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Are You Running Your Data Center Like A Hedge Fund?

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Trick or Treat?

As the stock market continues to spiral downward at the end of this month, which happens to be Halloween, I have for you one of those Trick or Treat kinds of questions: *Are you running your data center like a hedge fund?* Usually, we dispense a lot of candy to our readers but this is a serious, terribly relevant, *big-trick question*.

Let's begin by defining *hedge fund – a mutual fund organized as a limited partnership and using high-risk, speculative methods to obtain large profits*.[1] While most data centers are not in the business of generating profits, the flip side is true: they are in the business of *obtaining large savings* in pursuit of IT infrastructure and information goals. So, let me rephrase the definition in IT terms: ***Is your data center using high-risk, speculative methods to obtain large savings in pursuit of its IT goals and information objectives?*** OK, maybe now I have your attention.

First, back to the hedge fund problems. Hedge funds try to "have their cake and eat it too." They do this by engaging in risky investments, while at the same time undertaking other actions to lesson the risk that they took in the first place. So, they may buy one asset, sell short another, and hope to make their profit on the spread between them; hence, the often-used phrase *hedging one's bets*. Often, hedge funds do this in the extreme (i.e., in spades) by leveraging their investments (i.e., heavily borrowing money to enhance the volume of their anticipated profits). While this can and has been a winning strategy, it also can be a big-time, losing strategy, if they get caught in a rapid down spiraling of the market, as has been the case the last several weeks. When hedge funds have to liquidate quickly to cover its margins (because the underlying values have dropped precipitously) or because their investors want to redeem shares regardless of the losses that they will incur, it exacerbates the downward spiral. You might say that the hedge fund's own actions are driving its own investments into the ground. With the recession here and its duration uncertain, behaving like a hedge fund carries a very negative connotation, just as the Halloween pumpkin at the right is saying much more than Trick or Treat?"

Pumpkin Reflects on State of the World

Photo by Mike Kahn in Ann Arbor, Michigan, on October 25, 2008.

So, I ask you an IT question: *how much have you been trying "to have your cake and eat it, too?"* More importantly, are you prepared for the recession? Are you likely to fall into a downward-spiral? Read on, to explore these topics and how you might better hedge your bets in the data center.

[1] "hedge fund." *Dictionary.com Unabridged (v 1.1)*. Random House, Inc. 28 Oct. 2008. <Dictionary.com http://dictionary.reference.com/browse/hedge fund>.

Two Sides of the Same Coin

Hedging has a lot to do with *probabilistic decision-making*. In the winter in New England, one might ask, "How close to the edge of the ice should I skate?" For those of you less familiar with skating on a frozen pond, the ice is not as thick in all places and may be frozen in some places and not in others; thus the phrase "skating on thin ice." We engage in probabilistic decision-making all of the time. The next time you make that left turn in front of on-coming traffic, consider explicitly how you are answering the question "what is the probability of me not clearing the turn before the oncoming vehicles reach me?" If you were totally risk averse, you might never make the turn. This is certainly true on Rt. 9 here in front of Clipper's office building. Then, again, you have to evaluate the risk from the vehicle behind you deciding to make the turn around you.

Probability drives a lot of the decisions that we make in IT. We anticipate, often badly, how much demand there will be for IT resources. With the Internet and with the cyclical economy, one can never know for sure. So, how do you compensate for "not being sure"? In simple terms, **we tend to *over-compensate*, usually by *overprovisioning*. Unfortunately, we tend to overcompensate – over and over again.** We compensate by expecting, say, twice as many users than ever before or twice as many transactions as we might have had in the busiest minute, hour, or day. We compensate by upgrading our workhorse servers frequently, with more memory and more cores than before. We have extra servers on hand and in remote locations, just in case we need them.

Sometimes, we are very methodical, even mathematical, about "having enough infrastructure" in the future to meet high and potentially exceptionally high levels of demand. Our variables include growth of the organizations with which we deal, including our own, growth of demand for what we deliver, growth of customers and prospects, growth of distribution channels, expansion of applications, growth of the economy, new software, changes in hardware, growth of information, and more. Please notice the repetitiveness of the concepts of growth and expansion. **Most of us in the IT world do not think about *contraction in demand*.** Shrinkage of budget? Yes, of course, but not shrinking of demand.

At the same time, most enterprises are well down the road in the era of IT consolidation, with more powerful servers, with many more cores and denser storage (both disk and tape), being brought to bear on the anticipated waves of increasing application workloads and users' increasing demands. All of this is happening under the scrutiny of being sufficiently green, to stem energy costs and availability constraints. Unfortunately, this too contributes to overestimation as few have a lot of experience with four-to-sixteen-core (and larger) servers, certainly in a heavily virtualized environment. Most have little experience with virtualized, tiered storage encompassing the majority of our enterprise information. We just don't know how well it will perform or where it will break under the pressures of the real world, so we have compensated by overprovisioning, whether this was done intentionally or not. **In an era of *do no harm*, most IT decision-makers are pretty conservative, at least until the budget gets really squeezed. Unfortunately, a little overprovisioning here and a little more there can add up to a lot of overprovisioning, especially when servers are counted by hundreds of cores and storage is measured in hundreds of petabytes.**

Thus, many have been hedging their bets on being able to *grow IT fast enough*[2], albeit most not too scientifically. **So there tends to be a lot of *fudge factor* built in. Do you know how much fudge (overprovisioning) you are carrying?**

The Other Side of the Coin

Then, there is the other side of the coin – the one whose rationale and estimations have nothing to do with the state of the infrastructure and the many alternatives that are possible. **The other side belongs to the whimsical realities of the recessionary economy.** How many customers will cut back on their spending? How many fewer products, divisions, or employees will there be in three or six months? **Is there money to pay for or financing available to buy more IT infrastructure, especially if we, finally, fess up to massive overprovisioning?** These are hard questions with hard-to-discern answers, at least from a planning perspective.

Both sides of this coin are wrought with a high potential for miscalculation and overestimation. Hedging your bets by overprovisioning may no longer be affordable, if it ever was, but the scrutiny caused by the down economy (and the lack of business growth) may expose this now-unacceptable practice. **Maybe, somewhere in this massive haystack, there is a golden needle. Would you know it when you saw it?**

[2] Remember when this was our greatest concern?

Changing the Rules of the Road

It really is hard to change the way that you, your colleagues, and your enterprise consider the problems of IT provisioning and make decisions. It may seem like an admission that you had been doing it improperly until now. However, think of the rules of the road now being rewritten in the financial institutions. Was 35:1 leveraging[3] really a good practice (for the non-banks, i.e., large investment houses and hedge funds), when there always was a good probability that investments can sour, as they have with sub-prime mortgages?

This *Captain's Log* is not about finding the answers to your IT procurement needs. It is a *Call to Arms* to get you to think differently about *how you meet your provisioning needs. If the Regurgitating Pumpkin* on Page 1 delivers any message to you, it should be that your enterprise's reality might have changed under the forces of the negative economy.

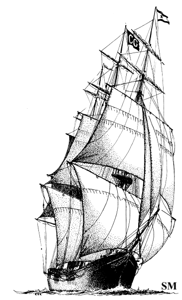
Creeping Incrementalism May No Longer Work

Doing what you have been doing, which may be likened to *creeping incrementalism*, may no longer make sense, if it ever really did. *Having your cake and eating it too* may sound like the best-of-all-world's solution, but it may never have been real. This is a time for reconsidering everything that you are doing, from how and where you host your applications and how you store the extreme growth of data within your enterprise.

In doing so, you may find that your best-of-breed solution may be unaffordable for the ways that you use it or for the ways that you really need to use it. Or, you may find that what you assumed was too expensive is really the more affordable solution.

While it may take until next Halloween to put a smile on our pumpkin, you want to do all that you can to be around the next time someone asks Trick or Treat? Your goal is to deliver the treats to your enterprise and not a bunch of tricks. So, follow these three rules:

1. **Assume nothing about how appropriate your prior technology decisions will be for the next three years.** *Things should and will change, if you are doing your job properly.*
2. **Reassess your requirements with respect to the new realities of the negative economy.** *Things likely have changed, possibly quite dramatically. Hedging your bets may no longer be affordable.*
3. **Rethink your metrics for defining success in IT provisioning.** *If you don't, someone else likely will.*



Think differently, and prosper!

[3] Where a lender will lend 35 times as much as it has in underlying at-risk capital (since it borrowed the rest). This really can be profitable in a market where property values keep going up, but is a recipe for bankruptcy, if the market falls modestly and the institution has not, somehow, hedged its bets to survive the declining market. The phrase "the bottom falls out" seems to apply here…in spades!

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About the Author

***Mike Kahn* is Managing Director and a cofounder of The Clipper Group.** Mr. Kahn is a veteran of the computer industry, having spent more nearly four decades working on information technology, spending the last 15 years 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 startup; 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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