GRID COMPUTING HELD HOSTAGE
Why vendors aren’t building grid applications

THE ADVANTAGES OF WORKING DANGEROUSLY
The benefits of being an early adopter

IT TURNAROUND RULES
Six tips for when things need to change — fast!

Could this be your new title?

Chief Process Officer
It’s time to get involved with your business processes or pack your bags.
COMPETITION GETS
It’s an exciting and potentially career-altering notion for CIOs: that the tools and processes they use to manage IT can be used to manage business processes.
Because something is happening here
But you don't know what it is
Do you, Mister Jones?

— Bob Dylan, 'Ballad of a Thin Man'

TECHNOLOGY HAS A HISTORY OF WRESTLING POWER FROM COMPLACENT ELITES

and forcibly redistributing it in ways that rock the foundations of the known world. The Gutenberg press, in putting the Bible into the hands of the common man, helped weaken the grip of the venal priests of the 15th century Church of England and paved the way for the geopolitical earthquake that was Martin Luther’s Reformation.

Now the Internet, in seizing business information from the corporations who have hoarded it and putting it in the hands of the customer, is precipitating an economic power shift from the Atlantic to the Pacific, and companies will never be the same. With the tectonic plates heaving under our feet, we are entering the era of the “Global Innovation Wars” and “process-based competition”, and to further paraphrase business process management (BPM) expert Peter Fingar, corporations and their CIOs alike had better start swimming, or expect to sink like a stone.

The Internet is not about a Web site; it’s about no less than the transformation of the global economy, says Fingar, the co-author of The Real-Time Enterprise: Competing on Time, and Business Process Management: The Third Wave. Because of its “reformative” power, the whole idea of having a vertically integrated company — or even a horizontally integrated conglomerate — is, or will soon be, over. Business is increasingly being done across multiple companies and multiple countries, the customer and the talented individual are both king, innovation is the new black, and organizations must learn to compete in that new, utterly unforgiving landscape or become but footnotes in history.

That is why major oil company Exxon Mobil is now in the gourmet coffee business. It explains how Virgin Mobile became the 10th largest mobile phone provider in the US in just 18 months without installing a single mobile phone tower, defying the hundreds of millions of dollars and years of infrastructure development and deployment leading rivals like AT&T, Cingular and Verizon invested to get where they are. It is why the research for Fingar's new book is being done by three talented IT graduates in India, and why the Apollo Hospital group in that country has performed more than 60,000 major surgeries on North Americans and Europeans over the past two years.
Indeed it is why a new middle class has arisen in India on the back of IT outsourcing, and it is why many of their jobs too could soon be a thing of the past. “Caveat India,” Fingar has written. “The combination of BPM software and next generation self-service systems is likely to recast two of India’s growth industries as sunset industries. BPM software will drastically reduce the need for labour-intensive software development for business process implementation and change, and advanced self-service systems will drastically cut the need for customer service representatives, as growing numbers of customers serve themselves in real time.”

It is why in recent presentations Fingar has taken to quoting approvingly the words of Application Development Trends columnist David Chappell. “My guess is that over the next few years, many people working in IT will face a simple choice. One option is to get involved with business processes in a much more explicit way. The other? Pack your bags and move to Bangalore, India, because that is where your job is going to go.”

So it is bye-bye chief information officer, hello chief process officer (CPO), and get ready for a very bumpy ride.

Thousand Points of Light

Finally, that transformation of the global economy beginning to play out before our collective eyes is why Fingar’s upcoming book will be called Extreme Competition: the 21st Century Business Reformation.

Although the new book will undoubtedly prove at least as valuable to CIOs and other technologists as The Real-Time Enterprise was, Fingar — frustrated that his earlier work was mostly read and appreciated by the usual suspects — is determined to broaden the audience for his new missive to company executives and the boardroom. As long as discussions about BPM are restricted to technologists and BPM insiders, most companies will treat it as nothing more than a technique for squeezing out costs and making incremental performance improvements, Fingar says. But for some early pioneers where the conversation has reached the boardroom, BPM has become much more. The lessons they have to teach are as profound as are the implications of their success.

These are the companies — like GE, Wal-Mart, Virgin Group, Toyota, JetBlue, Dell Computer, Progressive Insurance, Amazon and Samsung — that have used business process innovation to make deep structural changes that have let them reinvent the very ways they operate their businesses and thus changed the game in their industries.

So the real-time enterprise (RTE), far from being the latest “killer application,” is a management strategy that calls for squeezing time and associated costs out of processes, transforming how companies operate and even the very businesses they are in.

Such operational transformation — the “next big thing” in business, if you like — is being driven by the emergence of a wired, flat world. “It’s about the fusion of business operations and information technology to the point of unity,” Fingar says. “That transformation is well under way, and on a scale that fully justifies calling it ‘the great 21st century business reformation’, where 20th century business doctrines, dogmas and practices are being stripped away or called into question.”

Or as he told students at MIT’s Sloan School last year: “Things have changed in a thousand small ways as a result of the Internet — e-mail, online banking, information access, connections among business partners, online procurement . . . the list goes on. As the cumulative effect of the thousand points of light of today’s business Internet reach the stage of total and immediate access, it becomes clear that a new kind of company, the company of the future, will emerge. In fact, it already has. It’s the real-time enterprise.”

Getting Real

In The Real-Time Enterprise, Fingar wrote that a working understanding of the RTE would include these characteristics: process automation bridging distinct enterprise boundaries, media and information systems; real-time provision and exchange of information with customers, employees, partners, and suppliers; processes that ensure this information is current and consistent throughout the network; event-driven processes forming a sense-and-respond approach that minimizes manual input, batch processing, delays and inventory; and high adaptability.

“The real-time enterprise is crystallizing out of a process-rich brew in which swim Web-enabled customer relationship management, supply-chain event management, enterprise relationship management, partner relationship management, content management, customer analytics, business intelligence, optimization, forecasting and simulation,” Fingar wrote. “Into the mix we can throw technologies, including application servers, enterprise application integration, Web services, microservers, event routers, enterprise portals, and digital dashboards — and at the heart is a new category of software: business process management (BPM).”

“This fertile brew has been struck by the lightning of intense competition, bringing to life the first members of the real-time species. Many of these are existing behemoths with the most adaptive corporate DNA — Dell Computer (supply chain), Wal-Mart, GE (digital dashboards), Cisco (internal monitoring and reporting, one-day closing of finances), FedEx and UPS (tracking and self-service logistics management), Royal Dutch/Shell (using
sensors to monitor its oil refineries and properties) and the lesser-known Zara (demand tracking and inventory minimization). The uptake of real time by these exemplary businesses gives further weight to the view of renowned venture capitalist Vinod Khosla, who sees real time as “the business story of the next decade.”

While it is CEOs and board members whom Fingar most wants to alert to the new realities, he warns that as companies push towards operational transformation, the implications for IT professionals are profound. “The reason I wrote the RTE book was to get [knowledge about the reformation] into the hands of CIOs who are aware of this change to be ammunition for them to use to help educate the general business bodies.”

Above all, the book is meant to show that companies do not want more IT; they want business results, he says.

“We’ve got all the transaction processing and applications that we could ever want. What we really need is the leadership from the CIO to create the process-managed enterprise, and that means assisting in helping educate the company. And by the way, the reason it falls to the CIO is that most companies are still function-oriented. You know, you grew up and you got your degree in finance and now you’re the CFO, you’re an engineer and you’re involved in manufacturing. The group or the individual who has the widest view of the company, a complete systems perspective, is the CIO.”

If companies are to embrace operational transformation, they will need a far greater contribution from IT than ever before, Fingar says, but that contribution will be of a substantially different nature. Those CIOs capable of rising to the challenge will be deep in the thick of the extreme business makeover, because companies pursuing operational transformation first and foremost need that system-wide view of the company, and who better to offer that than the IT professionals? But what they do will be light-years away from what they might have done in the past.

Fingar is convinced building the process-managed, real-time enterprise will demand innovation and rigorous systems thinking from a new generation of IT professionals, stretching some to their limits as the process paradigm shift takes hold.

“It’s not your father’s IT shop any more, and business process management skills now outweigh yesterday’s technical skills,” he says.

A Flatter World
In his recent book, The World is Flat: A Brief History of the Globalized World in the 21st Century, Fingar notes, Pulitzer Prize-winning New York Times columnist Thomas Friedman argues that this period will be remembered not for military conflicts or political events, but for the “flattening” of the world in a whole new age of globalization. Friedman says the explosion of advanced technologies has engendered sudden connections between knowledge pools and resources from all over the planet, levelling the playing field as never before. In this wired world, Indian accountants or software engineers can now share an idea, team their skills or compete head-on for work with their
US or European counterparts, and professionals around the globe can work from home as if they were in offices next door to each other.

Friedman calls it the third wave of globalization — the first being the age of British imperialism, and the second that of the transnational organization, under which companies under the benign auspices of a US superpower have become more powerful than governments. ("The story he tells about that I thought was pretty cool was that when India and Pakistan were getting ready to go to war over Pakistan's testing of its atomic bomb, Friedman claims there were phone calls from businesspeople into India saying: 'If you start that, we are pulling all of our operations out of India today because it will no longer be stable'," Fingar says.)

In this third wave, responding to people power will become the only game in town and talent will become an enterprise's most valuable commodity. The three "smart kids" in India who comprise the research team for Fingar's new book provide one compelling example, and the private company in India that is now teaching in the public education system in Singapore is another. Even hospitals and pharmaceutical companies find their business models at extreme threat under the weight of globalization, as Westerners unable to afford health insurance seek discount health provision from emerging economies. And all at a time when Western governments seem intent on devaluing even more our public education systems and the weight we give to innovation and research.

**The Innovation Imperative**

The backlash against outsourcing that gripped the US after the oil crisis of the 1970s, and then after Japan started to assert its supremacy in manufacturing, inspired Sam Walton to attract customers to what has now become the Earth's largest company, Wal-Mart, using the slogan "Made in America". Today, Wal-Mart might as well be a province of China, Fingar says, since 80 percent of the product it sells is made in that country. That's one manifestation of the extreme supply chain, another factor driving business reformation.

Then there is the opening up of countries like Russia, India and China to capitalism.

"Using Thomas Friedman's words: 'They're not racing us to the bottom with cheap labour, they're racing us to the top'," Fingar says. "They want to become the innovators and control the markets. The CEO of Intel recently said, essentially, 'We don't have to be an American company any more; a lot of our innovation work is being done in Asia'. So if you've got the innovation design happening there and then if you look for example at the number of PhDs in science and technology coming out of India and China, you know Silicon Valley, like Hollywood, has no more exclusive right on innovation.

"An example I came across is that of Samsung jumping ahead of Nokia. Nokia got lazy after they grabbed the market and I think when the first clamshell flip-phones came out by Samsung they moved right ahead with the video or the camera phone. So the point is we're looking at what I call the globalization of white-collar work. Sixty percent of the researchers for GE Labs, which is the old Thomas Edison labs in New York, are in India and Shanghai. And guess what one of the projects is that they're working on? They're working on reinventing the light bulb. Some kind of low heat new technology for light bulbs is being developed over there.

"As Friedman writes: 'Young Indian and Chinese people aspire to design the next wave of innovations and dominate those markets. Good jobs are being outsourced to them not simply because they'll work for less, but because they are better educated in the maths and science skills required for 21st century work.'

"When was the last time you met a 12 year old who told you he or she wanted to grow up to be an engineer? When Bill Gates goes to China, students hang from the rafters and scalp tickets to hear him speak. In China, Bill Gates is Britney Spears. In America, Britney Spears is Britney Spears," Fingar says.

"We need a Bill Cosby-like president to tell all parents the truth: Throw out your kid's idiotic video game, shut off the TV and get Johnny and Suzy to work, because there is a storm coming their way," Fingar adds. "Get ready for the Global Innovation Wars and process-based competition."

**Courting the Customer**

In the third wave of globalization, business does not even seem to have to act like a traditional business any more. Look at the way Richard Branson's Virgin Mobile became the 10th largest mobile phone provider in the US, by forging relationships with Sprint PCS to host their mobile connections and deploying smart integration software to connect their business processes to Sprint's real-time operational systems.

The *The Real-Time Enterprise* examines in detail how Branson, acting as his own empowered customer, cut a "co-opetition" deal and used process technology to interoperate CRM systems and record-keeping systems with the real-time operational support systems.

"We've been talking about customer-driven companies ever since the dotcom era, but now if you really look at the bottom line all you have as a company any more, because of globalization and commoditization, is to become a totally customer-focused company," Fingar says.
"I believe what’s going to happen is that businesses have to realize that the only thing they have left really is the customer base. They have to get so tight to their customers, like Zara the clothing manufacturer out of Spain. They make clothes for 10-year-old girls so it’s all high turnover quick fashion stuff. And Zara is able to take a new design from feedback from the stores and turn out a whole new little fashion and have it on the shelves in 10 days.

"In order to do that you are going to have to aggregate more and more products and services for your existing customer base. And the only way to do that is with [BPM]. So that’s the point I want to be making in the book; it’s really describing not so much the technology but describing instead more about the business models. You know Exxon Mobil the big oil company is now in the gourmet coffee business. They have all these retail outlets [petrol stations] and since Starbucks made expensive coffee so popular here, one of Exxon’s replies has been to make a big push to get into the gourmet coffee business. There are just numbers of stories like that which I want to put together and then focus on each of the key variables, like the extreme customer who can demand what they want, extreme supply chains and so forth."

**Cumulative Effect**

That intense competition is, of course, being both enabled and driven to extremes by the empowered individual. And one of the best ways to reach the customer is not just provide them

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### Ready, Set, Process

**How CIOs can best get ready for the Process Age**

#### Options

1. Evaluate BPMS technology to support cross-functional processes. While ERP and other applications can bring efficiency and speed to workflow and transaction management, meeting real-time enterprise goals generally involves end-to-end processes that cut across functions. Living at a higher tier than applications, the BPMS can draw on appropriate underlying applications and systems to achieve cross-functional process success.

2. Create a service-oriented architecture (SOA) for application and information integration. Moving towards simpler interfaces and less proprietary integration methods will ease time-consuming bottlenecks and set up a more flexible integration infrastructure for processes.

3. Choose development tools that enhance processes. Traditional integrated development environments enable rapid application development. Look for tools that help you shift focus to process modeling, management and integration.

#### Influencers

1. Does your organization have a clear business view of the real-time enterprise? Goals and metrics should address customer satisfaction, supply chain efficiency and other strategic objectives—not just the automation of existing processes and transactions.

2. Will software tools and architectures adequately support cross-functional processes? Producing more software faster is not going to be enough—and could get very expensive. Organizations need process analysis and management excellence to be agile and responsive to real-time business events.

3. Can business intelligence and information integration keep pace with processes? Data warehousing is often in a separate world, supporting standard reporting and strategic analysis. Cross-functional processes will demand timely, integrated information at every step.

#### Action Items

1. Develop a business view of processes. Executives, business analysts and IT architects must see the forest, not just the trees, to understand how best to remove time obstacles to more dynamic, responsive business behaviour.

2. Adopt SOA and XML approaches to integration. If it takes an army of programmers to overcome proprietary roadblocks to smoother application and data integration, evaluate whether industry standards could get you closer to real time.

3. Aim development at processes, not just software. A BPMS is not just an extension of the software stack; it should be on a different level, closer to business strategy. Developers must understand the difference so they can model and build open, cross-functional processes that deliver real-time business benefits.

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with a product but a service. Indeed GE, once seen primarily as an aircraft engine and light bulb manufacturer, now makes more money in services than products.

In Tampa, Florida, for instance, Fingar’s home state, when GE’s medical division installed a vast array of high-tech equipment for a new heart hospital, the hospital staff lacked the Six Sigma qualifications to manage and maintain it. As a result, GE’s service contract has made the company effectively a part of the hospital. “GE is part of the hospital. Its people are on the floor. They are the customer. And so when you’re at that level of getting close to the customer, that’s how you stay ahead. You are the customer,” Fingar says.

In the new environment, branding will be among the most critical business variables; the other will be to use intellectual property and patents to keep you ahead of the game. “In other words, this notion of having a core competency that you are unique in is something that companies are going to have to sharpen much, much more,” says Fingar. “Take a large company like General Motors, which is hurting right now. It’s such a big bureaucratic monolith that it just cannot compete with its more nimble competitors. “Survival is not just about innovating something, because once you innovate, people can catch up with you faster today. And so the notion is that you must not only innovate, but once you’ve done it you need to set the pace of innovation thereafter, just like [the] Nokia-Samsung kind of situation.

“The whole notion of being able to set the pace of innovation in your industry becomes a radical thing that you have to be able to do, otherwise you immediately get commoditized.”

The Rise of the CPO
In the future, Fingar sees more and more companies emulating the business model of Dell, where design, manufacturer, assembly and even customer support are all outsourced. Operational connectivity under this model is not just about organizations and individuals being able to talk to each other, but about organizations being able to orchestrate the operations of an ever-expanding web of suppliers. That will be the real significance of BPM into the future, Fingar says, and that is why CIOs will inevitably morph into CPOs.

“The first thing I would say is that a lot of people who are CIOs today came up through the technical route: they might be Java people at heart. Well, if you want to stay being a Java architect, do what David Chappell suggests: move to Bangalore, because that’s where your job is. On the other hand, if you want to do what companies need you to do and work where the budgets are going to grow, you had better get directly involved with process. We’ve got plenty of applications. You know, we’ve been doing that for the last 50 years.

“But what’s happening now, to do these things I am talking about, requires what I call supra processes — processes that are being created that never existed before and that help companies form these new virtual companies if you will, these new value chains.”

Business re-engineering was about using enterprise networks to break down the stovepipes between departments in order to streamline the company. Now companies must use a worldwide network, the Internet, to tear down the stovepipes between companies using different ERP, CRM and CAD/CAM systems. CIOs — or better still the CPOs who should soon replace them — must now learn to build a level of process, an architecture if you will, that allows systems to be re-purposed and extended to build end-to-end business processes across corporations and countries.

Technical skills and programming ability will barely enter into it, Fingar says, and developing the detailed components can still safely be outsourced to the “lowest cost Java shop”. What will give the new CPO his or her edge will be the ability to build those custom processes that involve multiple companies — the ones that will distinguish his or her company and give it its competitive edge. When an Exxon Mobil decides to go into the gourmet coffee business, to capitalize on the customer demand
created by Starbucks and in order to satisfy the customers who visit its retail outlets, the CPO will be there to build a whole new value chain.

While the focus of BPM vendor offerings today is on machine-to-machine and application-to-application type systems, what is largely missing has been work on human-to-human interaction.

“A lot of people say: ‘Oh well, that is workflow,’” Fingar says. “Well no, workflow is human-to-machine and it’s with predefined flows of work for documents and approval to be flowing around. The breakaway area in this whole field is going to be what I call a human interaction management system, which has formal underpinnings for actually bringing together what I call a world wide workspace.

“And I am not talking instant messaging, I’m talking about how people actually work when developing a new product or when they’re bidding on complex sales activity to rebuild the World Trade Centre or whatever. There are a number of collaborative activities that go beyond workflow and knowledge management, which I call human interaction management and that is going to be the next envelope pushed in the whole BPM space.”

By giving business analysts software to build and manipulate end-to-end processes, companies will dramatically improve response times to routine customer transactions and emerging market demands by bypassing lengthy software development cycles.

Faster Time to Products and Services

A real-time enterprise is agile, Fingar points out; it executes new business strategies when they can deliver the greatest benefit. The CIO, or rather the new incarnation, the CPO, should push analysts and enterprise architects to start with just that kind of business-oriented vision of real time and consider how best to make it happen.

“Business process management systems and methods hold promise as the means of reaching the next threshold — but only if BPM is viewed as something more than just an extension of current software development strategies. Living closer to the development of business strategy, BPM can offer a global perspective on how to integrate cross-functional processes for dynamic execution,” he says.

But just as time-based competition does not apply only to the manufacture and distribution of physical goods, becoming a real-time enterprise demands more than fast technology. It depends on how quickly an organization can transform itself or add end-to-end processes to execute new strategies (restructuring time) and the ability to share business events in real time across multiple applications to deliver compelling value to customers (response time).

“A customer order is significant to many business processes. Thus, the faster related processes can be triggered, according to embedded business rules, the more real-time an organization becomes. For example, an order might alert a CRM system to instantly bring forward cross-sell or up-sell opportunities,” Fingar says.

“The real-time enterprise isn’t just about speedingly handling routine transactions. Restructuring time and response time can only be substantially reduced if business processes can be quickly and easily changed. That’s why BPM is the real-time trend’s cornerstone.”

The process-managed enterprise represents a management strategy — not a new killer application technology — that places the business process centre stage as the critical technology abstraction.