

TCS Innovation Forum – USA Spring 2008

The TCS Innovation Forum has become a regular feature on the TCS event calendar. The North America event is the oldest, and is now in its fourth edition. We have taken the Forum to Europe and Asia/Pacific as well. Feedback has been excellent, and typical takeaways are learning, networking, and the assimilation of the spirit of co-innovation.

This report on the Spring 2008 Innovation Forum, held in Palo Alto, California, is the first we are publishing to bring the value of the Forum to a wider audience, as well as enhance the experience of those who attended. Another goal is to enable the TCS ecosystem to come together in more effective ways.

The TCS Innovation Forums are marked by brainstorming around specific technology areas. We present significant innovations in emergent fields. We also hear responses and pain points, discuss alternatives and work-arounds. Some of the brightest minds from the technology landscape interact at the TCS Innovation Forums: academic researchers, the ideas people from innovative start-ups, technology funders and analysts, CTOs of partner and even competing companies, and, most importantly, the best thinkers from our customer organizations.

This type of fertile interaction doesn't start and stop with our Innovation Forums. The TCS Co-Innovation Network (COIN)[™], connects key entities in the technology landscape and creates opportunities and linkages for innovating together. TCS COIN has a trusted and transparent collaboration process in place. We have proved that such collaborations benefit all co-innovators and their respective customers. Some customers have benefited from the TCS Innovation Forum events at their locations, and some are already discussing "custom-COIN" networks.

Increasing numbers of CIOs and CTOs participate in our Innovation Forums each year, and as I mentioned, the feedback we get from these senior executives is increasingly positive. I would like to thank our "regulars" for helping make the early Innovation Forums successful, and look forward to welcoming new members at future events.

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TCS Innovation Forum – USA Spring 2008

PALO ALTO, Calif. – Forrester Vice President Navi Radjou framed the underlying theme of Tata Consultancy Services' Spring 2008 Innovation Forum here when he observed, "Knowledge *networking* has become the new core competence in business, eclipsing knowledge *generation*." At the Forum, held at the Palo Alto Four Seasons, TCS gathered CIO and CTO customers along with senior executives from leading-edge innovative companies and academic institutions to explore two of the most crucial issues facing IT executives:

- The new roles successful CIOs and CTOs play in the era of open global innovation networks.
- How to develop a winning, systematic approach to all three types of innovation: derivative innovation, platform innovation, and breakthrough innovation.

TCS has designed the Innovation Forums to help CIOs and CTOs position themselves and their organizations to compete and win in the global innovation economy. The Innovation Forums, which began in 2005 and have been held in Asia, Europe, and the United States, are driven by TCS' belief that for CIOs and CTOs, knowing how to generate and implement innovation is not a "nice to have" but a "must have." The first step in that direction is to understand the changing roles of CIOs and CTOs as innovation expands from an internal process to a global, networked process.

As reported in the recent TCS white paper, "Innovation Networks: Casting a Wider Net for IT Innovation." (http://www.tcs.com/thought_leadership/Pages/InnovationNetworksCastingaWiderNetforITInnovation.aspx), research suggests that many CIOs and CTOs have some catching-up to do in their innovation strategies. CEOs are losing faith in IT as a source of strategic innovation. When Forrester recently surveyed 165 senior decision makers at \$1B+ companies across North America, Western Europe, and East Asia, just 28 percent identified their IT leaders as "proactive leaders of innovation," while 24 percent said IT managers "innovate when pushed to do so," and 25 percent said their IT leaders were "mediocre sources of innovation."

TCS considers this situation unacceptable, and is determined to change it by supporting CIO and CTO customers as they claim their rightful place as innovation leaders in their organizations.¹

COIN: Helping IT Unlock Its Innovation Potential

The process begins with the question, “Where do innovative ideas come from?” With the technologies of collaboration and communication so widely distributed around the world, the answer to that question is, “everywhere.” With that 360-degree outlook in mind, TCS has convened a global, interconnected innovation ecosystem – the Co-Innovation Network, or COIN – that links businesses large and small, well-established and new, with a broad network of partners, suppliers, leading-edge vendors, outside consultants, academic institutions, and venture capitalists. The prime purpose of COIN is to create for IT and the business it supports the largest possible “funnel” of innovative and profitable ideas from numerous, collaborative sources inside and outside an organization. Here is a graphic representation of TCS’ COIN:

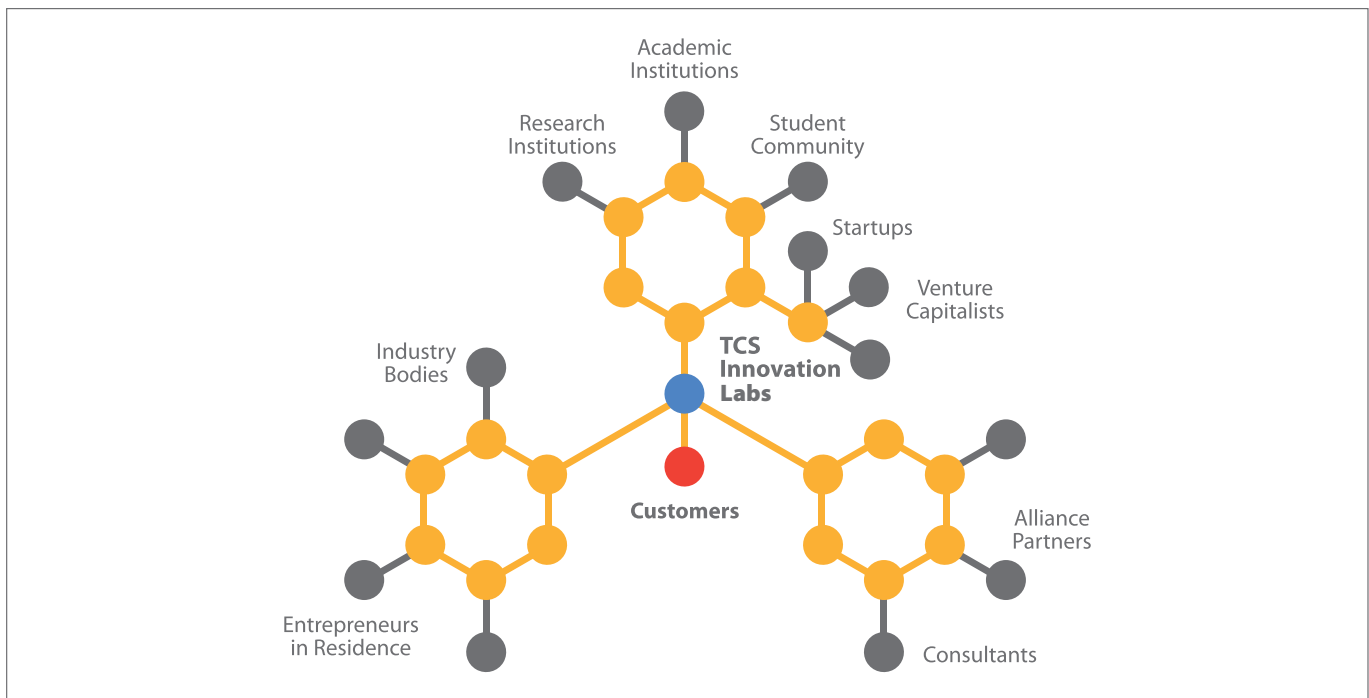


Figure 1: The TCS Co-Innovation Network, along with the 19 Innovation Labs, builds collaborative frameworks to enable innovation across the ecosystem.

Just as spreading the risk of new undertakings across multiple partners reduces each partner’s individual risk, spreading the search for new ideas across multiple partners increases the flow of ideas into the funnel and the return flow of innovation back to the partners. (Ironically, though IT has received little respect for innovation of late, it is the very infrastructure and capabilities underlying IT that have enabled the creation of architectures such as COIN by drastically reducing the time and expense required to connect, communicate, coordinate, and collaborate.)

The open-network structure of COIN is the new normal in contemporary business. The complaint that new ideas were “not invented here” and the desire to adopt only new ideas that are “invented here” should be things of the past. “One of the most important lessons executives have learned about innovation is that companies cannot and should not go it alone,” *Business Week* has reported. “A global trend is emerging that focuses on **innovation networks** or innovation ecosystems with partners, suppliers, other companies, and academic institutions. Once seen as novel and risky, such collaborations are now accepted as a necessary way of doing business.”² (*italics added*)

Bringing COIN to Life at the Innovation Forum

Several times a year, TCS renders the COIN concept visible, specific, and educational for the business and IT executives who attend the Innovation Forums. According to K. Ananth Krishnan, TCS' CTO and host of the Spring 2008 Innovation Forum, the events are structured to highlight various elements of TCS' ten innovation themes, five of which are IT-facing, and the other five business-facing. The themes are:

IT-Facing

1. Improve operational efficiency and productivity
2. Manage enterprise risk and compliance
3. Enable business agility
4. Simplify and transform
5. Improve enterprise knowledge

Business-Facing

1. Improve the user experience
2. Enable information ubiquity
3. Enable understanding of markets and customers
4. Improve healthcare
5. Improve the environment

The Spring 2008 Innovation Forum concentrated on the first three IT themes—improving operational efficiency and productivity, managing enterprise risk and compliance and enabling business agility—and the first two business themes: improving the user experience, and enabling information ubiquity. *(Details of the presentations pertaining to these themes appear later in this report.)*

After welcoming remarks from Mr. Krishnan and an overview by Forrester analyst Navi Radjou of IT's evolving role as innovation goes networked, open, and global, the program consisted of panel discussions among and detailed presentations by various members of the Co-Innovation Network. The panelists and presenters included academics, consultants, executives from well-established companies that are leaders in innovation best-practices, such as Cisco, and representatives of new companies offering promising, perhaps disruptive technology innovations. Three examples of the latter companies were SkyGrid, which has developed a search and analytics platform that seeks to overcome Web-era "information overload" by delivering actionable, real-time content and news sentiment to investment professionals; mFoundry, which is delivering banking and payments applications to mobile devices across multiple carriers; and TCS itself, which, through its Computational Research Laboratories startup, has built the fourth-fastest supercomputer in the world (the fastest in Asia) to provide clients a wide range of high-performance computing services.

Forrester: CIOs and CTOs Must Play New Roles in the Era of Global Innovation Networks

Forrester's Mr. Radjou outlined the new roles CIOs and CTOs are playing in best-practice innovation organizations. He began by quoting a former CIO of Whirlpool: "My core competency is business. Technology is not my core competency. I am the business. My goal is to free [IT] resources needed to support the company's strategic initiatives focused on innovation, flexibility, and customer loyalty."

He cited a recent Forrester Quick Take: "The competitive locus of IT...is shifting from exploiting internal assets to deliver valued services to orchestrating external ecosystems of innovative partners that can continually tune... business performance."³ He then identified four organizational roles various participants play in the successful shift toward global innovation networks:

- **Inventors** create new ideas for products, services, or business models
- **Transformers** convert the pure ingenuity of Inventors into market-relevant products or services
- **Financiers** fund the activities of Inventors and Transformers
- **Brokers** find and connect the first three – Inventors, Transformers, and Financiers – and facilitate their global interactions

Which of these roles should CIOs and CTOs play? All of them, Mr. Radjou suggested...at the proper time. It's possible for IT executives to play all four roles leveraging only internal resources such as R&D labs; internal supply chain, operations, sales, and marketing departments; corporate venture capital units and the CFO's office, and internal business development operations. But that, in Forrester's view, constricts the IT executive's access to true innovation.

The optimal path to IT-driven innovation is for the organization to join a global innovation network as a creator and consumer of innovation. How can that be done? Forrester advises CIOs to "engage [their] IT provider network as a global extension of your in-house innovation team. Change your relationship with your IT provider from buyer/seller to a co-innovation partnership."

One example, according to Mr. Radjou, is TCS' COIN, which connects companies and organizations to leading innovators in the realms of academia, venture capital, domain expertise, and startups. Organizations such as TCS COIN are always open to adding additional nodes...not only as **consumers** of innovation but also as **contributors** of innovation.

Joining a global innovation network expands the ways in which CIOs and CTOs can play the four roles. It is not a case of either/or – using either internal or external resources. The point of a COIN is to maximize the benefits of both. Here is a chart that shows how IT executives can build on their internal resources with the far more extensive capabilities delivered by open innovation networks like TCS' COIN:

Role	Internal Resources	External/Innovation Network
Inventor	In-house R&D	Startups, contract labs, academia, freelance experts, consultants, creative customers
Transformer	Supply chain, operations, sales, marketing	Contract manufacturers, channel partners, consultants, lead users
Financier	CFO, business units, corporate venture capital groups	VC firms, economic development agencies, risk-sharing B2B clients
Broker	Business development, IP licensing, CIO, CTO	Trade associations, community leaders, NGOs, online IP/talent marketplaces, solver network portals, loyal customers

Figure 2: Belonging to a COIN expands the possibilities for IT executives.

Best-Practice Case Study: How Cisco Does Innovation

“We keep putting grape juice into bottles,” Cisco’s Guido Jouret told the Forum. “In a couple of years, we’ll know whether we have vinegar or wine.” Dr. Jouret is CTO of Cisco’s Emerging Technology Group (ETG), which is charged with leveraging innovation – internal plus external, COIN-style – to launch one new business per quarter that will generate \$1 Billion in annual revenue, enhance the value and usefulness of Cisco’s underlying network, and thus drive new sales of Cisco’s products and services. The ETG augments Cisco’s existing strategies of partnering with and/or acquiring promising new technologies, and was described by Geoffrey Moore in *Forbes* (Oct. 23, 2006) as, “the absolute best-in-class implementation of innovation.”

The main operating concept of Cisco’s ETG is that IP traffic will experience a compound annual growth rate of nearly 40 percent through 2012, and that consumer demand for bandwidth will continue to outstrip business demand (consumer consumption of bandwidth passed that of business in 2007, Dr. Jouret said). The rise of what he called “Web 3.0 – any media, anywhere, on any device” will create demand for new video, mobility, and virtualization technologies and products. That’s where Cisco’s current innovation initiatives are focused.

Like TCS’ COIN, Cisco combines internal and external innovation resources, adding external business partners, customers, consultants, competitors, trade associations, and academia to internal R&D, sales and service units, and employees who simply have a good idea. The company has established a globally promoted “I-Prize” of \$250,000 for each of 12 ideas the ETG chooses to develop into a business with a launch budget of \$10 Million per business. Cisco’s global internal and external innovation resources have submitted more than 1,200 ideas for the I-Prize since the program’s launch less than two years ago.

Like TCS' COIN, Cisco's ETG employs a "funnel" approach (http://www.tcs.com/resources/white_papers/Pages/InnovationNetworksCastingaWiderNetforITInnovation.aspx), with a "find/filter/initiate" workflow that continually assesses the likelihood of a developing idea to fit into one of the three types of successful innovations: derivative innovation, platform innovation, and breakthrough innovation. Since the ETG began, it has launched new businesses in the areas of virtual business meetings (telepresence), digital signage and desktop video, video surveillance and access control for physical security, and IP interoperability and communications systems to connect public safety organizations. The company will give each new business four to six years to reach its revenue goal of \$1B.

"The best way to kill innovation is to subject it to the same metrics used to evaluate 'success' in the rest of the corporation," Dr. Jouret advised Forum attendees. At Cisco, success metrics for innovation-driven new businesses are growth and sell-in/deployment in targeted vertical accounts. The beauty of running a COIN-like innovation architecture and playing all four roles outlined above, Dr. Jouret said, is that, "we can avoid most of the reasons startups fail. They run out of cash – we have cash. They stop growing because of 'founder's dilemma.' We know how to pick people who are both founders and business-growers. Startups fail because they're crushed by larger competitors. Because of our size, we can protect our startups. Finally, startups fail because they have no architectural coordination of synergy with existing products in the marketplace. We won't even launch a company unless we see synergy for it in our installed base, and know it's something our existing salesforce can sell."

Addressing the Five Innovation Themes: Tales from COIN in Action

Managing Compliance and Risk

The Forum began with a panel on "Data Privacy – Option or Obligation?" that addressed the TCS innovation theme Managing Compliance and Risk in the context of a COIN accomplishment: TCS' Privacy Preserving Delivery Platform. Always an important consideration, data privacy and security have become crucial issues over the past several years, starting with Sarbanes-Oxley and HIPAA in the United States and other government requirements in Europe. The issues have drawn increased attention as multiple supposedly safe repositories of secure and/or private data announced they had compromised or even lost sensitive information on millions of customers. Data privacy and security take on greater importance in the context of outsourcing. When organizations outsource key functions, their data is accessible to knowledge workers on a global basis. Privacy and security become paramount considerations in defining levels of trust. Drawing on COIN members from academia and outside companies, TCS has addressed these concerns with its Privacy Preserving Delivery Platform, which was the unifying principle of the various panelists.

Panelist Harrick Vin of TCS drew a distinction between data security and privacy, defining security as "protecting access to data by *unauthorized* users" and privacy as "protecting sensitive, confidential, personal data or identities from *authorized* users as well." In security, he observed, the utility of data is not an issue, but when it comes to privacy, companies must explore the tradeoffs between the privacy databases can offer and the utility

of personal data that can often benefit the data's owner. After presenting the details of TCS' Privacy Preserving Delivery Platform, Dr. Vin observed that security is a "mature" area in which best practices and certifications are well known, whereas privacy is an emerging field offering opportunities to vendors with innovative approaches.

Representing one example of innovative approaches to privacy, Sandeep Tiwari, CEO of Zafesoft, a vendor member of COIN and of TCS' Data Privacy Solutions Platform, outlined the various ways companies have tried to guarantee data privacy, all of which have drawbacks. Encrypted files, digital rights management, and content monitoring and filtering do not protect data from malicious intent. So-called "handcuff applications" disable such risky functionality as "copy," "paste," and "save," but they are disliked by users, who often go around them. Even solutions that delete private information after transactions are complete fail to protect data when it's "live" during the transaction and processing. Zafesoft takes a different approach, encrypting and then tracking private data once it has left secure databases and is being used in files. Zafesoft creates an audit trail, tracking instances of "open," "edit," "copy," "paste," and "save," and issues alerts whenever an unauthorized attempt is made to access protected content.

Referring to the panel's title – "Data Privacy – Option or Obligation?" – moderator John Mitchell of Stanford University observed, "Data privacy is not an option or an obligation. It's both. Laws and regulations make data privacy an obligation, and competition makes it an option, in the sense that dissatisfied customers have the option to go to a competitor if they are not pleased with the protection of their data."

The CTO of a leading TCS Client in the Financial Industry observed that data privacy and security are becoming more challenging in an era when companies are demanding real-time marketing analytics, which is usually provided by outside vendors. He proposed that the industry develop privacy standards for analytics products to assure privacy across multiple solutions.

Following up the panel on data privacy and security, Jay Chaudhry, CEO of SafeChannel, a COIN participant, presented his company's innovative software-as-a-service approach to providing security in the era of cloud computing. Mr. Chaudhry quoted Gartner's report that 75 percent of enterprises have been "infected with undetected, financially motivated, targeted malware that evaded their traditional perimeters and host defenses." He observed that the move to Web 2.0 applications, social networking, and cloud computing has made security even more challenging, and suggested that existing security solutions have not kept up. He suggested that SafeChannel's SaaS model of policy enforcement and malware protection allows enterprises to secure against such application-specific threats as viruses, spyware, malware, phishing, and zombies; allows granular control of Web communications, bandwidth use, and social networks and blogs; inspects outbound content such as email, IMs, and blogs for policy compliance on such issues as data sensitivity, intellectual property protection, and regulatory standards; and then deploys data mining and forensics to monitor traffic patterns and investigate incidents and anomalies.

Operational Efficiency

A large portion of the Forum focused, not surprisingly, on innovation that addresses issues that arise in the data center, including new ways to think about, manage, and automate IT infrastructure; new tools to manage data centers efficiently despite their fearsome complexity, and new ways to improve data center performance through predicting what could go wrong in the future, among other capabilities. The Forum also heard from Dr. Gautam Shroff of TCS regarding TCS' supercomputing startup, Computational Research Laboratories, which has built Asia's fastest supercomputer (the world's fourth-fastest).

Dr. Harrick Vin, TCS Vice President of R&D and head of TCS' Systems Research Lab, set the stage by describing in high-level terms how TCS employs an analytics-based approach to create "a repeatable, systematic, end-to-end infrastructure simplification and transformation process" for client data centers that "reduces dependency on human intuition and manual effort."

Dr. Vin had the CIOs and CTOs in the room nodding their heads and chuckling when he offered an automotive analogy to their complex, shape-shifting jobs of running data centers: "You buy a Camry, and while it's running it changes from a Camry to a Lexus, then a Mercedes, and then a Ferrari. Sometimes it's flying, other times it's on the freeway." He said "scale and complexity" are the main data center challenges, compounded by the multiple tasks data center managers are expected to perform: infrastructure and application consolidation, cost transparency, operational excellence, agile/high-assurance systems, security and compliance, power-efficiency, re-engineering and migration, capacity planning and resource scheduling, and anomaly detection and root-cause analysis.

TCS' response to the problem of scale and complexity is its SURE (Sense, Understand, and Respond) IT Transformation Framework, which reaches across the entire innovation ecosystem of COIN for best practices and the most promising emerging technologies. At this point, Dr. Vin brought to the stage representatives from two COIN partner companies whose innovations are part of TCS' SURE Framework – Cassatt Corp. and Unite Technologies.

Steve Oberlin, Chief Scientist at Cassatt Corp., and Ray Strecker, director of financial services consulting for TCS, joined in a presentation about Cassatt, which was co-founded by Bill Coleman, the "B" in BEA Systems, and is one of many COIN partners in TCS' "run the business vs. change the business" strategic concept (http://www.tcs.com/thought_leadership/Pages/RebalancingITCosttoFundBusinessChange.aspx). One of TCS' goals in enterprise engagements is to help IT-executive clients move up the strategy ladder from simply running their business to changing their businesses. A major obstacle is the increasing costs associated with IT infrastructure. How can CIOs and CTOs hope to operate more strategically if 80 percent of their budgets are spent just keeping the lights on? Cassatt offers one of many TCS-delivered ways out of this conundrum by updating the paradigm of data center administration from the mainframe days to the way today's data centers actually function.

"Money saved on power for servers is chump change," said Mr. Oberlin. "The real value lies in dynamic allocation of compute resources." Traditional methods for provisioning servers to applications – making sure there is capacity for peak loads – results in excess server capacity because peak loads are rare. One global pharmaceutical company, for example, found its servers running at 10 percent of capacity, with peak loads occurring just 25 percent of the time. Cassatt monitors applications and servers and "gracefully" shuts down applications, operating systems, and servers in policy-based manners when they aren't needed, saving money – 45 percent on power needs

alone, according to Mr. Oberlin – thus channeling resources to more strategic (“change the business”) initiatives. In the case of the pharmaceutical company, Cassatt was able to save the company \$5 Million over three years in hardware and licensing costs alone, with power savings added on top.

Alistair Hunt, from Unite Technologies Ltd. from the UK, introduced the Forum to his company’s PUE (Power Use Effectiveness) concept. A data center’s PUE is expressed as a ratio of total facility power to the power used by IT equipment. The typical data center, Mr. Hunt said, has a PUE of 4:1, meaning designers must allocate four times as much power to a data center as it really needs. By monitoring, measuring, analyzing, and managing data centers for hot spots, unbalanced loads, and suboptimal power-use scheduling, Unite reduces data center PUEs to 2:1 or less. This allows IT departments to generate equal computing capabilities using 50 percent less power.

The clear implication to be drawn from these presentations regarding TCS’ SURE Framework for data center transformation and simplification is it “takes a village,” or in this case the multiple innovation partnerships available through COIN, to aggregate and focus multiple instances of innovation sufficient to achieve a large and challenging strategic goal.

Enabling Business Agility

The Innovation Forum also featured a panel discussion on enabling business agility, the third of the IT-facing innovation themes. In the past, enterprises strove to streamline business operations and improve speed and efficiency by investing in IT development. However, in today’s rapidly changing business environment, when applications need to evolve continuously, IT can often become the bottleneck in the quest for improvement. Agile development methods have been proposed as a potential solution. In the panel discussion, moderator Jeff Ullman of Stanford University, opened by asking some focused questions of the panel’s participants:

1. What demonstrations have been seen of the effectiveness of the agile approach, especially with critical measurement of parameters?
2. While there are clear advantages to adapting to frequent requirement changes, there are costs and risks, since a change to one element of a program can have widespread, unintended consequences. How do we deal with managing change rapidly?
3. The agile philosophy downplays the role of documentation. How do you manage changes downstream, when the people doing the work are not the people who wrote the original code?

During the discussion, Piergiorgio Grossi, Deputy CIO of the Ferrari racing car team, highlighted his experiences in introducing an agile development process at Ferrari, where they found that changing the culture amongst developers was more crucial than changing a process or technology. Gautam Shroff, VP of R&D at TCS, then described a technology innovation from TCS called InstantApps that enables concurrent, Wysiwyg development of web-based business applications and shared his experiences with piloting this in TCS. Finally, Scott Amber, Practice Leader of Agile Development with IBM Rational, covered some interesting industry statistics regarding adoption of agile methodologies and the successes that they have had. With further innovation, IT can and will continue to be the driver that enables organizations to streamline operations and enable business agility.

Improving the User Experience

As the Innovation Forum began, most attendees noticed – but tried not to gape at – a long-haired, professorial-looking fellow with various apparatus attached to his body and head. This fellow, it turned out, was Thad Starner, a professor of computing at Georgia Tech (an academic member of TCS COIN) and a leading researcher in next-generation user interfaces. Prof. Starner showed a humorous clip from Woody Allen’s “Take the Money and Run” that showed Allen as a cello-playing member of a college marching band. As the band marched, Allen would settle himself just for a moment in his cellist’s chair, play a note or two, and then be obliged to get up and drag his chair and cello forward, where he’d set up and play another note or two before having to move on again. The point, Prof. Starner said, was twofold: cellos have no place in a marching band, and today’s “mobile computing” isn’t that mobile. Those who use mobile computing in, say, hazardous or fast-paced environments are like cello players in a marching band.

Prof. Starner and his Georgia Tech graduate students are trying to make the computing experience as portable and convenient as using a mobile phone, working with such limits as the size of human fingers (keyboards can only get so tiny before they lose utility). Among the projects being explored: a computer the size of a piece of gum, a full-color video display projected onto a small mirror attached to eyeglasses that users will perceive as “big screen,” and “smart” voice-recognition systems that might recognize the question, “Can we meet next week?” as a query that involves a calendar, and automatically opens the user’s calendar application when the question is asked.

Information Ubiquity

Executives from two young companies – mFoundry and SkyGrid – offered a pair of the more buzz-inducing presentations at the Forum.

John Pizzi, COO of mFoundry, a company that creates mobile banking applications, began by saying 612 million mobile phone users will generate \$587 Billion in transactions on their phones by 2011. Though fewer than five million people in the U.S. use their phones for banking today, 45 million will be banking on their phones within the next four years. The trend to mobile banking is just one element of a major trend toward the mobile phone as the PC of the near future. The mobile phone as next-generation PC is being driven by the ubiquity and increasing “smartness” of smart phones, high-speed data networks, and customers who grew up with mobile phones as the center of their lives. While Mr. Pizzi presented statistics for the U.S., the trend is even more apparent in Asia and other emerging markets, where users are already using their phones to do what Americans are still doing with their PCs. Interestingly, mFoundry has managed to unite the usually fractious players on both sides of its equation, forging partnerships with all major wireless providers and with key banks, financial institutions, and payments companies (such as Visa and MasterCard).

SkyGrid Founder and CEO Kevin Pomplun, 26 years old, used the Forum to make one of SkyGrid’s first public presentations since the company left stealth mode in the early spring of 2008. Already attracting venture capital from some of the leading investors in Silicon Valley and Wall Street who believe it is a disruptive innovation that will change the paradigm of how investment professionals consume and act on information, SkyGrid is a

Web-based search and analytics platform for investment professionals. Mr. Pomplun said SkyGrid goes beyond the current search paradigm of single queries to search mainstream media, the top 100+ websites by traffic, millions of blogs and enthusiast websites, hundreds of thousands of local and regional newspapers, press releases, news wires, and product review sites for news and comment relevant to finance. SkyGrid then examines each story to determine its positive or negative content, and assesses each source for reputation and influence. Users can call up SkyGrid analysis arranged by company, index, industry sector, or multiple custom portfolios.

“Corporate news alone doesn’t move markets and companies’ share prices,” Mr. Pomplun explained. “What drives value is the *perception* of that news and information as it plays out in mainstream and local media and on influential websites. Investment professionals need that information as it happens, analyzed and presented in a way that’s easy to use and act on.”

In closing the Spring 2008 Innovation Forum, TCS CTO Krishnan invited the IT executives in the audience to join TCS in learning, the spirit of co-innovation, and networking. He also urged those in attendance to act as evangelists for the concept of open innovation, which benefits every organization that becomes a node on the network. And he announced that the next TCS Innovation Forum will take place in Spring 2009. Mr. Krishnan said the Innovation Forums are just one instantiation of TCS’ commitment to its customers. From working closely with CIO and CTO clients across every industry for more than 30 years, he said, TCS knows firsthand that there is enormous potential innovation firepower resident in IT departments. The goal of the Innovation Forums is helping customers connect the potential and desire for innovation to innovation itself.

References

1. Forrester's December 2006 "How Do CEOs View IT?" Online Survey
2. *Business Week*: The Innovation Economy – The Promise of Innovation: Scouring The Planet For Brainiacs; Worldwide innovation networks are the new keys to R&D vitality – and competitiveness, By Pete Engardio with Dexter Roberts in Beijing, Neal Sandler in Tel Aviv, and Matt Kovac in Taipei, 11 October 2004
3. "Gartner's Top Predictions for IT Organizations and Users, 2007–08 and Beyond"

About the Author

K. Ananth Krishnan

Vice President and Chief Technology Officer

As Chief Technology Officer of TCS, K. Ananth Krishnan directs technology and research in TCS. He chairs the Corporate Technology Board, the governing body of Innovation. Ananth has moved the company to an open and collaborative innovation model, forging the TCS Co-Innovation Network (COIN), that is anchored in TCS Innovation Labs and connects to a gamut of entities in the ecosystem such as global academic and research institutions, strategic technology partners, venture funds and start ups to deliver innovative solutions to customers. He focuses the research efforts of TCS' numerous labs world wide, that create new solutions in various domains, into offerings that are of measurable value to TCS' customers.

A member of TCS' Corporate Think-Tank since 1999, Ananth has led several strategic initiatives and influenced business decisions. He has been at the helm of large transformational projects within the company, that have proactively met the technology and collaboration needs of 100,000 plus globally dispersed employees.

Ananth has been named in *Computerworld's* Premier 100 IT Leaders for 2007. He has been chosen as one of *InfoWorld's* Top 25 CTOs for 2007.

Ananth is an M. Tech. in Computer Science from the Indian Institute of Technology, Delhi.

Innovation at TCS

TCS has innovation in its DNA.

The first and oldest of TCS' research labs, TCS Innovation Labs — TRDDC, created the earliest tools in software history. Twenty six years ago it set-up a tool foundry which has over the years produced tools for model-driven development, testing, artificial intelligence and re-engineering, to name a few.

Today, spread across the world, TCS Innovation Labs are working across domains and new technologies to deliver a range of solution frameworks.

In the true spirit of collaboration, TCS has created a Co-Innovation Network (COIN). This connects to several entities in the innovation ecosystem and TCS co-innovates with them, capitalizing on the strengths of each to the benefit of all.

About Tata Consultancy Services (TCS)

Tata Consultancy Services Limited is an IT services, business solutions and outsourcing organization that delivers real results to global businesses, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT and IT-enabled services delivered through its unique Global Network Delivery Model™, recognized as the benchmark of excellence in software development.

A part of the Tata Group, India's largest industrial conglomerate, TCS has over 100,000 of the world's best trained IT consultants in 50 countries. The company generated consolidated revenues of US \$5.7 billion for fiscal year ended 31 March 2008 and is listed on the National Stock Exchange and Bombay Stock Exchange in India. For more information, visit us at www.tcs.com

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