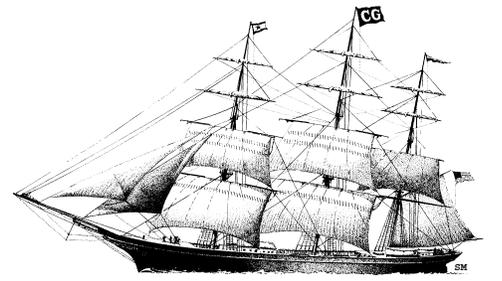


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Morphing toward the Promised Land — IBM Sets the Enterprise Stage

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Dealing with the Complexities of the Real World

As a kid who grew up in the 1950s, I often yearn for what I am sure (retrospectively) were much simpler times. If only I could have that relief for a couple of hours each day! I must be delusional; maybe it's the heat. There's no escaping the realities of our personal or professional lives. Pundits used to say it was our own fault if we didn't stop the world's turn, or at least slow it down to a simpler pace. That may have been true, but not any longer. **Very few of us, as individuals or as enterprises, can take very much about our real world for granted.** Without the security and near steady state provided by these assumptions, we can no longer see the world simply nor make simple decisions. Everything is interrelated, or so it seems - you can't do *this* without considering *that*!

Personal and enterprise existence has become an unsolvable, nonstop exercise in project management. Even before you can compute the critical path to follow, the assumptions change, or maybe it's the assumptions on the assumptions. As a result, I don't ever see the world getting simpler, either personally or for the enterprises that must compete on the world's competitive stage. This may have been a particularly American view (think of it as enterprise-class *Type A* behavior) but its contagion has spread to every corner of the earth. Like an outcry in an overly-trite commercial: *What am I (or, what are we) to do? How can I (we) cope?* Ignorance is no longer bliss and a two-week vacation just gets you two-weeks deeper into the hole that you're already in.

This is a problem of individuals and enterprises, small and large. *How can we do what needs to be done with fewer and fewer resources?* It's not as if we can stop taking care of customers or rest on our previous laurels. **We need to sense, respond, produce, and deliver in real time.** If you are not so fortunate as to have a crystal ball that is always right, then you need something else to allow all of this to happen in real time. **Real time is the new enemy; maybe it's just the most important reality of the 21st Century.** **Accepting this is critical to personal and enterprise survival.** (Maybe this should be the next reality-TV series: real-time, round-the-clock coverage of the competition between warring enterprises. Hey, that already is happening!)

So, what are we to do and how do we go about doing it (and what does this have to do with enterprise IT)? **First, we have to accept reality, the reality of an interconnected, real-time world.** If you think that you can live and prosper in isolation, please send me a postcard in 10 years describing your journey.

Second, we need to accept that technology is at the heart of the vehicle for coping with real-time everything. Good intentions and a flurry of human activity just aren't enough. As a vehicle, we have many high expectations regarding its quality - *its ability to get us where we need to go with the cargo that we need to carry when we need to get there.* While the technology under the hood of this vehicle is important to meeting our objectives, exactly how it works (i.e., comprehending the inner-workings under the hood and how it delivers the results) is less important than meeting our enterprise expectations and getting us to our objectives at an affordable cost.

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Third, we need to accept that technology is only a vehicle and, as smart as it may seem to be, it only allows us to remain in the game. Yes, your life or business is a game or, maybe, a giant operations research optimization puzzle.

Fourth, it is a real-time game, one where we need to align our goals and objectives, engagement rules (operating policies), and the underlying vehicles (technologies) so that we stay headed in the right direction. It is a real-time game — one that is always running — and, while players may come and go all of the time, the game goes on. In armies of old, we relied on the capabilities and perspicacity of well-trained minions to work round-the-clock to advance its objectives. Armies of today live and die by command and control information and the systems that gather, process, and distribute the most current information and game plan to the increasingly-automated vehicles that make it happen.

Fifth, we need to be flexible enough to adjust *who we are* and *where we are headed* regularly and without micro-intervention. In a sense, we need to be able to turn our long and heavily-loaded barge on a dime. Unfortunately, this two-dimensional analogy does not do justice to the challenge of dealing with the real complexities of our multi-dimensional environments.

We have come full circle. We began with the realization that complexity of existence is the reality, added that real time is the real enemy, and furthered that we can't be flexible enough with traditional ways of thinking about objectives, processes, systems and information to play our complex, multi-dimensional game.

I didn't take you down this path without purpose. We need to be very realistic if we are to be a survivor in this hostile, ever-changing world. **What we need is a plan of action. What we also need is a vehicle to get us through the non-stop mazes of operational existence. We need both the plan and the vehicle to play the game of life. To stay in the game is the only definition for success.** Today, IBM is offering both. Let's look at what Big Blue announced today in New York City.

Big Blue's Better Ideas

IBM unveiled a game plan and a vehicle today, in addition to other announcements¹. Both are significant to enterprises seeking to stay in the complex, interrelated, real-time game. While IBM spoke of hardware, software, and services, that was not the main act. The spotlight was on a plan for enterprise success (survival). *What was most interesting was the double-entendre in what it said — the plan for survivor-class information technology is the same as the plan for survivor-class enterprises.* Let me explain.

IBM presented three core principles for surviving in the 21st Century.

virtualize everything

be open, and

collaborate broadly.

While this might seem to some like just one more round of IT marketing hype, this belief system is at the heart of what IBM is doing internally — an example of *what we practice, we now preach*.

Virtualize Everything

Many of us have spent the last five years dissecting hundreds of product announcements touting the virtualization of some aspect of information technology. Some of us have been observing system component virtualization for a lot longer — almost four decades since the debut of IBM's first mainframe.² So, virtualization is not new. Neither is the importance of virtualization, which we have been advocating broadly for the past decade.³ What is different, now, is subtle in many ways. IBM isn't saying that virtualization is something that you need to buy (although it can sell virtualization to you in

¹ Including the formation of a new community around *BladeCenter* to be called *blade.org*, to serve the more than 400 BladeCenter Alliance program members. Companies that have expressed an interest in becoming founding members in the community include Brocade, Cisco, Citrix Systems, IBM, Intel, NetApp, Nortel, Novell, and VMware.

² See **The Clipper Group Captain's Log** dated May 30, 2004, entitled *The Beginning of I.T. Civilization - IBM's System/360 Mainframe*, and available at <http://www.clipper.com/research/TCG2004028.pdf>.

³ See **The Clipper Group Explorer** dated September 8, 2004, entitled *Understanding the Role of IT Virtualization - It's a Matter of Architecture*, and available at <http://www.clipper.com/research/TCG2004074.pdf>.

many ways); it is saying that virtualization is the way you need to think — in all dimensions of enterprise existence. *Think Virtualization* is their first mantra. That has broad applicability. For example, far from the traditional world of IT, we now have *virtual offices* (where the physical reality of your actual location at a given point in time has been separated from where we generally think you are (i.e., in your assigned space in a space building)), *virtual manufacturing capacities* (where everything is outsourced to your quality and delivery requirements), *virtual engineering staffs* (where others conceive and create the products that carry your brands), and *virtual support staffs* (exactly to whom are you talking when you call tech support?). **As enterprises (in the broad business sense) and as IT organizations (as the purveyors of IT infrastructure), you must virtualize to survive.** This allows operation on thinner margins with quicker response times.

The corollary to this directive is that you can't survive unless you virtualize your thinking, your operations (processes), and your infrastructure. Be clear, this doesn't mean that you have to turn everything over to outsiders, although this is always an option. It does mean that **if you are going to retain the operations and infrastructure, you must deploy virtualization broadly therein.** IBM has done this internally (at the process and operations levels) and in its leading-edge IT offerings. It makes sense to work with suppliers that practice what they preach.⁴

Be Open

Again, this is not new. Yet this is IBM's second mantra. The company that many attribute with inventing *proprietary lock-in* now says *Be Open Everywhere*. So what are you to believe? Is that new mainframe announced today propriety or open? (More details to follow.) What exactly does it mean to *be open*?

As before, we need to look at this broadly, beyond just the IT realm. **Openness is more than a state of mind; it is reality.** It implies that you may be working with your competitors as well as competing with them. It implies that your customers are your partners

and influencers and not just the end of your supply chain. It implies that you will implement your processes and systems in a manner to make this happen. It also implies that you are open to the world, in many ways, willing to hear the good, the bad and the ugly, often publicly in blogs and reviewer's commentary. There is no hiding in this world. If you want to play, you have to be open. That doesn't mean that you don't have proprietary methods or operations. You have to appear open to all comers; think of this as a kind of *virtual openness*.

When it comes to information systems, there are a couple of quick conclusions. **To be virtually open means that you play well with others. This means adherence to standards. This means that you are open to including competitive components and systems within your larger solutions.** Let your customer decide whether they value more the wholeness of solution that a single vendor might provide over the diversity of solution that might be assembled in the most open environment. Your customer knows best and understands *caveat emptor*.

IBM partners with its competitors. For example, it sold its disk business to Hitachi, against whom it competes in the storage hardware, software, and services marketplace. In fact, it cross-licenses software with Hitachi, so that each might be more open. Furthermore, IBM is a big player in storage interoperability, supporting the SMI-S standards that will allow interoperability and common management without reengineering every competitor's proprietary interfaces. The customers benefit and IBM saves millions in engineering costs. Everyone benefits in this open world. And the customers get to choose what makes most sense for them.

When it comes to systems, openness does not mean that everyone must run on the same processor engines in order to be open. The rules of virtual openness also apply here. **If a system sees applications in terms of Java and Linux (or C++, etc.), instead of proprietary procedure calls, it is open.** The fact that there is a specific chip at the heart of the system (whether based on IBM's *Power* or mainframe architecture or on so-called commodity architectures from Intel or AMD) is irrelevant to virtual openness unless you are executing machine-coded programs. It all comes down to being open to applications and middleware. **Business, processes, and systems cannot be islands unto**

⁴ Much of IBM's virtualization capabilities are delivered via its *Virtualization Engine* set of products.

themselves and IBM understands this clearly.

Collaborate Broadly

Collaboration is also not new, but its breadth and impetus have taken on new meaning. It not only means working together internally (among divisions and workers distributed broadly) and externally (with partners and customers), it means doing so in real time. This is the real power of collaboration and what IBM has in mind for its third mantra. As discussed earlier, we live in a complex world with many operational and informational interdependencies. Think of this as a multi-users spreadsheet into which each user is allowed to change some of the data points or even some of the equations, as often as they like. On a small scale, this might be manageable, but quickly the recomputation of each change becomes a challenge, in terms of updating the interactive cells and keeping track of all of the changes, both individually and to the ever-changing current state. This is a now more like a real-time game with many players in different roles at different levels and involved with different processes. Trying to keep that model current is the challenge. And so it is with collaboration in a complex, real-time world. **Enterprises not only need to collaborate broadly (i.e., want to play the game), they also need to be able to collaborate broadly (i.e., be able to play the game).**

Going the Next Mile

While this may all seem like the rehashing of old ideas, it is not. **What we have here is a recognition that not only have the rules (of the game) changed, but that the game is a complex, ever-changing, multi-player, multi-role environment. What is (or what you just have perceived) is now what was.** Players in the stock market have lived with this kind of ever-changing reality for some time, but not always. Looking back to the simplicity of the 1950s reveals a stock market that didn't change moment-to-moment or even day-to-day. Trading was not the game then. Real time had a much-elongated meaning and was less important for most matters.

Information technology changed all of this. Now it is our turn to change how we look at information technology in a real-time world. We can't play the game on yesterday's

principles and assumptions (and I mean *yesterday* and not the day and weeks that preceded it). We need some new vehicles to guide us as we (as enterprise and individuals) engage in a continuous morphing on the way to the future. **Survival may be the only goal, but transitional success may be measured in being able to recognize that the Promised Land is in an ever-changing landscape and responding to it in gamers' fashion — as it happens — is the only way to survive.**

So what does all of this mean? **It means that you have to think differently about a lot of things, including your information technology.** If you are old enough to remember IBM's call-to-arms of old — **THINK** — which was emblazoned on desk signs and posted in different languages everywhere — that was good enough, back then. **Today, IBM's is saying THINK DIFFERENTLY.** It is an assessment of the state of the world, a challenge to enterprise partners and customers, an opportunity to stay in the game, a collection of new products and services, and an offer to help. The advice is sound. What you do with it is up to you. The game goes on and it's your turn to play. In the brave new world, it's always your turn to play.

The Role for IBM's New Mainframe

IBM's new *System z9* mainframe, also announced today, is many things: some old, some expected, and some unexpected. Space and time do not allow me to tell you all of the details and I will save that for a later bulletin. What follows is an attempt to tie the new product line into the THINK DIFFERENTLY discussion that preceded.

First, it is more of the same. This is a con-summate compliment and only an insult from the mouths of the unknowing. All that its *zSeries 990* predecessor could do, it can do and more.⁵ With new operating system releases, *z9* is capable of processing complex, mixed workloads, at high levels of utilization, in a dynamic manner for the ever-changing real-time world that IBM calls *On Demand*. It does this better than any other environment. Without question, it is the gold standard to which all other large servers are compared.

⁵ See **The Clipper Group Navigator** dated June 3, 2003, entitled *The Mainframe Evolves Again - IBM's z990 Delivers More, Much More*, and available at <http://www.clipper.com/research/TCG2003027.pdf>.

Second, it is huge, with close to a doubling of its maximum throughput capacity over the z990. While not all enterprises need this massive capacity today, it is reassuring to many others that the scalability to these heights is available, if needed. It does this by having faster processors (35% faster) and more of them (up to 54)⁶. Smaller enterprises will appreciate that the z9 starts at around 600 MIPS, demonstrating the significant breadth of this new system.

Third, its cost-effectiveness continues to improve. The largest area of growth has been what IBM frequently calls *new workloads*, meaning applications that can run on other servers. This is largely the domain of Java and Linux. While the magnitude of this growth has surprised many, it is indicative of the different thinking in which many enterprise IT departments are now engaged. No longer seeing the mainframe as a proprietary dinosaur whose time has passed, these executives see the mainframe as the most-secure, *extensible hub* of their IT universe. The more that it can do, the better the value of the proposition. IBM's mainframe operating software pricing has always made incremental processing less costly, thus providing the value proposition. Additionally, IBM has now — with the z9 — cut the cost of running new workloads for the third time in recent years. No, they didn't cut the price of a new workload engine (a dedicated processor for Linux or Java⁷), but with each new mainframe model they significantly increased its capacity, while not raising the price of the engine. This is a significant cost reduction and further encourages enterprise customers to move more of their new workloads to the easier-to-manage and easier-to-optimize mainframe environment.

Fourth, superior workload management

⁶ It is important to remember that what you see is not what you get, in terms of mainframe processing power. For many generations, IBM's mainframes have had additional processors embedded in the system to enhance input/output, networking, internal management and maintenance, and security. These processors are not counted in the "usable" processor count, which now has grown in z9 to a maximum of 54.

⁷ See **The Clipper Group Navigator** dated May 7, 2004, entitled *zSeries Zips Through Java with zAAP*, and available at <http://www.clipper.com/research/TCG2004030.pdf>.

and dynamic resource allocation get even better. The gold standard has been upgraded, This is important in the brave new world described above, where demand and requirements are changing quickly, and enterprises need to reallocate resources to meet the established and possibly-changing policy goals. Its management capabilities have been extended to include managing workloads on other systems. Sending work to other processors on the network or grid and ensuring that the work is done before dependent applications are run is an important control function to which the mainframe is well suited. **z9 can be your entire information environment or the controlling hub of your enterprise IT processing complex, or anywhere in between.** To comprehend fully the value of this, you really need to think differently.

There is much more to tell about z9, and the details are many. So look for another bulletin to follow.

Conclusion

IBM is thinking and acting differently, in response to its assessment of the real-time demands of being a competitive enterprise and also in response to the specific requests of its largest, most-forward-thinking on-demand customers. **IBM has chosen to be a leader on the way to the Promised Land, by enabling the 21st Century enterprise to survive the onslaught of business requirements and customer demands — and the real-time roller-coaster ride ahead.** It has done this with its three new operating principles — *virtualize everything, be open, and collaborate broadly* — in both its internal actions and its new products and services offerings. It has announced the z9 as its technology-leading, most advanced system, ready to power and manage the IT infrastructure of the most complex enterprises.

The saga continues as we all morph on our way to the Promised Land, where complex things are made simpler by sophisticated, virtualized, open, collaborative, real-time infrastructure! *Send me an email when you get there!*



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Mike Kahn is Managing Director and a cofounder of **The Clipper Group**. Mr. Kahn is a veteran of the computer industry, having spent more than three decades working on information technology, spending the last third at Clipper. For the vendor community, Mr. Kahn specializes on strategic marketing issues, especially for new and costly technologies and services, competitive analysis, and sales support. For the end-user community, he focuses on mission-critical information management decisions. Prior positions held by Mr. Kahn include: at International Data Corporation - Director of the Competitive Resource Center, Director of Consulting for the Software Research Group, and Director of the Systems Integration Program; President of Power Factor Corporation, a Boston-based electronics firm; at Honeywell Bull - Director of International Marketing and Support; at Honeywell Information Systems - Director of Marketing and Director of Strategy, Technology and Research; with Arthur D. Little, Inc. - a consultant specializing in database management systems and information resource management; and, for Intel Corporation, Mr. Kahn served in a variety of field and home office marketing management positions. Earlier, he founded and managed PRISM Associates of Ann Arbor, Michigan, a systems consulting firm specializing in data management products and applications. Mr. Kahn also managed a relational DBMS development group at The University of Michigan where he earned B.S.E. and M.S.E. degrees in industrial engineering.

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