

Introduction

IBM shifting the game in SME with i5

[IBM has plans for a big disruption in the SME market with its new announcements around eServer i5 and the i5/OS operating system.](#)

As enterprises move towards e-business on-demand and evaluate the concept of collaboration, integrated business processes and even start to formulate on how GRID and utility computing can be utilised in obtaining business advantages, the IT infrastructure is becoming ever more strategic and is playing an important and integral role in corporate leaders decisions.

This is doubly true for Small and Medium-sized enterprise (SME) leaders who are seeing their businesses going through rapid changes as new technologies bring faster changing landscapes and a greater need to restructure and adopt these technologies for more real-time processes. The generally held belief that SMEs would follow the adoption curve in technology when compared to larger enterprises is blurring especially as we move towards component-based computing and web services. SMEs are facing more and more complexity, more heterogeneous IT environments and an increasing pressure to perform under strained economic conditions and are forced to search for new means to achieve faster and maximum returns on their technology assets. Today, SMEs are starting to leverage legacy, optimise existing IT investments and focus on open and tighter end-to-end integration to achieve real return on investments. This means CIOs and IT managers are focusing more rapidly on the need to better align IT decisions with business objectives and processes and to tie IT metrics (availability, bandwidth, storage) with business goals (costs, revenue, profit).

The trend is therefore to consolidate the number of servers utilised, use partitioning and virtualisation features, utilise multiple operating systems (especially Linux) and preferably all within a manageably simplified platform. SMEs are starting to address the need to simplify their infrastructure whilst also looking ahead to better manageability and future expansion.

They are thus looking for server consolidation but also want high-end mainframe like capabilities, they want better utilisation rates but also want ease of deployment, they want integrated solutions but also want to be able to buy them modular, they want entry level products but also want future proofing to be able to scale, they want customisable business solutions but also want these solutions to have a vast range of eco-partners and support, they want resources on tap but also only want to pay for what they use.

In this paper we intend to highlight how we at TekPlus believe **IBM is playing a 'disruptive strategy'** using its iSeries to enable more targeted solutions at SMEs at significant price- performances. In particular we will take a closer look at the recent i5 announcements aimed at the mid and small markets. We will discuss the merits of its offerings and highlight the new features and technologies. Finally we will focus on its Express strategy and in particular at the i5 Express offerings. It must be emphasized that our goal here is to provide for a high-level management discussion to the i5 announcement and not to provide a detailed technical discussion.

Disruption?

IBM has been successful with the iSeries and has penetrated well into the high end of the mid-sized enterprises over a number of years. **They need to do a better job at addressing the needs of the mid and low end of the SME segment and TekPlus believes IBM will do this with its i5 servers – and especially with the Express Editions.**

“Isn't this the old AS 400 and OS 400 just going through their regular name changes whilst having the regular phase changes?”

I do not believe so, here is the crunch of the matter; i5 has the capability to provide SMEs with significant flexibility, high availability, enterprise class resiliency and scalability, Power 5 performance (powerful 64-bit chips) running multiple operating systems simultaneously and at a price tag that would be welcomed by many SMEs. Now, you could think that given the numerous name changes since it started life as System 38 way back in 1978, this would be an old platform with no significant enhancements and just a major re-branding, but this would be totally wrong. The names may have changed to AS/400 and then to eServer iSeries 400 shortened to iSeries and now to eServer i5 and the operating system from OS/400 V5R3 to i5/OS V5R3 but this new phase brings with it some very significant new functionality, features and OS enhancements.

The "i" in the i5 stands for integration and that's exactly what you get, highly integrated state of the art machines packed with sweet goodies.

So what is this Disruption? - Creating a solution platform for SMEs

IBM is replacing its current range of low and mid-range iSeries line – iSeries 800, i810, i825 with two new models; the eServer i5 Model 520 and the eServer i5 Model 570. The servers come pre-loaded with i5/OS and DB2 Universal database (DB2 UDB). IBM WebSphere – Express also comes integrated with i5/OS and the model 570 is also available with Capacity on Demand. The i5 servers can be dynamically partitioned to support multiple operating systems environments – i5/OS, Linux, AIX 5L and Windows (through virtual I/O provided by Power Hypervisor technology). These new i5 servers provide significant price-performance, and scalability. One should also not forget the integrated xSeries server features which can be leveraged for Windows environments.

The biggest interest for SMEs will revolve around the i5 520 Express Editions, which are competitively priced packages, starting at around \$11,500 to compete with Wintel boxes. Domino, high availability, Windows integration, Virtualization Engine, sophisticated partitioning, multiple operating system support and WebSphere are also proving clear drivers for SME customers. With the total package, the i5 can provide a single centrally managed platform infrastructure for most SME organisations as well as provide significant opportunities for server consolidation and the opportunity of having capacity on demand (i5 570 model) down to this market segment. TekPlus believes that due to its ability to support many operating systems environment, the i5 servers would bring cost savings and simpler network management to customers who have heterogeneous environments.

iSeries has always been strong in the mid to large sized businesses. Now with the introduction of i5, IBM is planning to increase its presence in the SME market too. i5 Express Edition solutions are affordable and flexible. Clients can add capacity as the need grows and are simple to manage, providing the enterprise with the flexibility to upgrade and to add new applications seamlessly when required.

Solution sell

Given the above and the mixture of different i5 features and packages and you can see how the overall message moves from one of hardware and software to one of solutions, of flexibility in platforms to link to the needs of business processes, of scalability, of having on-demand like capabilities in a box at very good total cost of ownership and now at attractive price/performance that the SME segment will find of interest. Prices have been cut from 20-60 percent and with significant reductions for servers, memory and disks.

This is what the SME segment has been asking for a long time but was told it was only available to large enterprises at significantly higher prices.

They can now get high-end technology solutions at affordable prices with the options customised to their requirements. IBM utilises the Express Umbrella to signify the solutions they target at SMEs. We will dwell into the Express proposition below but before that it is worth touching on SME needs and why IBM would want to do this.

SME needs

SMEs are generally very dynamic enterprises utilising innovation and creativity as a competitive differentiation together with a deep focus on their customers. Customer service and responsiveness are key for them. They therefore aspire to have good industry knowledge together with business insights. This necessitates utilising the best affordable technology as a differentiator. Although the SME tag covers a wide range of enterprises with diverse requirements, they all will consider the following factors; price, performance, scalability, new features, migration flexibility, Value, consolidation, business processes alignment and most important solution offerings. They generally have smaller budgets, are more price sensitive, have shorter implementation and payback time spans, buy only proven technology and rely heavily on local resellers. This by its very nature necessitates IBM to use a different model to address them, one of targeted solutions at competitive prices with competitive support via local partners.

Why would IBM do this?

It is moving the game from just making margins on hardware and software to wanting to make margins on better and richer configurations, on solutions, on integration, on business processes as well! - Not to forget the increasingly attractiveness of the SME segment especially given the number of companies, their migration requirements and the potential huge install base.

EXPRESS

IBM claims to be the first vendor that is building a whole range of offerings just for medium businesses. The new offerings specifically meet the needs of customers who have small IT staff, want simpler offerings and more automation. Express is the name given to these solutions, which are designed, developed, and priced for the SME market.

Offerings since the Express introduction includes a set of Express bundles that make it easier for IBM sales staff and channel partners to sell solutions. Last year it already had over 60 bundles of hardware, software and services. For an Express solution, a product has to be installable in five clicks or less, has to be modular, scalable, and be sellable by partners. The bundles make it attractive for customers to buy solutions at good discounts rather than separate components. Typical bundles have been around DB2 Express Solutions, High Availability Express Solutions, Infrastructure Management Express Solutions, Network Operations and Management Services and even an

IBM is developing an ecosystem around the platform for SMEs

Infrastructure Recovery Services offering. The latest i5 announcement brings the Model 520 Express offerings.

IBM is also helping the channel to address the SME market and getting ISV partners to support solutions in this space, it is targeting SME verticals with solutions, price/ performance, support, etc. IBM's focus thus far has been on the six areas of business integration, business intelligence, content management, e-commerce, infrastructure, and portal/workplace. Key industries focused on are electronics, banking, retail, financial markets, automotive, insurance, wholesale, and consumer packaged foods.

The success of Express depends on the VAR channel and the system integrators. They have deep relationships with enterprises at this level and can match the technology and services to each client's requirements. IBM has and still is investing heavily in its SMB Advantage program, most of this going to VARs and ISVs. The Express software program is also a big part of this investment with over 3,000 business partners across the globe enabled for Express middleware solutions. IBM provides templates, guidelines and tutorials to help VARs and integrators.

Using the ISV Advantage program, IBM has already invited over 100 leading mid-market ISVs to participate and has committed each of them to increase sales of their applications on IBM middleware, IBM technology and IBM servers. Each ISV participates in IBM's go-to-market activities, in co-marketing and demand generation. Additionally there is also the Express Early Enablement Program.

i5 for SME

i5 servers belong to IBM eServer iSeries family; i5 520 is targeted to small to medium sized enterprises and i5 570 is suitable for medium to large enterprises. These are the first servers to be powered by IBM's latest Power5 microprocessors. It supports multiple operating systems including i5/OS, Windows, Linux and AIX 5L. The eServer i5 520 has one to two-way POWER5 processors and i5 570 has one to sixteen-way processors along with "Capacity on Demand". The servers are pre-loaded with i5/OS and IBM DB2 UDB and i5/OS is also integrated with the IBM WebSphere – Express. It also provides LPAR (logical partitioning) capabilities to dynamically assign system resources and up to 10 logical partitions per processor will be supported. Its ability to support virtual partitions with different operating systems makes i5 a strong option in server consolidation scenarios.

The i5 570 servers are available in two editions – Enterprise and Standard. The i5 520 servers are available in four editions targeted to specific customer group as per their size and requirements – Enterprise Edition, Standard Edition, Value Edition and Express Edition. We will focus on the Express and Value editions in more detail below.

The Express Edition will be of extreme interest to SMEs as the package provides a complete solution instead of just the CEC (central electronics complex). It also includes additional hardware and commonly used software that are necessary to run core business applications and at a very competitive price. The i5 Express Edition is available only through IBM distributor partners thus eliminating any direct competition from IBM. The distributors get good price discounts stocking these specially configured servers in bulk.

i5 520

The IBM eServer i5 520 model comes in 1-way or 2-way POWER5 processors starting at 500 CPW (Commercial Processing Workload) and ranging up to 6000 CPW, up to 32 GB of memory and 19TB of disk storage. It comes as Desk Side or Rack Mount versions. Each system unit has 8 memory slots, 6 PCI-X slots, 8 hot-plug disk slots (four enabled), 1 half-high slot for removable media and 2 slimline slots for DVD drives. It also has two 1GB Ethernet ports, 2 HSL-2 ports and 2 Hypervisor Management Console (HMC) ports to manage the OS/400, Linux and AIX partitions.

The i5 520 enables the SMEs to upgrade their processing power as and when their need grows. i5 520 enables a small to mid sized enterprise to simplify their IT infrastructure by running multiple operating systems and multiple applications environments simultaneously. It reduces their total cost of ownership by enabling them to consolidate their operations on a single server. i5 520 also integrates networking software, TCP/IP, VPN and HTTP server that enables more secure connection to the web.

The i5 520 Value Editions targeted at low-end customers are available in two models – one runs at 30 CPW on green-screen workloads with 500 CPW available for other applications where as the second model has double the performance. Both the models have single 1.5 GHz Power5 core, 1.9MB L2 cache and supports up to 32 GB of main memory. It can support a total of up to 19 TB of capacity. The first model (with 500/30 CPW) supports two partitions with one of them being i5/OS where as the second model (with 1000/60 CPW) can support four logical partitions. Both configurations come with WebSphere Express

The i5 520 Express Edition is available in three configurations –

1. 500/30 CPW box with 1GB main memory, two 35 GB disks, 30 GB quarter-inch cartridge, DVD-ROM drive and a twinax adapter. It includes i5/OS (with WebSphere Express and DB2/400) along with one year software maintenance all for around \$11,500.
2. Same as configuration 1 above plus DB2 Query Manager, Query 400, iSeries Access and WebSphere Development Studio for around \$14,500.
3. Same as configuration 2 except the box is now 1000/60 CPW with 2GB main memory all for around \$30,000.

i5 570

The i5 570 servers are suitable for mid to large sized enterprises and are designed in modular fashion. Available in 1 way to 16 way models providing 3000 CPW up to 44700 CPW. i5 570 server is available in the Rack mount version only. It supports simultaneous running of multiple applications on multiple operating systems environment – including i5/OS, Linux, AIX 5L, Microsoft Windows Server System, WebSphere and Lotus Domino software. It comes in two editions – the Standard edition and the Enterprise Edition. The i5 570 has 1.65 GHz Power5 core with 1.9 MB L2 cache and 36 MB L3 cache activated per processor card.

Main features

In the following discussion, we have outlined what we believe to be some important features

Power5	i5 servers are the first to have IBM's latest Power5 microprocessor chips. The Power 5 processor is a dual-core chip and has 276 million transistors. Made using 130-nanometer copper/SOI process. The Power 5 runs at 1.5 GHz, 1.65 GHz and 1.9 GHz. The Power 5 chips have simultaneous multithreading (SMT) which increases the processor performance by 30-40 percent when compared with Power4 without SMT. SMT makes a processor look like two virtual processors to operating systems and applications. By leveraging these two virtual processors, each chip can run as many as four applications threads at the same time there by reducing the time required to complete computing functions. The Power5 chips also utilises technology that reduces the amount of heat generated by shutting down parts of a processor that are not in use. In future the Power5 chips will be replaced by Power5+ and then by Power6. IBM is expected to continue releasing newer versions periodically.
Partitioning capabilities	The enhanced partitioning capabilities supports up to 10 logical partitions per processor and up to 254 partitions per machine. The in-built logical partitioning in i5 enables the users to assign system resources thereby providing the administrators to allocate physical resources such as processing power and memory according to the changing workloads. A neat feature is uncapped partitions, which enable a partition to steal capacity from the other partitions when needed. The policy based rules engine allows the partitions to overlap capacity and use the resources that other partitions are not using. The in-built logical partitioning in i5 enables the users to assign system resources thereby providing the administrators to allocate physical resources such as processing power and memory according to the changing workloads.
Capacity on Demand	The i5 570 provides its customers with considerable flexibility with Reserve Capacity on Demand, On/Off Capacity on Demand and Memory Capacity on Demand. The pre-bought Reserve Capacity on Demand enables the customers with additional processing power that is automatically engaged by the system when it needs more capacity without any system restarts or processor reconfiguration. It helps those mid and small enterprises that manage everything on a single server—helping them deal with peak conditions. Because the reserve is pre-bought, the customers can activate it in real-time without any delays. The Memory Capacity on Demand enables the customers with lots of extra memory that can be activated temporarily or permanently whenever the need arise.
Hardware Management Console	The Hardware Management Console is a standalone Intel server dedicated to manage logical partitioning and Capacity on Demand processor allocations.
i5/OS V5R3	Enhancements include a new browser based Navigator, simplified set-up, Database recognition abilities and increased automation and enhanced journaling capabilities. The i5/OS V5R3 focuses on ease of use, on demand, integration and business continuity.
DB2 UDB	The V5R3 enhancements for DB2 UDB are too extensive to be fully mentioned here. However some significant mentions have to go to enhancements on RPG SQL precompiler, parallel concurrent table reorganisations, SQL Query Engine, speeded up SQL deletes, job-level caching for stored procedures and increased performance and capacity of the database. It also offers a migration kit to port applications and data into i5/OS environments from any other environments.

Virtualization Engine

Enables the system to pool resources and optimise their use across multiple applications and operating systems. The VE technology incorporated into i5 servers combines components of Workload management software, Tivoli systems provisioning tools, GRID toolkit, Virtualization console and IBM Director Multi-Platform.

The significance of the Virtualization Engine cannot be underestimated. It enables enterprises to put a number of virtual computers (hundreds) onto one physical server and therefore allows more efficiently and low latency. For the customers it brings optimum ROI levels by leveraging the use of under-utilised assets.

Real value is also added when you think what the **IBM Director Multipatform** (software that ensures management and monitoring of i5/OS, AIX 5L, Linux and Windows), **Orchestrator** (formerly Think Dynamics systems provisioning software managing different platforms and resources in the i5), **Workload Manager** (make use of the workload managers inside each of the various operating systems) and **Grid Toolbox** (enables link to grid computing services and web services) brings to the equation.

WebSphere Application Server

All the i5 machines have WebSphere Application Server (WAS) Express bundled in. The options available to the customers are WAS Express 5.0 and WAS Express 5.1 (supports Java 1.4 specifications).

Multiple OS

The i5 supports multiple operating system including i5/OS, Windows, Linux and AIX 5L. It supports Linux in its logical partitions. This provides an option for customers that want to deploy Linux but also need to support other applications on Unix or i5/OS.

The Big Cherry

IBM's own tests show around 40 percent improvements in i5's performance when compared to that of the earlier iSeries servers. The i5 offers approximately double the performance per processor compared to its predecessor iSeries models. IBM has also reduced the price for activating excess processors permanently in a box.

The prices offered by IBM for iSeries and i5 machines are for the central electronics complex (CEC) only and not for the complete configured machine except in the case of the i5 Express Edition servers. When compared with individual prices of the box, plus software, plus each component and support - the Express Edition looks better priced and provides more benefits. For example the i5 520 Value Edition box starts at around \$6,000 but when you add memory and disks, it adds up to the same list price as the first configuration of the i5 520 Express Edition. However, the Express Edition also includes bundled software and software maintenance (updates and technical support) for one year. This makes the Express editions a better deal for SMEs.

To SME customers the **price differences** are significant, they also get a better deal (in terms of power, capacity & functionality) than what they used to get until earlier this year for similar amount of money. The i5 model 520 Express Edition is also between 35% and 50% less expensive than previous comparable iSeries Value, Standard, and Advanced versions.

Finally, Consolidation is the current big wave and SMEs will benefit from simplified operations especially in terms of storage, security and backup

Conclusion

processes when managing multiple operating environments running on the same server.

“The Express Edition provides SMEs with rich configuration at significantly competitive prices.”

Through this i5 ‘solution disruption’ IBM has opened doors to much sophisticated technology for the SME customers. With IBM’s offerings, SMEs now have access to the same advanced technology and functionalities that was always available to the high-end users (mainly because it was too expensive for SMEs even to consider it).

It is also important to remember that after adding all the systems and features the prices are starting to become comparable to Intel based boxes with similar workloads and demands. This means IBM now gets to play the game at the mid to low SME segments whereas before it could not even be considered. Add to this the advance technology and the stability of the platforms and these solutions create an interesting value proposition. The IBM solutions together with their partners and ISVs now add significant value to small corporations.

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TekPlus Limited
12th Floor York House
Empire Way, Wembley
Middlesex, HA9 0PA
United Kingdom

Tel: (44) 208 795 4500
Fax: (44) 208 795 5800
www.tekplus.com
info@tekplus.com