



zSeries and TotalStorage: taking on the mid-range

Recent zSeries announcements, from last year's Mainframe Charter through the recent introduction of the z890 to the latest ground-breaking DS6000 storage devices, underline IBM's determination to gain market share for its flagship systems in the highly competitive mid-range space. With highly aggressive pricing, an attractive range of consultancy and educational services, and technology that moves the zSeries out of the 'glass house' and into the office environment, the mainframe looks set not just to gain new sales but also to provide a viable platform for 'legacy' systems that would otherwise be migrated.

It has now been a year since IBM unveiled its Mainframe Charter, a blueprint for re-enforcing the zSeries as the platform of choice for both large and medium-sized customers. Backed by a slew of hardware, software, pricing and services announcements, the Charter focuses on three distinct areas of mainframe deployment:

- *Innovation* – leveraging the architectural strengths of the platform (such as logical partitioning and workload balancing) and unique technical characteristics (such as Linux images running under VM) to provide architectural simplification and platform consolidation
- *Value* – essentially a serious attempt to make pricing schemes clearer and resource usage more measurable, with the main focus on sub-capacity pricing, on/off Capacity on Demand, and the highly attractive New Application License Charges (NALC) to encourage new development on the zSeries.
- *Community* – a commitment to invest heavily in free education services and support to ensure that customers have the necessary zSeries expertise at hand.

The content and implications of the Mainframe Charter were very significant and were intended simultaneously to reassure existing enterprise mainframe customers about the long-term prospects and cost-effectiveness of the zSeries platform and to ensure that the platform remained viable and attractive at the lower end of the range – in SME territory – where customers have a far greater choice of IT platforms to consider.

Among medium-sized customers, the mainframe environment faces a number of competitive challenges. At the sub-100 MIPS level, there are still many 'legacy' mainframe users (on both IBM G4/5/6 and older plug-compatible systems) who are liable to view a move to Windows or Unix as a cost-effective option. Even much larger customers have legacy applications in place that would run far more



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cost-effectively on newer hardware. For such customers, there are several options available, involving varying levels of cost and disruption. Intel-based mainframe emulators offer one option at lower MIPS levels. There is also some interest in a 'lift and shift' approach to legacy systems, a strategy now championed by the Microsoft-backed Mainframe Migration Alliance. However, we remain unconvinced about the cost benefits of migrating legacy mainframe code in most cases, since a complete migration is rarely practical, and a partial migration inevitably introduces new integration and integrity problems, which leads ultimately to *increased* costs.

For many customers, the preferred solution would be to retain the technical strengths, mixed workload capability, and unparalleled compatibility of the mainframe platform but with the cost, environmental characteristics, and ease of use that meet today's business requirements.

It is this preference, as well as the need to win genuinely new customers, that IBM is addressing both through the Charter and with subsequent announcements. Major enhancements in software pricing, more flexibility with the Integrated Facility for Linux and in Java development, and continued growth in support from the ISV community position the zSeries far more realistically as a mid-range alternative to Unix as well as addressing the needs of existing mainframe users.

z890 – a mainframe for the masses?

For mid-range users, one of the most significant announcements of recent months was the z890, the replacement system for the z800 range. The z890's announcement on the 40th anniversary of the S/360 architecture in April 2004 was no coincidence. IBM is shrewdly reminding the marketplace that it's mainframe platform – probably uniquely in the IT industry – still provides a fully compatible environment for applications written four decades ago.

As well as new functionality such as the zSeries Application Assist Processor (zAAP), the z890 exhibited many unusual characteristics, including a far simpler method for labelling and pricing individual models. In fact, strictly speaking there is only one model, with 28 different capacity settings. Architecturally the system is based heavily on the T-Rex technology in the high-end z990 range and is hugely scalable. But it's the bottom end of the range that is particularly interesting, as the z890 is heavily oriented towards smaller sites, which would traditionally be more attracted towards a Windows or Unix-based solution. For the first time ever, the entry level is some 30% below the capacity range of the predecessor z800 system. Indeed, the smallest offering, the 110, offers fewer LPARs and channels than the other 'models', and comes in at just 4 software MSUs, allowing IBM to price it extremely aggressively against competitive systems. This is IBM's first serious move to lower the entry bar to the mainframe platform, and one that mid-range customers need to consider very carefully.

Storage to fit

Even with the mainframe itself being substantially repositioned in the mid-range, in terms of cost, ease of management, and environmental characteristics, storage



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has remained something of a problem. Without internal DASD in the zSeries, customers can find themselves acquiring storage sub-systems that are substantially dearer and larger than the processors to which they connect.

IBM started to address this problem with the ESS750 'mini Shark' back in April, but the new TotalStorage DS6000 offers smaller mainframe users a far more satisfactory solution to storage management.

The DS6000 (and the larger DS8000 Shark follow-on, which goes to 192 TB and deploys LPAR technology to allow customers to partition their data in unprecedented ways) take IBM into new territory with storage, an area where the company has struggled to maintain market share. The 6000 itself scales to 67TB, and uses some pretty impressive technology to package the system into 3U boxes, with Light Path Diagnostics and a Web-based management interface to allow users to maintain the sub-system without external customer support.

IBM has big plans for the DS6000, and will offer highly aggressive pricing. It is already pointing out that its new offering runs in 4% of the space, uses one quarter of the power, and weighs one tenth of the weight of a DMX800, quite apart from the price/performance benefits. Legacy EMC Symmetrix systems will be a prime target, and the new technology will help IBM to carve a much larger share of the storage market generally.

The low-end mainframe sector, however, provides a particularly enticing niche for the DS6000. The Linux-based storage processor supports z/OS, OS/400, i5/OS, and AIX, as well as Linux, Windows, HP-UX and Solaris. Packaged with the z890 (or indeed with the i5), the DS6000 will address one of the most significant obstacles to mainframe growth in the mid-range – the size, cost, and management complexity of the storage subsystem. And for many existing small mainframe customers with legacy workloads and no strong incentive to migrate to a different platform, the z890/DS6000 combination is likely to be a no-brainer.

Bottom line

The mainframe has lasted 40 years as the prime custodian of corporate data and the best engine for back-end transaction processing. Though most enterprise mainframe applications appear likely to survive for several decades more, the platform will only attract new customers and critical software developers if it can guarantee the cost, environmental and ease-of-use characteristics that today's businesses demand.

As IBM continues to deliver on the promises of the Mainframe Charter, the z890 and DS6000 look set to become a very attractive combination for mid-range customers seeking new solutions and existing mainframe customers trying to avoid a costly and disruptive migration.

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