TECHNO TRENDS
THE BIG IDEAS THAT ARE CHANGING EVERYTHING

REAL-TIME ORGANIZATION (PART II)

BY DANIEL BURRUS, CEO OF BURRUS RESEARCH

Last month, I touched on how to increase your company's profits by becoming a Real-Time Organization by being pre-active, having up-to-date information on demand, and conducting event based marketing.

This month, I would like to share the strategies you can use to create a real-time enterprise today.

KNOW YOUR GOALS

The basic concept of real-time is that when something happens, you want to react to it the moment it happens, not an hour, day, week, or month later. As the speed at which a company can intelligently and automatically respond to change increases, the cost of all their business processes decreases. Hearing this, you might think real-time is all about speed, but that's only part of the equation. If you don't know where you want to go, then faster won't help!

In order to gain the largest ROI for real-time initiatives, they need to be tied to your company's overall goals and objectives. Therefore, what do you hope to achieve? Are you trying to increase sales? Improve customer service? Enhance your brand? Enter new markets? Whatever it is you want for your business, state it clearly so you can make sure your real-time activities support your overall goals. *continued on page 2*

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BE AGILE

Just as there is a difference between strategy and tactics, there is a difference between real-time computing and real-time business. Real-time processing can be seen as event-driven computing. Real-time business, on the other hand, takes business agility—the ability to rapidly respond to changing conditions as they happen—to the next level. Operating in real time puts up-to-the-minute information directly into the hands of all the key participants in the business process who need it. Additionally, pre-programmed scenarios automatically trigger supply chain actions based on events as they happen.

A real-time enterprise is defined by its ability to access information across all boundaries of the organization. By integrating people, strategy, technology, and processes, real-time organizations are able to recognize shifts in customer demand as they happen and respond accordingly with customer-focused solutions. This enables them to use their higher level of business agility as a competitive weapon, grabbing market share from less agile competitors.

START SMALL

Realize that being a real-time organization is an evolutionary process. An ancient Chinese proverb states that a journey of a thousand miles begins with a single step. Therefore, select a place to start and build out from there. For example, Amberwood Homes, a residential homebuilder, has cut three weeks from the five months it takes to build an average 3,000 square foot home by sharing information with plumbers, roofers, masons, and other subcontractors via hand-held devices in real-time. That does not mean that all of Amberwood's business processes and partners are operating in real time; it means they picked a profitable place to start and will build off that success.

THE REAL-TIME ADVANTAGE

There is a clear competitive advantage to having high value, market-based information available almost instantly to the right people, both inside and outside of your company, and using that information to make quicker, more informed decisions. For example, telecommunication companies are facing increasing customer churn—customers switching from one company to another. A real-time initiative has helped Bell South Corp. reduce churn by 30%. The company accomplished this by delivering real-time recommendations to its call center reps who field calls from their small business customers. Thanks to a database covering 100 data variables on its 1.2 million customers, when a customer calls the reps have instant access to that customer's data profile, allowing them to offer a service, discount, or incentive based on the customer's propensity to switch to another phone company.

In short, real-time business is about leveraging all of your relationships through optimized business processes that can take advantage of nearly instantaneous communications across all the components of a true collaborative network. Delivering up-to-the-minute data with proper context makes all the difference between information and actionable knowledge.

TECHNOLOGY NEWS HIGHLIGHTS

CHEAP SOLAR POWER

The initial phase of the world's first concentrated photovoltaic (CPV) solar power plant has been completed in Castilla-LaMancha, Spain. The 200-kilowatt installation utilizes a new technology that is not only more efficient than traditional solar technology, but uses only one-thousandth the amount of semiconductor material, making it far less costly. The new solar arrays feature curved mirrors to focus sunlight onto the solar cells, as well as a tracking system that maintains optimal alignment with the sun. This concentrates the light 500 times to dramatically improve efficiency. The cells are made primarily of inexpensive materials like aluminum and glass and are 95 percent recyclable. And, unlike silicon PV cells, their performance is not degraded by high temperatures. The company projects that by 2010 the arrays will be generating electricity as cost-effectively as conventional sources. Systems have also been installed in Arizona, California, Hawaii and India.

For information: Gary Conley, SolFocus, Inc., 510 Logue Avenue, Mountain View, CA 904013; phone: 650-623-7100; fax: 650-623-7101; Web site: www.solfocus.com

COMPUTER READS HAND SIGNALS

The new Qosmio laptop is the first computer to hit the market that can be controlled by hand gestures. The built-in Web cam allows users to control music, video playback and PowerPoint with a wave of their hand. For example, forming a fist lets you move the cursor, and pressing your thumb on top of your fist makes a selection. The gesture-aware computer can distinguish between a raised palm, a moving fist, or the flick of a thumb from up to ten feet away.

For information: Toshiba Corporation, 1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-8001, Japan; phone: +81-3-3457-4511; fax: +81-3-3456-1631; Web site: www.toshiba.co.jp/worldwide/

SHOPPING FOR A BANK?

A new online auction marketplace, www.moneyaisle.com is the first Web site designed to give banks the opportunity to actively bid for business. When a customer logs on to open an account or buy a CD, banks compete for the deposit by offering different rates. The system allows individuals to shop for the best deals and also allows smaller banks to capture market share. Over 100 banks are currently members of the network, which is planning to expand their services to include loans.

For information: neoSaej Corporation, 77 S. Bedford Street, Suite 450, Burlington, MA 01803; phone: 781-487-4615; Web site: www.moneyaisle.com

LASER-BASED MOVIE PROJECTOR

A powerful green laser light source may be the last ingredient needed to finally develop a theater projector based on laser technology. Current projectors use mercury lamps and color filters to produce images, but lasers would be able to produce a better quality picture in terms of definition and color. The only drawback has been that, although red and blue lasers are readily available, a green source was needed to generate all the colors of the spectrum. The new laser was created by passing an infrared laser through an optical material that actually converts the wavelength to green and amplifies it in the process. The result is a green light source that will produce up to 12,000 lumens at a maximum power output of 20.8 watts on standard residential power. It can also operate for up to 10,000 hours, far longer than a mercury lamp.

For information: Sony Corporation, 1-7-1 Konan, Minato-ku, Tokyo 108-0075, Japan; Web site: www.sony.com

OFF-THE-GRID SOLAR POWER

A low-cost solar power generation system will be designed for use in areas where a local power grid is not yet established. While most solar systems are designed to generate excess power that can be sold back to the grid, in areas where no grid exists, the goal is to simply generate enough power to meet daily requirements, so cost can be kept to a minimum. The new systems will combine a 90-watt or 360-watt solar generator with a lithium ion battery to store spare power for use at night. The two models will be capable of storing 1024 or 4096 watt-hours and provide power for three full days under zero sunlight conditions.

For information: Sharp Electronic Corporation, Sharp Plaza, Mahwah, NJ 07495; phone: 201-529-8200; fax: 201-529-8425; Web site: www.solar.sharpusa.com

ROBOTS THAT CAN TOUCH AND FEEL

As Japan's population ages, researchers there are focused on developing robots that can take on some of the responsibility of caring for their elderly. A great deal of progress has already been made on basic actions and movements that can be programmed, but in order for robots to be able to perform many day to day tasks and distinguish between objects, a sense of touch is essential. A team of scientists recently developed tactile sensors that can be embedded into the "skin" of a robot as well as the tips of the "fingers." Measuring only two millimeters square, the sensors use micro-electromechanical systems (MEMS) to measure tiny vibrations when they come into contact with objects as small as one gram. The vibrations are transmitted as electrical signals that indicate not only the amount of pressure exerted, but also the amount of friction produced. The sensors are expected to greatly improve the performance of robots for performing household chores or nursing care. The goal is to have a product ready for distribution in a few years.

For information: Isao Shimoyama, University of Tokyo, Shimoyama-Matsumoto Laboratory, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8656, Japan; phone: +81-3-5841-6318; Web site: www.u-tokyo.ac.jp/index_e.html

DIRECT-TO-CONSUMER GENETIC TESTS

A genetic screening service called Health Compass analyzes a person's predisposition to a variety of common conditions including Alzheimers, diabetes, multiple sclerosis, glaucoma, various types of cancer, and certain heart ailments. Subscribers are provided with a specially designed, sealed container along with instructions for collecting a sample of saliva. The sample is mailed directly to a laboratory where it is analyzed using a gene chip. The results include data on 1.8 million genetic markers. The subscription cost of $2,500 for the initial test and $250 per year thereafter includes ongoing updates as new conditions are added. The company also provides access to relevant health information and support personnel to help members make more informed health decisions.

For information: Navigenics, One Lagoon Drive, Suite 450, Redwood Shores, CA 94065; phone: 650-585-7700; fax: 650-622-0086; Web site: www.navigenics.com

ELECTRICITY FROM STARCH

A prototype fuel cell has been developed that uses starch for fuel, a breakthrough that could ultimately lead to fuel cells that produce electricity with a net reduction in carbon dioxide. The cell was made by sandwiching a solution containing starch and amylase (a protein that breaks down starch) between two electrodes. One of the electrodes is made of platinum and the other is transparent, but coated with chlorophyll and a photo catalyst. When it's exposed to light, the chlorophyll absorbs photons and the photo catalyst releases electrons, setting up a current that flows back to the platinum electrode. There the electrons combine with oxygen in the solution to create water, while the amylase breaks down the starch to release electrons and complete the circuit. The only byproduct is a harmless compound called gluconic acid.

For information: Oita University, 700 Dennoharu, Oita-chi 870-1192, Japan; Web site: www.oita-u.ac.jp/english/index.html

SILENCING GENES

RNA interference (RNAi) has the potential of being a powerful therapeutic tool for fighting a variety of diseases by blocking the action of the genes that cause them. The problem has been finding a way to deliver the appropriate RNA to the cells because the body's immune system attacks it too quickly. Now, researchers have found a way to introduce RNA into cells by using liposomes as delivery agents. In tests on rodents and primates, they were able to avoid the body's natural defenses and successfully introduce RNA into a variety of cells where they blocked the action of the disease-causing genes.

For information: Daniel G. Anderson, Massachusetts Institute of Technology, Dave. H. Koch Institute for Integrative Cancer Research, E25-342, 77 Massachusetts Avenue, Cambridge, MA 02139; phone: 617-258-6843; email: dgander@mit.edu; Web site: www.mit.edu

TURNING BIOFUEL WASTE INTO PROFITS

A major side effect of the increased uses of biofuels is an over abundance of glycerin, a waste product of the manufacturing process. About one pound is created for every ten pounds of biofuel produced, and refineries are finding that it's getting more and more costly to dispose of it. Recently researchers discovered that when e.coli are added to the process under controlled conditions, the bacteria convert the glycerin into succinate, a valuable, non-toxic organic acid, which can be used to manufacture drugs, plastics, and food additives. A proof-of-concept demonstration facility is expected to open by mid-2009.

For information: Ramon Gonzalez, Rice University, Depaof Chemical & Biomolecular Engineering, MS-362, P.O. Box 1892, Houston, TX 77251; phone: 713-348-4902; email: chbe@rice.edu; Web site: www.rice.edu

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