Cook Speaks! Retrieved March 23, 2010, from TiPB: [http://www.tipb.com/2010/02/23/apple-coo-time-cook-speaks/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed:+TheiPhoneBlog+\(The+iPhone+Blog\)&utm_content=Google+Reader%20](http://www.tipb.com/2010/02/23/apple-coo-time-cook-speaks/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed:+TheiPhoneBlog+(The+iPhone+Blog)&utm_content=Google+Reader%20)



PHIL GROVE is global director of CSC End User Services.
SRINATH RAMARAJU is a principal consultant for CSC India.
TREVOR KIRK is a mobility engineer for CSC.

STARWOOD MOBILIZES HOTEL EXPERIENCE WITH BLACKBERRY APP

by Jim Battey

Over the last decade, the BlackBerry® smartphone has become the “can’t live without” device for business travelers. Its developer, Research In Motion® (RIM®), has fed the BlackBerry user community’s growing hunger for mobile applications with offerings that fulfill a multitude of needs. CSC and Starwood Hotels & Resorts recently developed the Starwood Preferred Guest (SPG) app (launching soon) so members with a BlackBerry smartphone can book hotels and keep track of their accounts while on the go.



One of the world's leading hotel companies, Starwood's global franchise includes more than 1,000 hotels in 100 countries, operating under well-known brands such as Sheraton, Westin, W Hotels, St. Regis and more. In the highly competitive hospitality industry, loyalty programs such as SPG are vital for providing personalized customer service and influencing buying behavior. The SPG BlackBerry app will fit nicely into Starwood's marketing strategy to have a presence on all the leading mobile platforms and social media networks.

Staying connected

Travelers today expect always-on access to information. Chris Holdren, Starwood's senior vice president of SPG, says, "One of the key goals of our SPG program is to have a presence on the devices our members use to help make their traveling as easy as possible. We want to make sure we are adding value to their lives when they're on the road."

Among hospitality companies, Starwood has been a leader in embracing Web 2.0 and mobile communications. Starwood was the first leading hotel company to launch a blog and the first to establish a major presence on Facebook. After developing the SPG iPhone app in-house in 2009, an app for the BlackBerry was the obvious next step. Upon a recommendation from RIM, Starwood tapped CSC to take on the development work.

With the BlackBerry app, SPG members will be able to locate hotels, get directions, make reservations and access real-time updates on their account activities. "We've been very focused on the mobile space," says Holdren. "I think it has the ability to transform the hotel experience for our members when they travel and stay with us." SPG members will also be able to use the BlackBerry app to keep track of their Starpoints balances, view details of their upcoming stays and check their itineraries.

Tapping into deep knowledge

CSC develops mobile applications for all platforms. Our BlackBerry development experience includes enterprise products that are used by companies internally as well as customer-facing apps for financial services clients such as insurance carriers. Holdren notes, "What CSC brings to the table is deep knowledge of the BlackBerry platform and all its capabilities to help us achieve our vision for this application on that platform. We didn't have that in-house, so it was a critical need for us to be able to create this application."

By monitoring traffic to mobile versions of the SPG Web site, Holdren could see a significant number of customers were BlackBerry users. When RIM opened the BlackBerry App World™ storefront, Starwood knew a BlackBerry app would fit perfectly into the company's mobile strategy.

Tyler Lessard, RIM's vice president, global alliances and developer relations, says, "CSC is a very strong partner of ours who brings an established and trusted brand with many of our large customers such as Starwood." Lessard says one important advantage we provide is our knowledge of the back-end business processes at large companies. "CSC is going to play a very key role in not only helping enterprises build internal applications for their own employees, but also build consumer or external-facing applications.



"We are very excited to be working with CSC and leveraging what we both bring to the table: our expertise in mobility and CSC's expertise in various industries. CSC understands these customer bases and how to build end-to-end solutions in a very reliable and robust way," Lessard adds.

Cost-effective app development

With our application development expertise, CSC is helping companies like Starwood save money. Our global presence gives customers the flexibility to choose the most cost-effective sourcing options. Much of the nuts and bolts development

work for the SPG BlackBerry app was performed at a low-cost offshore location.

Ken Powell, a partner in CSC's systems integration and development practice, says we are getting more and more requests for mobile application development, and many additional projects are in the works. With the BlackBerry app from SPG, much of CSC's work was to re-engineer Starwood's existing iPhone app. Building on this, Powell says it is essential for CSC to help companies fine-tune their overall mobile application strategies: "Our ultimate goal is to develop a mobile application that is cross-platform supportable. You don't want to have to reinvent the wheel every time."

For Starwood, bringing CSC on board meant hiring a company that could take the existing iPhone app and improve upon it, without making it too different. Holdren says many SPG members carry multiple mobile devices, such as a BlackBerry for business and an iPhone for personal use. He wants them to have a very similar experience no matter what device they use.

Starwood wants to be where their customers are, and the BlackBerry app is just one of the many communications platforms they are targeting. "Whether it's on common Web-based platforms such as Facebook, popular travel message boards, or mobile devices such as the BlackBerry smartphone, we want to have a presence," Holdren explains. ■

.....
JIM BATTEY is a writer for CSC's corporate office.

TELECOMS COMPANY CALLS FOR GLOBAL SAP AND CLOUD CAPABILITY

by Jim Battey

CLIENT: iBasis, a leading international voice carrier

CHALLENGE: Implement and host a new SAP system that integrates financials in Europe and the United States.

SOLUTION: CSC's full range of IT support and services, including technical consulting, industry expertise, training, and Trusted Cloud and hosting services.

RESULTS: Significant cost savings, increased transparency and consistency in financial reporting, better staffing flexibility and enhanced infrastructure security.

Under the best circumstances, installing a new SAP system at a large company is a challenge. But when the company in question is almost simultaneously integrating the financial systems of two other companies, the challenges grow exponentially. That was the case for global telecommunications company iBasis, so they called upon CSC's SAP and cloud services to help them through it.

iBasis is one of the world's largest carriers of international voice traffic. With headquarters in the United States and offices in Europe, Latin America, the Middle East, South Africa and Asia, iBasis deals with millions of transactions across multiple currencies each year. A smooth-running financial system is essential to maintaining consistent global operations.

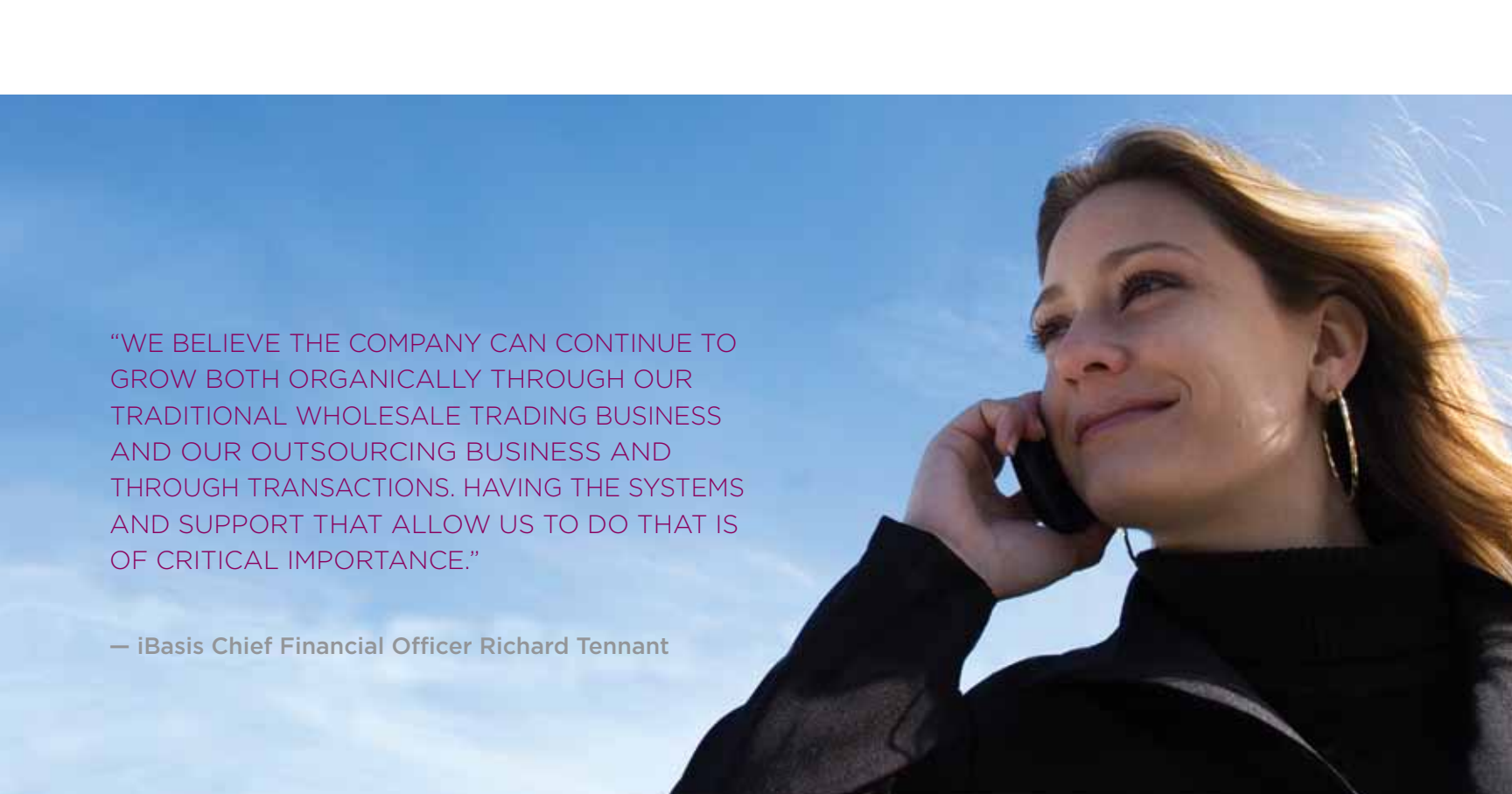
In 2008, the company was in the process of integrating its financial systems with its majority shareholder, Royal KPN, when it also acquired the international voice business of Danish carrier TDC. Installing a new SAP system became even more of a challenge during 2009; in August, KPN began a transaction to become the sole owner of iBasis, a process that was completed in December.

Searching for SAP experience, expertise

iBasis operates a highly specialized business that includes selling retail prepaid phone cards and wholesale minutes on its global network. The company has extremely high data flows and very dynamic pricing models. In addition to improving its overall billing system, iBasis needed to integrate its financial system in Europe with the system in the United States. Above all, the company was looking for expertise and experience with highly complex SAP implementations.

Richard Tennant, chief financial officer at iBasis, says his company needed a provider that could support all areas, including specialized technical consulting and infrastructure hosting. "We needed an organization that had the depth to deal with the issues we

 For more information:
Visit www.csc.com/SAP
and www.csc.com/cloud.



“WE BELIEVE THE COMPANY CAN CONTINUE TO GROW BOTH ORGANICALLY THROUGH OUR TRADITIONAL WHOLESALE TRADING BUSINESS AND OUR OUTSOURCING BUSINESS AND THROUGH TRANSACTIONS. HAVING THE SYSTEMS AND SUPPORT THAT ALLOW US TO DO THAT IS OF CRITICAL IMPORTANCE.”

— iBasis Chief Financial Officer Richard Tennant

could foresee and possibly some we couldn't foresee, he says. Having someone with a broad range and a broad scope was critical to us in making our decision.”

Not only could we provide years of experience in supporting SAP implementations, but our Trusted Cloud and hosting capabilities were exactly what iBasis was looking for. Tennant also cites CSC's telecom industry experience and global reach as key factors that contributed to the project's success.

“Having somebody that has some insight and an understanding of the particular requirements and problems in your industry is very important. CSC brought a lot of that expertise to the table,” Tennant says.

Full flexibility

We were able to provide iBasis with a preconfigured SAP solution, and we leveraged our offshore capabilities and global reach to provide them with the flexibility to adjust staffing levels as needed. “A combination of our SAP expertise with a cost-efficient support model allows them to increase or decrease baseline support,” says Mike Antoniazzi, CSC's account executive for iBasis.

“The implementation enabled us, in a relatively short period of time, to position the company to scale,” adds Tennant. “We believe the company can continue to grow both organically through our traditional wholesale trading business and our outsourcing business and through transactions. Having the systems and support that allow us to do that is of critical importance.”

At iBasis, the SAP system basically serves as the backbone for the company's financials. The implementation of the new system has allowed iBasis to increase transparency to a multitude of financial data. “It has enabled us to condense and gain better insight on our current financial status on an ongoing basis,” Tennant says.

Another significant benefit is having a single system to deal with foreign currency exchanges and revaluations in multiple currencies. “In general, it provides us with better and more effective controls,” Tennant says. “Also, it has enabled us to reduce our expenses quite a bit, and allowed us to eliminate cumbersome manual processes.”

The ‘Trusted Cloud’

Our highly secure hosting environment for the system is another important factor in the project's success because it provides iBasis with reliability and flexibility. Paul Coughlin, a CSC hosting executive, says, “iBasis is getting a reliable, mission-critical approach to infrastructure hosting. They simply have to close their books on time every month and we provide all of the experience and expertise in security and hosting that CSC brings to the cloud infrastructure.”

We provide not only the application support for SAP, but also the underlying infrastructure, which is hosted in a CSC data center. Coughlin adds, “CSC's Trusted Cloud has layers of security wrapped around it. Our clients can rely upon it for the high level of security and service that CSC brings to the table.” ■

JIM BATTEY is a writer for CSC's corporate office.

PRINTING GIANT INNOVATES PROCESSES WITH SAP

by Jenny Mangelsdorf

CLIENT: Agfa Graphics

CHALLENGE: Build and integrate a system that routes finished products to clients worldwide on a just-in-time basis, taking into account urgent and rush orders.

SOLUTION: A new SAP production planning solution that integrates with the company's global SAP template and legacy systems.

RESULTS: A technologically advanced, dynamic system that encompasses market demand, production and distribution of finished goods, and also reduces the amount of working capital tied up in inventory.

As a company whose products and equipment produce 40 percent of all printed materials in the world, Agfa Graphics needs to guarantee its clients receive critical systems and components in a timely manner.

To safeguard this level of service, the company called upon CSC to help develop new functionality for the production system in its flagship manufacturing facility in Wiesbaden, Germany.

Agfa Graphics is one of the leading global providers of graphics solutions to the newspaper industry, and is a worldwide leader in providing solutions for commercial and packaging printing. Agfa operates dedicated manufacturing facilities in the United States, Asia, South America and Europe; the Wiesbaden facility is Agfa's largest production site, generating more than a third of the company's products and revenues.

 For more information:
Visit www.csc.com/SAP.

The goal of the project was to gain greater insight into performance and costs, and to improve planning through far-reaching integration with shop-floor legacy systems. This would in turn ensure that minimum working capital is tied up in inventory, and enable the destination of the finished products to be determined automatically at the last minute, resulting in a highly advanced, automated and dynamic process.

Increased transparency

“We now have a much better overview of what’s happening on the shop floor in terms of materials usage and cycle time,” says Dominique Swerts, business project manager at Agfa Graphics. “We have far more data regarding throughput times and so-called ‘actuals,’ the real production costs. This means we can align budgeted costs with actual costs much more closely, improving our forecasting and allowing us to carry out the monthly closing much more quickly.”

At the time Agfa started work on the new manufacturing solution, the company was already using a global SAP system to manage procurement, sales, logistics, invoicing, finance and controlling. The new manufacturing solution was integrated with the global SAP environment as well as Agfa’s corporate legacy order, distribution and warehousing systems.

Reducing costs and increasing flexibility

“We run an enormous variety of IT systems worldwide,” explains Marc Verhaegen, Information and Communications Services project manager at Agfa Graphics. “We’re trying to rationalize our application portfolio to the greatest extent possible and migrate to a global SAP platform. This will yield benefits not only in terms of reduced operating costs, but also in terms of increased flexibility of employees and corresponding gains in efficiency.”

The new solution was implemented primarily within the SAP R/3 environment, communicating with SAP’s Advanced Planner and Optimizer (APO) for supply chain management. Agfa has relied on CSC as a trusted advisor and partner for more than 10 years. Through this relationship, CSC has gained experience and knowledge of Agfa’s business. This has enabled us to cooperate smoothly with Agfa to model and develop the solution at a functional and technical level, design the relevant processes and provide tailored integration and support services.

“To make this project a success, we drew on our in-depth knowledge of SAP, our extensive business process expertise in manufacturing and supply chain environments, our trust and knowledge of the customer, and our dynamic and inventive people,” says Peter De Coninck, CSC Belgium & Luxembourg manager.

It soon became clear the new solution increased responsiveness. Agfa plans manufacturing at its Wiesbaden factory based upon its global needs and finalizes those plans two to three weeks before starting a production run. However, client needs may

“TO MAKE THIS PROJECT A SUCCESS, WE DREW ON OUR IN-DEPTH KNOWLEDGE OF SAP, OUR EXTENSIVE BUSINESS PROCESS EXPERTISE IN MANUFACTURING AND SUPPLY CHAIN ENVIRONMENTS, OUR TRUST AND KNOWLEDGE OF THE CUSTOMER, AND OUR DYNAMIC AND INVENTIVE PEOPLE.”

— Peter De Coninck,
CSC Belgium & Luxembourg manager

change significantly during that time. With the new system, once a pallet of printing plates is completed, the global SAP system uses the latest information available to determine its final destination.

If an urgent order is entered only moments before a pallet comes out of production at Agfa, the system will assign that pallet to that urgent order, even though it did not exist at the time of production planning. This whole decision and routing process is carried out while the pallet is packed and wrapped before being delivered to a truck waiting at the end of the packing line.

In an earlier project with Agfa, CSC helped create a tool that easily allows multiprocess step interfaces. This lets the global SAP system perform a whole range of dependent transactions simultaneously rather than one by one. Agfa uses this same tool to integrate the Wiesbaden shop-floor system and the global SAP template.

Continuous innovation

“This is far from being a standard SAP implementation,” says De Coninck. “We needed to develop a unique solution that not only meets Agfa’s specific system requirements, but is also fast, easy to monitor, and able to continue after error resolution with complete data integrity, traceability and interoperability with other file formats.”

For Agfa, such a project never really ends, as it continuously improves its products and production processes. Agfa and CSC developed the SAP architecture, and its interfaces and transactions, in a modular and robust manner, enabling Agfa to adapt to future needs with minimum effort. The system also has potential benefits for Agfa’s other manufacturing organizations and will be integrated into the supply chain processes in the global SAP environment.

“The outlook for the future is very positive,” adds Swerts, when considering the road ahead for Agfa. “Soon the performance improvement program for the master production planning will be complete, enabling us to manufacture even more efficiently while maintaining lower levels of raw materials in inventory.” ■

.....
JENNY MANGELSDORF is a writer for CSC’s corporate office.

BY THE NUMBERS

A&D SURVEY: INNOVATE OR PERISH

Rebounding from tough times and dealing with increased globalization makes for a challenging business landscape. To remain competitive, aerospace and defense firms must expand into new markets and reshape their workforces, according to the “CSC 2010 Aerospace and Defense Market Survey,” conducted in late 2009 with *Aviation Week* magazine.

Manufacturing companies are trying to bounce back from the downturn in the global economy while adapting to large cuts in defense budgets. Among other key findings from the survey of A&D executives is that companies are placing a sharper focus on creating new value chain networks as they preserve core manufacturing capabilities. The survey concludes that to survive, companies must keep developing innovative products and services.

Staying ahead of the game

The survey findings reveal more aggressive growth plans are now in play. As illustrated in chart 1, concerns about the lack of major development programs was cited as having the biggest impact on A&D organizations over the next three years.

Global A&D executives are concerned with market contraction and are looking for the best ways to identify and capture new revenue streams and grow profits, if not maintain them. Product innovation is a key driver of new sales and revenues, according to the survey. This means investment in innovation programs will be maintained at relatively high levels, at the expense of cost reductions in other parts of the business.

Commenting on the survey results, Dave Howells, CSC’s managing director, Global Aerospace and Defense, says, “With business being tough sledding over the past few years, the central theme has been across-the-board cost reduction. For the CIO, it has meant laying low and minimizing IT spending. Now that there are definitive signs of economic recovery and growth in the near-term, companies are ready to get the business back on a growth trajectory.”

Even as innovation ranks as a top strategic business objective, the customer remains king, as illustrated in chart 2.

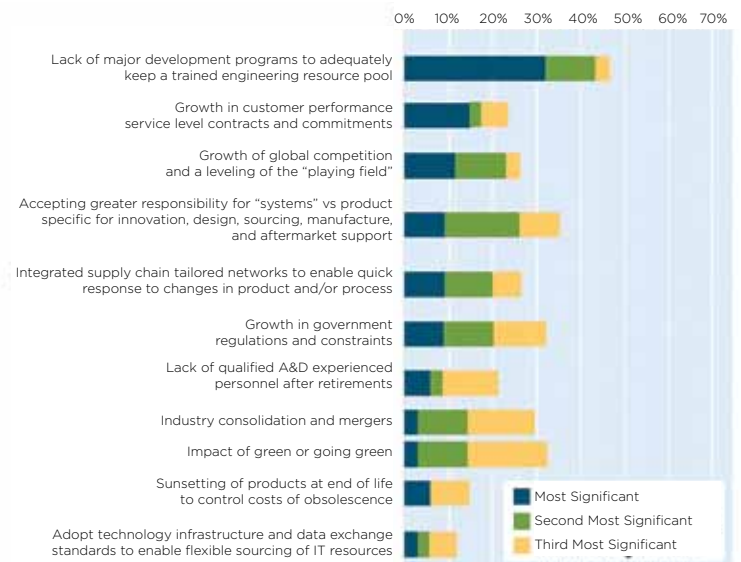
DEMOGRAPHICS

THE 2010 A&D MARKET SURVEY QUERIED:

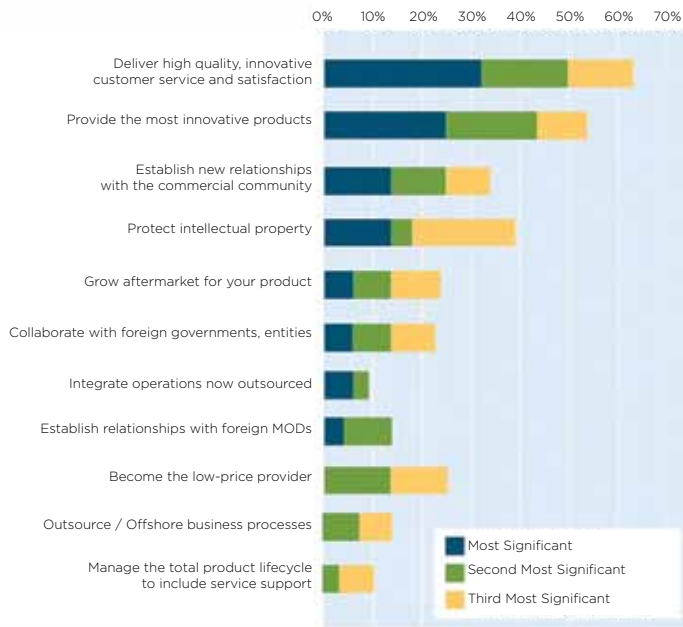
2,200
GLOBAL A&D INDUSTRY EXECUTIVES

45%
C-LEVEL OR DIRECTOR-LEVEL

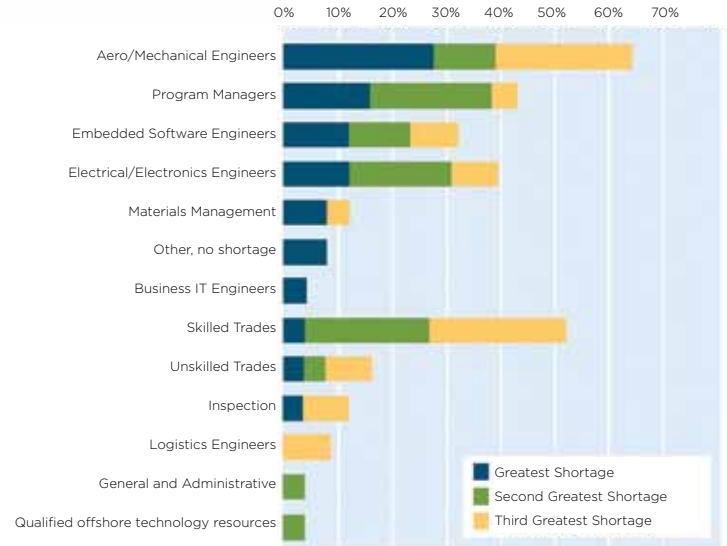
56%
FROM \$1 BILLION-PLUS SIZED FIRMS



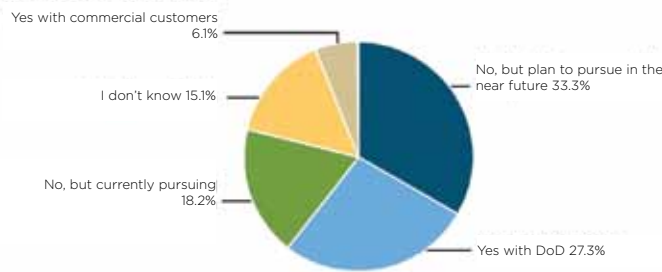
1: Identify the top three A&D macro forces impacting your organization in the next three years.



2: Rank your three most important strategic business objectives over the next one to two years.



4: If anticipating a shortage, please rank the top three disciplines your company will experience the greatest shortfall of qualified employees in the next five years?



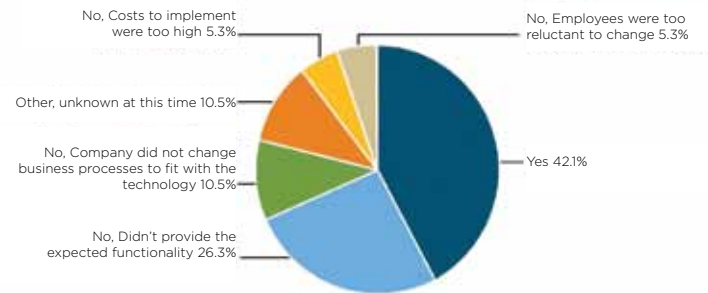
3: Do you currently have performance-based logistics contracts?

At the same time, executives expressed a strong desire to preserve product development and production capabilities. Another important industry trend is a shift to performance-based life cycle (PBL) support contracts. Some 85 percent of respondents were either managing a performance-based logistics contract or planning to (see chart 3).

Maintaining talent

In the area of human capital, the perceived shortage of industry talent is decreasing. In CSC's 2006 A&D survey, 70 percent of respondents said there would be a shortage of qualified workers within the next five years, and in late 2009, when the survey was conducted, that number dropped to 24 percent. Still, there is a continuing need for engineering talent. As evidenced in chart 4, executives anticipate a shortfall of specialized engineers and program managers over the next five years.

Increased supply chain network complexity, a progression to performance-based contracts, and trusted collaboration are creating a greater focus on the use of technology in the A&D



5: Did the most recent IT project deliver the value expected?

industry. To achieve success in the global workplace, companies must improve their business models and processes, and effectively leverage the use of enabling technology to establish collaborative commerce. Finally, IT must deliver. Survey respondents were split on whether their most recent IT project delivered value (see chart 5).

Howells concludes, "The intent of the survey is to provide the A&D industrial base and its executives with a set of meaningful questions and results that represent the current thinking and that will allow for improved decision making. For CSC, we are ready with our deep understanding of the A&D business, models and processes and the enabling and compelling technology to take the client where they need to be." ■

Download the full report at: www.csc.com/A&Dsurvey_2010.

THE GREEN CORNER

CSC AND IBM: CUTTING EDGE, CUTTING POWER USE

by Skip MacKenna

Energy conservation is one of the top Green priorities for corporations and businesses today. While some have achieved significant gains using a multitude of internal energy conservation practices, a greater challenge lies in the management of IT-related energy consumption.

The timing to address these issues couldn't be better. The need for Green IT services and solutions is on the upswing and could be the number one issue facing IT executives at large companies. In addition, energy costs, while currently believed to account for around 10 percent of a firm's IT budget, could rise to over 50 percent in a few years.

Social responsibility and public image are also driving businesses to reduce the power used to provide their IT services, while maintaining marketplace competitiveness. At CSC, energy conservation design principles are embedded in many of the business solutions we've recently launched.

"We are helping clients address their energy challenges by applying our long-term expertise in managing large-scale computing facilities, by leveraging our alliance relationships with leading hardware vendors and by investing in the latest technologies to manage energy consumption," says Russ Owen, CSC group president of Managed Services. "Energy conservation is a top priority issue for CSC now and for our future generations."

Our IBM Alliance

Since the 1990s, CSC and IBM have worked together as global partners, offering solutions in all industries and the public sector. We're a Premier Business Partner, the highest level in IBM's PartnerWorld partner network. CSC's early access to IBM's technologies allows us to build them into CSC applications, bringing significant value to our mutual clients.

Creating Green solutions

For our engineering and manufacturing clients, we're delivering feature-rich Product Lifecycle Management (PLM) solutions, which improve engineering productivity and lower energy costs. These solutions use energy efficient IBM BladeCenter servers in flexible configurations optimized for the distributed nature of PLM applications, the complexity of PLM data and the rapidly changing variations in end-user workloads.

Since the early 1990s, CSC has delivered a comprehensive portfolio of consulting and outsourcing solutions built around computer-aided design (CAD) and PLM for aircraft, automotive and shipbuilding customers.

Today, this work has evolved into two innovative turnkey PLM managed service offerings: CATRack™, developed by CSC and our alliance partners IBM and Dassault Systèmes, and FASTRack™, for Siemens PLM Software's Teamcenter environment. CATRack and FASTRack increase engineering productivity, speed the time to market for new products and lower ongoing operating and maintenance costs.

Cutting energy costs

Some of the world's largest manufacturing companies are using CATRack to realize these productivity and energy saving benefits. For example, at a major aerospace company, we replaced 13 existing conventional servers that consumed 13 megawatt hours per month with two fully redundant CATRacks that require only four megawatt hours per month, yet provide twice the capability of the servers they replaced.

"CSC designed CATRack and FASTRack with Green initiatives from the very start," says Tim Seppi, IBM server sales executive, "starting with virtualizing many of the processes that customers have traditionally run on dedicated servers, and then implementing on the IBM BladeCenter with energy efficiencies above traditional servers."

Other Green features of the CATRack and FASTRack solutions include:

- Better efficiency than rack servers — for like configurations, IBM BladeCenter can save up to 35 percent on power over 1U servers
- Solid state hard drives — use up to 87 percent less power and heat than mechanical hard drives
- Integrated 10Gb Ethernet switch — which can be more than 95 percent energy efficient than external switch offerings
- Innovative calibrated vectored cooling — optimizes air intake, fan placement and zone cooling technologies to maximize the air flow inside the server for optimal cooling efficiency.

Improving project lifecycle management

In addition to saving energy, CATRack and FASTRack deliver significant business benefits. They enable accurate, timely and secure data currency for firms collaborating on complex engineering and manufacturing projects. The BladeCenter architecture used on the systems allows for quick and affordable scalability to match the actual capacity needed by design organizations. And CSC's "fully managed" service delivery model provides end users with a single point of accountability, which improves communications and speeds issue resolution.

"The CATRack and FASTRack solutions create significant value for our global Manufacturing clients," says Eileen Sweeney, CSC's global president of Manufacturing. "In today's difficult business climate, our clients are seeking new ways to grow, collaborate more effectively on a global scale, wisely invest their capital in strategic imperatives and meet corporate sustainability objectives. By working together with our alliance partners, CSC enables our clients to accomplish these goals with innovative PLM solutions. We are excited to bring these solutions to market." ■


For more information, visit:
www.csc.com/CATRack or
www.csc.com/FASTRack.

SKIP MACKENNA is a senior project manager at CSC and is responsible for CADRack (CATRack and FASTRack) products globally.

Now's the time to be ingenious. You need technology-enabled solutions that will make your organization smarter, more efficient and fiercely competitive. See what we've done for others and what we can get started for you at [CSC.COM/BEINGENIOUS](https://www.csc.com/beingenious).

The CSC logo consists of the letters 'CSC' in white, bold, sans-serif font, set against a red rectangular background.

BUSINESS SOLUTIONS
TECHNOLOGY
OUTSOURCING

A dartboard is mounted on a dark wooden wall. The dartboard has concentric rings and numbers 1 through 10. A single purple dart is stuck in the board, positioned near the top edge. A large, semi-transparent purple shape overlaps the bottom-left portion of the dartboard.

**OVERHEAD IS IN YEN, KIP,
RINGGIT AND BAHT, AND YOU'RE
WONDERING WHERE ALL THE WON
WENT, GIVE OR TAKE A RUPEE.**



BUSINESS SOLUTIONS
TECHNOLOGY
OUTSOURCING

Worldwide CSC Headquarters

The Americas

3170 Fairview Park Drive
Falls Church, Virginia 22042
United States
Tel: +1.703.876.1000

EMEA

Royal Pavilion
Wellesley Road
Aldershot, Hampshire GU11 1PZ
United Kingdom
Tel: +44(0)1252.534000

Australia

26 Talavera Road
Macquarie Park, NSW 2113
Australia
Tel: +61(0)29034.3000

Asia

20 Anson Road #11-01
Twenty Anson
Singapore 079912
Republic of Singapore
Tel: +65.6221.9095

About CSC

The mission of CSC is to be a global leader in providing technology-enabled business solutions and services.

With the broadest range of capabilities, CSC offers clients the solutions they need to manage complexity, focus on core businesses, collaborate with partners and clients, and improve operations.

CSC makes a special point of understanding its clients and provides experts with real-world experience to work with them. CSC is vendor-independent, delivering solutions that best meet each client's unique requirements.

For more than 50 years, clients in industries and governments worldwide have trusted CSC with their business process and information systems outsourcing, systems integration and consulting needs.

The company trades on the New York Stock Exchange under the symbol "CSC."