



Propagating the Mainframe

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Management Summary

There is a prevalent two-stage pattern in terrestrial life-form development – that of a flurry of vegetative growth followed by a rash of propagation. In human endeavors there is the same pattern – first to grow a valuable capability (a product or a skill), and then to grow other structures that make that capability repeatable and, more generally, sustainable over the long term (this is the propagation). Start-ups give an organizational example. First they get an idea and develop a product and then they develop a sales strategy which allows them to persist to develop another product. Complex organizations support many such cycles.

The mainframe has a long history of cutting-edge technological development. That brawny functionality has been enough to retain a large installed base even when less expensive alternatives with more limited functionality were taking over some less demanding enterprise workloads. **IBM's zSeries folks now feel the time is right to propagate mainframe use to new markets and new workloads.**

What has triggered this new vigor? Openness, in the form of open standards and the opening of enterprise mindsets to new ways of using technology (sourcing, solutions) have been a stimulant to many new initiatives, but an unforgiving economy dictates that the results must be fully functional. **The old mainframe characteristics of automation, integration and virtualization, have become new again.** Now it is a matter of making the mainframe more attainable and pricing more affordable. It is a matter of combining *zSeries* with *BladeCenter* to achieve both integrated flexibility and easy reach. It is a matter of thinking where zSeries plays uniquely well in a heterogeneous world. It is a matter of finding an ecological niche in this new terrain, and then of propagating more broadly.

Over the last two years, several zSeries initiatives have produced a nucleus of knowledge of how the advanced functionality of the mainframe can be brought to market to address the complex, interrelated workloads that characterize the back-end processes of the 21st Century enterprise. These initiatives have included Linux-on-zSeries, usage-based pricing schemes, price curve reductions, a smaller capacity product (*z800* with *z/OS.e*) and a rental option (*On-Off Capacity on Demand*). **IBM has experimented and now has crafted some new permanent pricing models to make the mainframe a more compelling value proposition without sacrificing any of the aggressive innovation that makes it what it is.** For more details, read on.

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The Rebirth of Relevance

For the past few years, enterprises are increasingly suffering from a glut of complexity brought on by *digitization* of more and more processes¹. In response, they have been trying to **simplify and consolidate their IT operations**. The first stage of such efforts is to merge like with like, but in open systems this can only go so far. Large, expensive UNIX and Intel servers have helpful partitions. Virtual machines, invented on mainframes 35 years ago, can also be used, though they are relatively new and rudimentary on to open systems (while the technology has continued to advance further on mainframes). This makes things adjacent, *but not integrated*.

According to Erich Clementi, General Manager of zSeries, large enterprises are going beyond physical consolidation to reorganize their infrastructure into more rational back-end and lower-tier environments. This reorganization driven by the integration of business processes (and the applications which underlie them), will lead to an enriched back-end environment – one that requires support and granular security for new data accessibility patterns – which can be met by zSeries.

Enterprises are concerned about business continuity and security, for which there are no simple *and* affordable answers. They also want consolidated management accessible by role profile on the many levels (physical, application, presentation) at which IT is managed. They would prefer these to be integrated into the infrastructure rather than tacked on as additional applications. There are too many products to choose from and no assurances from any vendors that all your exposures are covered.² **Suddenly the mainframe is stunningly attractive.**³

¹ This had everything and nothing to do with the dot-com bubble, for Moore's Law was going to render the cost of paper processes untenable even in frugal times, as we are seeing now.

² Note that all the doctors whose confident authority you found reassuring have since retired.

³ See *Using zSeries as a Grid Server - Many Unexplored Possibilities for the Enterprise* in **The Clipper**

- **The mean time between failure of mainframes is measured in years to decades.**
- **Their many capacities are huge and all can be partitioned dynamically.**
- **One box can do many hundreds of jobs at once.**
- **The workload management capabilities have the adeptness of decades of feedback and refinement.**
- **z/OS, admittedly pricey, has the automation to get the jobs done where other approaches stall** - the multi-level security to keep even the government content, and the HiperSockets memory-to-memory high speed connections to get it all done faster. And now that you can run Linux in IFLs, you can use the capabilities of z/OS tactically.
- **The rapid provisioning of additional applications** (which only takes a minute or two, if they are clones of existing applications) and the use of virtual machines play well in enterprises with needs for flexibility
- **The government-certified security between applications is increasingly important**
- **The mainframe disciplines of organizing and rationalizing multiple workloads seems to be exactly what is needed at this point in time.**

IBM's August zSeries Announcement

IBM has chosen to clarify the value proposition through a charter, which contains nothing surprising, but which is the birth certificate of a new era. It organizes road maps for innovation, value, and community. *zSeries* has and will continue to add value through innovation, in their role as the gateway for server innovation. In their recent announcement, IBM is clarifying and improving the zSeries value proposition by rationalizing and enhancing zSeries

hardware and software pricing structures to make zSeries, and z990 in particular, more compellingly buyable. The changes fall into the following categories.

Memory

As enterprises seek to integrate their business processes, business transactions become more complex and protracted, for multiple data sources must be touched for each one. Enterprise servers need more memory than ever. With IBM's economies of scale, **zSeries has chosen this occasion to bring down the cost of mainframe memory by more than half - to \$10,000 a gigabyte.** This is very close to large-scale UNIX street prices for memory. In addition, **IBM has doubled the base configuration amount of memory on the z990 – at no extra charge.**

Linux and OOCoD

Linux on zSeries now accounts for over 20% of new capacity shipped. In recognition of this market's growth and importance, IBM has simplified and enhanced how you deploy Linux on a mainframe. **It has instituted a flat fee for IFLs⁴ on all currently supported models – S/390 G5 and G6 as well as z800, z900 and z990.** Of course, the later the model (i.e., the z990), the bigger the engine and the more you get for your money.

Later this year, IBM will extend *On-Off Capacity on Demand (OOCoD)*, that it introduced in April 2003 for z/OS environments, to IFLs. OOCoD gives not only the ability to add capacity on the fly as you need it, but the boon of being able to turn it back off when the need is over. This allows an enterprise to deal with end-of-quarter or end-of-year spikes without incurring ongoing costs. The break-even between the rental of OOCoD and acquisition is 45 days, which some customers have found to be an acceptable point of compromise.⁵ **IBM has also extended the**

OOCoD pricing to more of its zSeries one-time charge (IPLA) software.

Utility Pricing

The mainframe has been structured for many years to support utility pricing and charge back, but it hasn't always been pretty. There have been too many acronyms known only to the cognoscenti. IBM took a fresh approach with *Workload License Charges (WLC)* on the z900, which gives a new mode of full-processor and LPAR-granularity utility-model pricing. This past spring, IBM tweaked the model and also expanded the availability of WLC to workloads as low as 3 MSUs.⁶

Now, they will reduce the WLC cost for customers with smaller mainframe environments (less than 315 MSUs, and will also extend WLC pricing to the z800. **This will encourage more pilots to be run on the mainframe and small workloads to be integrated there as a part of that back-end complex, and gives enterprises a closer tailoring of costs to the workloads that only use a part of a processor.**

New Application Licensing Charge

While simplification, reduction and extension of WLC is something to cheer about, what IBM is doing their *New Application License Charge (NALC)* is even more exciting, for it clears a path to using the mainframe more broadly in on-demand environments. IBM is reducing NALC costs roughly 80%. This new affordability will allow more applications to be run under z/OS, where the intrusion detection and *HiperSockets*' internal communication can provide the support that enterprise business processes demand. **This is tremendous news – not only for mainframe customers and potential customers, but for independent software vendors whose applications would benefit from z/OS's capabilities.**

⁴ *Integrated Facility for Linux* is an environment that allows Linux to run on zSeries.

⁵ See *The Mainframe Evolves Again - IBM's z990 Delivers More, Much More* in **The Clipper**

Group Navigator dated June 2, 2003, at <http://www.clipper.com/research/TCG2003027.pdf>.

⁶ An *MSU* is mainframe capacity and billing metric used by IBM (for decades). 3 MSUs is a "PC-sized" workload.

WebSphere Sub-Capacity Pricing

zSeries is continuing to develop the *Value Unit* as a standard application pricing model for a sub-capacity, LPAR granularity of measurement (measured, like WLC, in MSUs) for key one-time charge (IPLA) products. It will extend the pilot it started in April on z800 to all z900 and z990 servers by the end of the year to all of WebSphere by the end of the year. *WebSphere's* broad array of capabilities are key to not only deploying application integration, but as importantly to getting the results out the last mile through portal environments.

Now is the time to set utility-friendly granularity for the middleware that makes everything work together. With such pricing structures, it is possible to precisely assess the cost of specific computing services. **If you can't assess the cost, you are navigating by dead reckoning in a storm of winds whose velocity and directions you cannot assess.**

Revamp of Software Pricing on z990 Only

Finally, IBM is adding another benefit to the z990 environment to complement the hardware capabilities. It is changing the ways MIPS (million instructions per second) are mapped to MSUs, putting more MIPS in each MSU for the purpose of licensing IBM systems software. The effect of this change is roughly a five percent reduction in z990 software licenses for basics like z/OS, DB2, MQSeries, IMS, CICS, and COBOL.

Z990 On Demand Business Investment Promotion

The above are all permanent changes to zSeries pricing structures. If you think they are aimed at tempting those customers still using their older mainframes to upgrade to the z990, you are right. **The z990 is the start of a new era of development, and subsequent features will work more effectively there.**

To sweeten the pot even further, IBM is offering a promotion to encourage investment in infrastructure to enable the enterprise flexibility IBM champions in its *On Demand Initiative*. With the

purchase or lease of z990 hardware, customers can get a rebate of up to \$250,000. to be used on IBM software, storage, zSeries services, zSeries OOCOD or IBM *BladeCenter*⁷ products. The promotion is available through direct and business partner channels, and multiple rebates can be earned during the promotion period that runs through the end of 2003. **Together with the flexible financing offered by IGF, the incentive may make using the mainframe more possible.**

It remains to be seen what steps IBM will take to create new synergies between its mainframe and the ISVs, SIs, and other IT folks who act as the resonance chamber for a mainframe's capabilities. **Expect more announcements from the newly vibrant mainframe space this fall.**

Conclusion

The mainframe charter signifies a change of attitude. The passive, *paterfamilias* marketing mode has given way to a more active ambition. Enterprises are moving from a focus on branding and operating system to focusing on what kind of computing is supported, and what level, and what value it brings to the enterprise. If it doesn't get the job done without constant tending and worry, it is no bargain. **The mainframe isn't dead, and it isn't going to dumb itself down.**

Take the mainframe for what it is today, not yesteryear's sound bites spun by competitors who do not wish it well. Take a look at the pricing initiatives, and figure out where using a mainframe will bring value to the enterprise. It may be exactly what you have been looking for.



⁷ See *IBM BladeCenter - A Glimpse at the Future of Computing* in **The Clipper Group Navigator** dated October 4, 2002, at <http://www.clipper.com/research/TCG2002038.pdf>.

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