

## **IBM i5/OS™ Version 5 Release 4: Taking care of business**

**V5R4, a new version of IBM i5/OS, reinforces the proven strengths of i5/OS platforms and transforms System i5 into an innovation engine, a platform that helps business keep pace with new requirements and opportunities.**

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## Highlights

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**Proven value and leadership technology win i5/OS customer and industry loyalty**

**Over 200 new System i customer references in 2005**

## Introduction

IBM i5/OS is the primary operating system for the IBM System i family. It empowers System i5 solutions to provide businesses of all sizes with:

- **An integrated business computing environment.** A System i5 environment includes an IBM DB2®-based relational database, systems management, robust security, virus resistance, communications, networking capabilities and more. System i5 offerings relieve businesses of having to purchase and install such components individually and then having to devote staff time to integrating them into a robust platform for business computing.
- **Ongoing reductions in the total cost of computing.** The System i family has been helping businesses reduce the total cost of computing for more than a decade, especially in distributed and heterogeneous environments. These reductions, as documented in industry studies, are achievable in part because of how easy it can be to manage and operate an integrated System i environment.
- **Proven security and resilience.** Virus lists such as those at <http://www.sarc.com> and <http://viruslist.com> confirm that there are fewer threats to i5/OS (and OS/400) than to Microsoft Windows® or UNIX® operating systems. High availability options such as clustering, cross-site mirroring and hot plug memory make i5/OS environments among the most resilient in the industry.
- **Leadership technology.** System i5 offerings contain hundreds of patented technologies, from chip design to storage to logical partitions (LPARs) to IBM WebSphere® and more. Technology milestones reflected by System i5 systems include:
  - First to deliver POWER5™ microprocessor technology
  - First to provide a computing environment for i5/OS, Linux®, AIX 5L™ and Windows (by means of an Integrated xSeries Adapter or Integrated xSeries Server) in a single system environment
  - First to deliver the IBM Virtualization Engine™—a leading approach to simplifying computing assets
  - First environment based on 10th generation 64-bit processors and first based on 5th generation POWER™ processors

Distinctive value and leadership have won System i5 customer, partner and industry loyalty:

- There were over 200 new System i customer references in 2005.
- Business Partners contribute over 85% of System i revenue.
- For the 7th consecutive year, a System i offering won the VARBusiness Midrange Server Award (August 2005).
- Almost 98% of Fortune 100 companies have purchased a System i offering.
- 80 of the Top 100 Global Retailers and six of the Top 10 Supermarket and Grocery Chains own a System i offering.
- Over 16,000 banks worldwide have installed System i solutions.

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## Highlights

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**IBM invested more than \$1,000,000,000 on technology innovation for System i.**

**In the world of System i, integration has never just been about technology, but it has always meant that you can install solutions faster, maintain them easier and reduce your total cost of computing.**

To secure System i leadership as a complete business solution that simplifies IT environments, IBM continues to build on an investment of more than \$1,000,000,000 in technology innovation for System i. One result is the new System i5 line announced in January. Another is a new version of i5/OS: V5R4. Together they provide business a new generation of business computing platforms.

These platforms are powered by enhanced processors, performance accelerators, new security features, extended connectivity, increased automation of systems management, and more. These features and enhancements reinforce the core values of System i, such as integration, business resilience, and the ability to simplify IT. They also employ technologies that can help businesses create and deploy the innovative solutions they need to thrive in the world of On Demand Business.

### **Integration by design**

Revolutionary integration of hardware, security, systems management and middleware into a robust platform for business computing became a design point for the earliest predecessors of System i5. It is the hallmark of System i5 platforms today. i5/OS V5R4 extends the reach of System i5 integration to reflect the expanding circle of requirements and opportunities presented by On Demand Business.

For example, V5R4 tightens integration of Web portlets and Windows applications such as Microsoft Office 11. Integration of applications can give users more options for customizing their workplace and can help them automate core processes, both resulting in higher productivity for the individual and the enterprise.

In the System i5 environment, integration has never been restricted to just the integration of technology. It has also included integration of:

- **The efforts of people.** For example, i5/OS supports IBM Lotus Notes®, Domino® and IBM Workplace™ offerings to help employees throughout an enterprise communicate, coordinate calendars and share documents in a protected environment.
- **Businesses and their customers.** WebSphere products on i5/OS V5R4 can help businesses develop Web-enabled applications that present information to, and acquire information from, customers.
- **Industry expertise.** IBM is helping Independent Software Vendors (ISVs) and IBM Business Partners develop new solutions for deployment on System i5, thereby creating a continuous flow of innovative solutions for System i5 customers.

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## Highlights

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**i5/OS V5R4 enhancements reinforce the legendary security and resilience of the System i5 environment.**

**A survey of companies that simplified IT infrastructure with i5/OS finds that the solution paid for itself in “just over five months.”<sup>1</sup>**

### Reinforced security and resilience

The security and business resiliency provided by i5/OS is proven. Virus lists such as those at <http://www.sarc.com> and <http://viruslist.com> confirm that the industry has identified fewer threats to i5/OS than to Windows or UNIX operating systems. High availability options such as clustering and cross-site mirroring make i5/OS environments among the most resilient in the industry. V5R4 reinforces the proven ability of i5/OS to safeguard data, to shield assets from hackers and to keep business applications and data available.

- **Security enhancements.** V5R4 security enhancements include:
  - Hardware storage protection to help prevent “rogue” programs from accessing system objects
  - Intrusion detection features that administrators can use to easily automate monitoring for intrusion events, such as scanning for open TCP/IP ports
  - New auditing features to strengthen access control
  - Additional encryption capabilities to safeguard critical data
- **Resiliency enhancements.** V5R4 enhanced resiliency includes:
  - Clustering enhancements that simplify management of highly-available environments
  - Dual parity support (RAID-6) in a disk array for ongoing operation even if two units in a protected set of disks fail
  - Automated journaling of additional system objects
  - New backup options, including virtual tape support, that help enable continuous operations

### Simplify your IT

i5/OS can help businesses simplify IT to reduce the cost of computing, increase productivity, improve business agility and accelerate ROI. The benefits of simplifying infrastructure with i5/OS can be astounding. In 2005, IDC studied 12 companies in the United States, Europe and Asia that had deployed an i5/OS platform to consolidate environments. Key findings included:

- Three-year ROI of 258% on average across sites
- Productivity improvement of 68% in IT operations
- Payback period of just over five months<sup>1</sup>

The remarkable ability of i5/OS to simplify IT results in part from the fact that i5/OS can support multiple operating systems, such as Linux®, AIX 5L and Windows environments, simultaneously. By consolidating several operating environments and their applications onto one platform, i5/OS can help you reduce your total number of systems and servers dramatically, with a corresponding reduction in the cost of operations and maintenance. This reduction can generate savings that add directly to your bottom line—savings you can invest in growing your top line rather than in growing your IT.

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<sup>1</sup> IDC whitepaper, “Infrastructure Simplification and the ROI of Consolidating Windows, Linux, and AIX 5L Applications on eServer iSeries Systems,” September 2005.

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## Highlights

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**Savings in staff time and computing costs that you can capture by simplifying your IT with V5R4 can be invested in innovations that help grow your business.**

**IBM is focused on creating systems and infrastructures that can unlock a company's core innovative energies. i5/OS V5R4 on System i5 is just such an infrastructure.**

V5R4 enhancements such as those listed here help customers simplify IT even more:

- **iSCSI connection** to System i5 storage. The iSCSI (Internet Small Computer System Interface) protocol is a standards-based protocol for linking servers to storage over intranets and local and wide area networks. In 2006, IBM intends to use iSCSI technology to attach selected IBM xSeries® systems and BladeCenter® to the System i5 platform, supported on i5/OS V5R4. iSCSI can lower connection costs while expanding the range of IBM xSeries systems—either standalone or in BladeCenters—that can be integrated with System i5 storage.<sup>2</sup>
- **Choice of locations for source of system startup and initial program load** simplifies deployment of System i5 in a Storage Area Network (SAN).
- **Workload Management (WLM) enhancements** simplify systems management by reducing resources needed to terminate jobs and by simplifying re-start operations.
- **Simplified management of print files.** Many companies such as insurance companies and banks create large volumes of print files to archive transactions. Save/restore print (spool) file capabilities in i5/OS V5R4 can accelerate the saving and restoring of print files while retaining critical attributes and information. In addition, i5/OS auto deletion capabilities simplify management of print output queues by automatically deleting unneeded files.
- **Database enhancements** enabled by V5R4 further simplify use of DB2 UDB, already widely regarded as one of the industry's simplest databases to administer. For example, with V5R4, the Database OnDemand Performance Center helps administrators more quickly identify and correct database performance problems.
- **Enhanced application portability.** i5/OS V5R4 supports a new Java™ Virtual Machine (JVM). The JVM can help customers deploy new graphical, Java-based applications in i5/OS environments. System i5 offerings already give users access to over 80% of the world's business applications—as measured by software revenues—all from a single system infrastructure. Enhanced portability of Java-based applications to i5/OS platforms extends the reach of System i5 solutions even further.
- **Simplified solutions development.** On i5/OS V5R4, RPG applications can access a database with free-format SQL. Free-format SQL helps developers incorporate SQL into existing and new RPG applications for System i5, in turn helping businesses quickly deploy solutions that reflect changes in the marketplace.

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<sup>2</sup> This paper contains information about IBM plans and directions. Such plans are subject to change without notice.

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## Highlights

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**Businesses can deploy an integrated collaboration solution for the enterprise right out of the box, using IBM Workplace and i5/OS.**

**“With our requirements for high availability and support for multiple operating systems, we saw iSeries as the best option.”** Werner Schwarz, CIO of Gerolsteiner, on the benefits of iSeries under i5/OS

### Innovate

Innovation matters. “Leaders of businesses and institutions all around the world are making innovation their top priority,” says Samuel J. Palmisano, IBM Chairman and CEO. “They understand that innovation is the only way to create sustainable competitive advantage.”

IBM is focused on creating systems and infrastructures that can unlock a company’s core innovative energies. i5/OS V5R4 on System i5 is such an infrastructure. Under V5R4, the cornerstones of the System i5 heritage—integration, security and resilience, ability to simplify IT—converge to help people collaborate in deploying innovative solutions. For example:

- **Integration.** The integration of applications achievable with V5R4 allows solution developers to employ them in innovative ways to meet changing requirements. By supporting new collaboration tools such as IBM Workplace collaborative services, V5R4 can help strengthen teamwork among people pursuing innovative solutions together.
- **Resilience.** With the enhanced security and resilience delivered by V5R4, such as new hardware encryption and stronger asset control, businesses can engage in broader circles of collaborative development without compromising the resilience of core operations or the security of their data.
- **Simplification.** By simplifying administration of DB2 UDB, by supporting SQL in RPG applications, and by enhancing the portability of Java applications to System i5, V5R4 simplifies deployment of new solutions while increasing the options for solution architects exponentially. This simplification of IT can also help staff reduce the time they spend on day-to-day administration and management of today’s solutions and give them more time to spend on deploying new solutions.

As businesses explore the potential of V5R4 and System i5 to spark innovation, IBM is executing its own initiatives to increase development of new solutions for System i5. IBM is offering help to IBM Business Partners and ISVs who want to develop new tools and solutions for businesses using System i5. IBM System i5 innovation initiatives can be found at:

<http://www.ibmcom/servers/eserver/iseries/innovation>

### i5/OS helps industry leader Gerolsteiner simplify IT

Gerolsteiner Brunnen GmbH & Co. KG (Gerolsteiner) is Germany’s leading bottler and exporter of mineral water, with a global market of more than 25 countries and nearly 800 employees. Gerolsteiner also produces a variety of soft drinks.

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## Highlights

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**“As processing needs change through time, we can simply change the resources allocated to each virtual server, with no need to make additional investments in hardware.”**

**Werner Schwarz, CIO of Gerolsteiner, on the benefits of iSeries under i5/OS**

With around 50 systems and servers running a variety of operating systems – including IBM OS/400 and AIX, HP-UX, Windows and Novell Netware – IT administration costs at Gerolsteiner were high, while IT resource utilization and flexibility were low. For example, resources were not easily shared between different environments, so new test environments often required investment in new hardware, a problem intensified by the need to meet new European Union (EU) foodstuff traceability regulations.

Gerolsteiner decided to simplify their infrastructure on i5/OS running on an IBM iSeries™ system, a member of an earlier generation of the System i family. CIO Werner Schwarz explains. “We decided to consolidate the entire infrastructure to a single technological platform. With our requirements for high availability and support for multiple operating systems, we saw iSeries as the best option.”

Gerolsteiner replaced its collection of servers and systems with just two IBM iSeries systems running i5/OS and Linux, thereby:

- Reducing software, maintenance and administration costs
- Increasing resource utilization
- Achieving greater flexibility to respond to changes in processing requirements

“The iSeries offers enormous flexibility in an integrated system,” says Schwarz. “It is ideal for our requirements.”

### To learn more

For more iSeries and System i5 success stories, visit [www.ibm.com/systems/i/success](http://www.ibm.com/systems/i/success). For more about how i5/OS V5R4 can help you simplify your IT and help your business sustain a competitive advantage by sustaining innovation, contact your IBM Representative or IBM Business Partner or visit [www.ibm.com/systems/i/software/os](http://www.ibm.com/systems/i/software/os).



This paper was developed and published by the International Technical Support Organization.

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Somers, NY 10589  
Produced in the United States of America  
03-2006  
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