**Data Management Solutions
IBM Informix Portfolio
Future Directions**

White Paper version 4

Notices

AIX, DB2, DB2 Universal Database, Distributed Relational Database Architecture, NUMA-Q, OS/2, OS/390, and OS/400, IBM Informix®, C-ISAM®, Foundation.2000™, IBM Informix® 4GL, IBM Informix® DataBlade® module, Client SDK™, Cloudscape™, Cloudsync™, IBM Informix® Connect, IBM Informix® Driver for JDBC, Dynamic Connect™, IBM Informix® Dynamic Scalable Architecture™ (DSA), IBM Informix® Dynamic Server™, IBM Informix® Enterprise Gateway Manager (Enterprise Gateway Manager), IBM Informix® Extended Parallel Server™, i.Financial Services™, J/Foundation™, MaxConnect™, Object Translator™, Red Brick® Decision Server™, IBM Red Brick Warehouse™, IBM Informix® SE , IBM Informix® SQL, InformiXML™, RedBack®, SystemBuilder™, U2™, UniData®, UniVerse®, wIntegrate® are trademarks or registered trademarks of International Business Machines Corporation.

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Objective of the document

Since acquiring Informix Software, the database division of Informix Corporation, IBM has periodically updated a document describing the Informix product portfolio.

This, the fourth version of the product portfolio white paper, is again intended for customers and partners of IBM Informix products.

The objective of this white paper is to:

- Update you on the actions taken for our customers and business partners, and emphasize our continued commitment to the protection and leverage of your Informix investment.

- Present details regarding the future product direction for Informix users and the evolution of the IBM Informix products.

- Present IBM's Data Management strategy and how Informix technology supports that strategy.

We begin with some words from Janet Perna, General Manager, Data Management Solutions, IBM.

Dear IBM Informix customers and partners,

In our May, 2002 edition of the Informix Product Portfolio update, I wrote a cover note describing the progress of integrating Informix into the IBM Data Management business but acknowledged that we had to provide more information, more frequently. I'm pleased to report that we've seen tremendous progress in the past 6 months and trust that you have witnessed the same.

We've added a monthly electronic newsletter, more frequent webcasts a targeted telemarketing campaign and a multi touch email campaign, all designed to inform you, our valued Informix customers and partners, about how IBM is increasing the value of your Informix investment and suggest ways to further leverage it. In addition to these electronic and telephone touches, we've really enjoyed meeting many of you face to face at more than 30 roadshows around the world where Data Management executives and local personnel have walked attendees through the Informix product roadmap, the convergence plan, and the overall Software Group and Data Management strategy. We've received very positive feedback on all these programs, particularly the Infobahn roadshows and are planning many more in 2003.

In this paper, we have refreshed the product roadmap information to be current and our commitment remains what it was from the beginning. We will continue to invest in quality and feature enhancements in the key Informix database products for as long as customers require while we converge the unique Informix benefits with those of DB2 and produce a DB2 that provides even broader market leadership. Will we force Informix customers to migrate to DB2? Absolutely not! We are confident in our strategy and our ability to achieve it and trust that the result will attract Informix upgrades on its own merit if and when customers desire.

I encourage you to familiarize yourself with the contents of this portfolio update. In particular, the Data Management Vision and Strategy section has been refreshed to reflect our recent releases and acquisitions. The Customer services section also reflects a number of new training and professional services offerings.

I've enjoyed meeting all of the Informix customers and partners during our visits and conferences. Your business is highly valued by all of us. We appreciate you thinking of us when you have data management problems – it is what we do best – and we look forward to many more opportunities to serve you in 2003.

Sincerely,

Janet Perna

General Manager, IBM Data Management Solutions

IBM Informix Team Update and Contacts

This is the third update of the original IBM Informix Portfolio Future Directions white paper published in July 2001. Since IBM and Informix came together, we have been focused on "the power of one": one strategy, one team, one commitment to our partners and customers.   We understand the value you place on your existing investment in database technology, as well as its importance to your success.   And we realize that your companies have mission-critical applications deployed on IBM Informix products. We trust you will find that the detailed product plans that follow confirm our unchanging strategy to support IBM Informix customers with ongoing quality and feature improvements. In addition to these plans and the more detailed Data Management vision and strategy, we first want to provide for you an overall update.

New Product Deliveries

In 2002 alone, IBM has shipped numerous Informix product releases and updates. This includes several quality updates to Informix Dynamic Server Version 9.30, Informix XPS Version 8.40, Red Brick Decision Server Version 6.20 and Informix OnLine Version 5.20; new Application Development Tools releases of Informix 4GL Family and Informix SQL Version 7.31, Four J's Business Development Suite Version 3.50, and a new release of Informix Client SDK Version 2.80.

More details on these releases are listed among the product roadmaps in later sections.

Customer Support and Services

Already prior to acquisition both IBM and Informix shared a common philosophy regarding the importance of customer support and services and an unwavering focus on customer satisfaction. With our Customer Support and Services organizations working as one team, we are able to take advantage of the best practices of IBM and Informix and to leverage a greater pool of database expertise in meeting the needs of our customers and partners across the product lines.

Our IBM Informix support centers around the world continue to focus on delivering timely, responsive, high quality assistance to customers. The combination of the strong Informix support model and the added advantages of the breadth and depth of IBM's acknowledged leadership in Customer Support are proving to be a winning combination. We continue to provide the key support processes that you relied on such as direct-to-engineering and follow-the-sun, and we are developing new offerings applicable to the entire product line.

With the addition of IBM Informix products into Passport Advantage, Informix product users will gain access to IBM's comprehensive software licensing and software maintenance program that rewards customers with better pricing based on the volume of their software acquisition and the type of organization.

If your support needs reach beyond those of software maintenance, premier services programs are available to help you proactively plan and manage your data management environment.

Services consultants who are highly skilled across the product lines can help you with expert database installation, performance tuning, replication implementation, system administration, migrations, and ad hoc DBA work

Our professional services and education teams also continue to provide offerings across both the Informix and DB2 product sets. We have extended the reach of these offerings and skills via strong partnerships with IBM Global Services and IBM Learning Services. The Data Management services and education team – now about 500 worldwide personnel – are available to ensure customers and partners have access to the skills they need to deploy and effectively leverage the technologies and solutions we build.

In addition to the highly qualified training staff around the world that you have come to know, the new Education Centers for IBM SW program are expanding the delivery of IBM Data Management education offerings (including Informix) globally through IBM business partners. We continue to develop and expand the Informix curriculum to better serve your educational needs whether onsite, in classroom or through e-learning

The Professional Certification Program from IBM provides you with a structured program leading to an internationally recognized qualification as an IBM Certified Solution Expert in Informix software.

Partner Investment

IBM places significant value on retaining and growing Informix partnerships. As a result of IBM's acquisition of Informix, thousands of Informix business partners worldwide are continuing their business model of bundling IDS and other IBM Informix products with their high value applications. One indicator of partner retention is that year-to-year revenue associated from these ISVs is up. The primary message IBM wants to convey is the commitment to continue and strengthen these alliances with steady stream of Informix product enhancements, through the backing and resources of IBM.

Informix built much of its success on strong relationships with thousands of business partners who have developed solutions and distributed products in areas where IBM had little presence. This earned Informix a very strong share in the Small to Medium Business (SMB) area, for customers with less than a thousand employees. IBM and Data Management also have a high current focus in this area. We therefore have strong mutual interest and a common rallying point to target our energies to market and sell joint solutions in this segment.

IBM offers an attractive value proposition to business partners. First is fast time to market and revenue achievement. By simply joining PartnerWorld, business partners can immediately start utilizing the numerous marketing benefits, including sales and technical education, product enablement, technical support, and ongoing communications. Second, with the help of PartnerWorld, business partners can achieve accelerated revenue growth. Another of the many benefits of joining PartnerWorld, is the

"Business Partner Connections". Members of PartnerWorld who enter their solutions in either PartnerWorld for Developers (Global Solution Directory) or PartnerWorld for Software (Business Partner Directory), can use Business Partner Connections to find and team with IBM Business Partners worldwide, as well as promote their solutions, products and services to customer prospects. This Online Resource is also utilized by IBM sales and service representatives to locate solutions for their customers.

While the basic channel strategy remains the same, i.e. partners can purchase and resell IBM products and maintenance to any customer, the future channel incentives will be more performance driven, providing the highest levels of support and financial rewards to business partners that drive the highest revenue and value to IBM and their common customers. We understand the concerns that Informix business partners have moving from their current agreements and support to new IBM contracts. We recognize the concerns regarding margins, and that is why the IBM Entry OEM Agreement for Software has been developed taking these concerns into account. The Entry OEM Agreement is modeled after the Informix ISV VAR agreement and is a specific example of how the best of the Informix programs was used to build a brand new program within IBM. For more information and details, contact your IBM Account Manager.

While there is investment protection for ISVs continuing to sell current applications with IDS and other Informix products, there is potential for significant increased opportunity when their platform support extends to DB2, IBM Data Management products in Content Management and Business Intelligence, WebSphere, and other IBM Software Group offerings from Tivoli and Lotus. If business partners wish to port their application to DB2, IBM offers a gold bundle for IDS to DB2 transition at no additional license or maintenance charge. We will provide DB2 porting assistance via our Data Management technical support team and via PartnerWorld.

Also, business partners continue to be a critical component of the Customer Support Training and Services focus. Whether it is in the delivery of maintenance to customers, or skills transfer into each other's delivery teams, IBM is focused on constantly creating new areas of opportunity to partner and win. The Informix business partner community is seeing new opportunities opening up via the relationship with IBM, and IBM is fully committed to extending this value of relationship with the Customer Support and Services team.

It is important to note that IBM does not offer application solutions that compete with their business partners, as competitors do. The strategy is to embrace, enhance, and extend partnerships by protecting their investment, providing leadership programs, and expanding the opportunity for existing and new business partners.

IBM also realizes that business partners of all sizes and all types need up-to-date business and technical knowledge to run successful and profitable businesses. That's why IBM has developed Insight Exchange Business Partner initiative, a unique program of Webcasts and invitation-only conferences. The purpose? To give valuable insights into the trends and technologies which are shaping the future.

With presentations both by top-name industry and technology experts and by IBM senior executives, Insight Exchange has been designed to provide success insights for current and prospective IBM Business Partners. To learn more about this first-of-its-kind program and register for upcoming Webcasts:

- Log onto IBM Insight Exchange at www.ibm.com/software/insightexchange

In addition to IBM supporting Informix business partners, IBM also has strong support for common customers through the International Informix Users Group (IIUG). While PartnerWorld offers many programmatic benefits that can support your marketing efforts and generate demand, IIUG membership offers a strong network and peer support system, access to specialized knowledge and software, event discounts and timely information regarding IBM Informix products, services and programs. The IIUG is a great portal for Informix related news. Business partners will want to take advantage of the IIUG Partner Special Interest Group (SIG) which was created as a vehicle to share information between each other and to get feedback to IBM quickly.

Business partners who have yet to join can easily become a member of one of the PartnerWorld Communities that best fits their business model. Give your company the opportunity to take advantage of a PartnerWorld membership where you can receive communications on informative Web based events, roadshows, and other programs that will benefit your business throughout 2003.

Commitment to IBM and Informix

IBM remains committed to the Informix customer and partner base and we appreciate your ongoing commitment to us. Many thousands of customers have recommitted to the Informix product line since the acquisition. Examples of some customers and partners are Merrill Lynch, Sears, Home Depot, Qwest Information Systems, Mercy Ships, ROI Systems, Inc., Prelude Systems, Inc., Shutterfly, Epicor, ONLINE Computing, Klinikum der University Munchen, AF Informatica Aplicada S.A., International Decision Systems, Inc., Storis, Reynolds & Reynolds, Hubbell Canada, Datatel, Lincoln Life, TECHSYS Inc., and Geac Public Safety, a division of Geac Computers, Inc. just to name a few.

We also want to acknowledge the exhaustive efforts of the International Informix Users Group Board of Directors and its membership in their support, encouragement, and feedback.

Come Visit Us

We invite you to visit the following websites for up-to-date information on our product lines and programs and to register for newsletters and upcoming conferences.

Informational Websites:

IBM Insight Exchange: http://www.ibm.com/software/insightexchange

PartnerWorld for Developer: http://www.ibm.com/partnerworld/developer

PartnerWorld for Software: http://www.ibm.com/partnerworld/software

Informix Specific web site: http://www.ibm.com/informix

InfoBahns: http://www.ibm.com/informix/events

Success Stories: http://www.ibm.com/informix   Click on Success Stories

Register for upcoming local road show events (InfoBahn)

USA: http://www-914.ibm.com/events/ibna/ibna02.nsf
EMEA: http://www-.ibm.com/events/infobahn914.ibm.com/events/infobahn/infobahn.nsf/webcontent/welcomeEN

Informix roadshows will be touching down in various countries around the world in 2003 delivering our key messages to customers, business partners and end users. There will

be a variety of guest speakers from all over the world presenting IBM's plans for the Informix product range now, and in the future.

These meetings are designed for IT Management and other professionals at Informix Customer, Partner and end-user customer organizations.

Data Management Vision and Strategy

Vision

The Data Management team at IBM envisions an IT world of the future challenged in five primary problem dimensions.

- Unpredictable workloads with less and less problem tolerance
- Partners of all types building applications with evolving language standards
- An increased need for real-time decision making
- Continuous growth in the size and forms of data requiring management
- Sky rocketing systems complexity

The evolution of the Internet continuously and dramatically changes how applications are being written and provides data access to vast numbers of users. This pushes the limits of scalability and availability of today's databases. The Internet also permits very unpredictable workloads and for many applications they must be available 24 by 7. The languages being used to write applications and their associated standards continue to evolve and customers keep pushing for more tightly integrated solutions from industry vertical or cross industry experts. Data in digitized forms other than numbers and strings need to be stored, retrieved, analyzed and transformed into knowledge. Data needed for intelligent decision-making is typically all over the enterprise – in fact, its likely not even all in a database since the client-server era of computing put data in departments all over the place. Finally, with advanced capability comes complexity.   Of course, amidst all this, the core requirements of security, reliability and serviceability remain as must-haves for any technology hoping for a chance while the flashier features compete for headlines.

Data Management Strategy

Molded squarely by its vision of the IT future, IBM's Data Management strategy is to continue providing the world's leading software infrastructure that is best suited to meet all of these demands. Not incidentally, unique Informix technology and best practices will play critical roles in our success.

Unpredictable workloads
Huge data capacity, near-linear scalability and highly available reconfigurations remain high priorities for DB2 and Informix products. As data proliferates and the need to store and access more for longer periods increases, DBAs will need to be able add disk,

memory and processors without stopping the systems and will expect throughput increases proportional to the resource increases. Onsite databases will play the leading role in satisfying these demanding feats, however, IBM as a whole is tooling itself to offer ubiquitous computing resources through its grid and on-demand initiatives. A time will come when many will plug their work appliance into the wall outlet, tap into online application resources hosted by IBM and partners and pay only for what you use. In preparing for this shift in model, Data Management has resources working closely with IBM Research to ensure that as this evolves, our databases can offer all of these advantages.

Partners and languages of all types

As Java, .Net and XML mature and replace legacy programming languages, we are committed not only to serving up industry leading APIs which keep up with their standards but also to helping define those standards. Researchers who originally designed SQL are now crafting the Xquery standard whose goal is to define a language optimized for managing XML documents. We are pouring substantial investment into adding XML support into DB2. When completed applications can talk to DB2 with either SQL or XML and data can be stored traditionally as rows and columns or in optimized XML form.

We are extremely confident that we know and have what it takes to build the world's best data management software infrastructure. However, we are not so arrogant to assume therefore that we know more about Customer Relations Management, Supply Chain Management, Human Resource Management or the rest of the array of cross industry applications built by companies who have spent years studying this space. We believe that these and the multitude of vertical market applications are best built by experts who specialize in those areas. So, unlike our primary database competitors, we refuse to compete with the best of breed partners who specialize in applications and commit instead to making it easier to build and deploy those applications on IBM Data Management software.

In addition, small and medium sized businesses typically look for solutions from regional suppliers. Informix experts have led numerous changes to make IBM an easier partner providing more flexible terms and conditions and margins that grow with the number of shipments.

Real-time decision making

Time is money. Real-time can produce real money. Ask the broker how long he can afford to wait to notice trend changes in his portfolio holdings. Or, how long is the pricer at a larger retailer willing to wait to see results of a test promotion before rolling it out nationwide? Increasingly, real-time decision-making will separate the best from the also-rans and necessarily our databases will support analysis simultaneously on operational systems.

Tight relationships with the market leaders in business intelligence tools including ETL, data mining, OLAP and warehouse management help ensure that the latest capabilities innovations are available immediately for marts and warehouses built on IBM's databases.

Data growth

No longer is an enterprises data in neat numbers and strings in a single database. System diagrams rival ASICS designs with ETL moving data everywhere to prepare for analysis. Two major investment areas signal IBMs intent to tame the massive increase in data and the many forms it takes.

Content manager provides application infrastructure designed to catalog and index digital assets. A recent acquisition added much needed e-records management to offer help to corporations seeking to meet increasingly stringent data preservation legislation.

To dramatically ease the complexity of accessing data stored outside the database we are well on the road to virtualizing this access through a standard, well-known interface – SQL. With DB2's federation capabilities, access wrappers to a variety of data sources can be given a table interface in DB2 and data can be queried in much the way local data in standard rows and columns is accessed. Hiding the complexity inside the wrappers, application developers can concentrate on using the language they already know to include data outside DB2, whether it is in a competitors database, a spreadsheet or behind an ERP application API.

Sky rocketing systems complexity

Finally, IBM is serious about having computers help solve the complexity their proliferation caused. Known as autonomic computing and using the human body as the perfect example, IBM has initiatives across all product sets to ensure that each successive release provides more ability to self-configure, self-manage, self-diagnose and self-heal.

DB2 and Informix databases have been making tremendous progress in all of these areas for several years, which has led several studies and countless customers to testify to the lower total cost of ownership for both. Future releases promise more in these areas to allow DBAs to concentrate more of their time on value-added activities and less on the drudgery of keeping the system tuned.

Other Software Group business units at IBM are working hand-in-hand with Data Management to ensure the most tightly integrated set of e-business application development and runtime components (Websphere), collaboration solutions (Lotus) and security and systems management infrastructure (Tivoli).

Informix Strategy

While pursuing the challenges of the evolving IT market, IBM remains committed to its installed base. For this reason, while we are taking on the competition head to head with DB2 innovations, we recognize the investment our customers and partners have in data and applications on Informix databases. We recognize that customers picked Informix because it did the job better than any product at the time. Our plan is to continue the Informix strategy for combining the best of Informix in a single product, with the rest of the Data management strategy by converging the best of Informix with DB2. This will arrive in phases with each subsequent DB2 release containing additional Informix capability. Different applications will be ready for transition depending on what

Informix dependencies they contain.

DB2 version 8.1 was released in November 2002 with a number of features drawing from Informix experience. The next major delivery will be in a subsequent release with a number of the portability issues resolved. Datatype and SQL extension parity and direct 4GL connectivity will make a vast number of Informix applications port easily to DB2. In a follow on release features bringing operational characteristics more like Informix will arrive. Each release will also be accompanied by an upgrade wizard helping users easily overcome any remaining portability issues not covered by DB2 built-ins.

Since this is a multi-release plan, ongoing Informix enhancements are mapped out for many years. More details are presented in later sections of this paper, but at a high level, our commitment is to produce new quality and feature releases of the major Informix databases for as long as customers require. We back this up by pointing out that there are more engineers working on IDS today than prior to acquisition.

DB2 or Informix for new applications?

Given the preceding information on IBM's vision and strategy, it makes sense to finish with some advice regarding a customer's database choice for new application development.

IBM recommends that Informix customers and partners implementing new applications strongly consider DB2. We recognize that this is a broad statement. Therefore, customers should speak with their IBM sales representative about what might be right for their situation. Some will find advantages to starting a transition soon. Others will decide to continue on Informix and consider a transition when more of the Informix portability has been built in.

Either way they will benefit from investigating the investment protection options available through the Gold Program, which your sales representative can explain. These Gold Program offerings are intended for Informix (IDS, XPS and Red Brick) customers who want the flexibility to install or maintain either Informix or DB2 products in whatever combination is required to meet their business needs over time. These offerings allow the customer to purchase licenses to cover the entire business need, even if the exact mix of Informix and IBM database licenses is either not known at this time or will change over time.

For those customers looking to transition, we can provide tools and assistance to make this as smooth as possible. With the underlying technologies and visions so similar, the transition within the IBM Data Management family of products will be your most straight forward.

IBM Informix Dynamic Server (IDS)

IDS is a mission-critical, general-purpose, on-line transaction-processing (OLTP) database for the enterprise and workgroup. IDS is deployed today at enterprises large and small where a transactional database can solve real-world business problems.

Enterprise businesses

IDS is commonly used for OLTP, decision support, customer relationship management, enterprise resource planning, and many other mission critical enterprise applications. Many of these applications were built using Websphere Studio and are deployed on Websphere Application Server. With successive IDS and Websphere releases, the interoperability of these highly compatible technologies will keep getting better.

Small to medium size businesses

In addition to the scalability of IDS at the enterprise level, IDS continues to be a predominant player in the small- to medium- size business marketplace, with installations at well over 20,000 companies across the globe, and with a very strong focus in the Linux market.

Many of these installations are due to our strong network of Informix heritage value added resellers, integrators, and ISVs. The additional benefits of IBM's extensive PartnerWorld for Software and PartnerWorld for Developers offerings greatly enhance the opportunities available to these business partners.

Embedded Applications

Because it is easily embeddable, IDS is often integrated into OEM solutions, such as those from Intrado (911 emergency systems), Telelogic (Software Configuration Management), and many others.

Technology Leadership

Since inception, IDS has focused on core technology leadership. IDS was the first database to bring to market key technologies such as Range (Expression) Partitioning, Multi-Threaded Architecture – the Dynamically Scalable Architecture (DSA), Parallel Data Queries, High Availability Data Replication, Enterprise Replication, the world's leading Extensible Architecture, R-Tree & GIS (Spatial) Integration, Time-Series Data, Java in the Database, and much more.

IDS Product Roadmap

IBM intends to continue to enhance and support IDS for existing customers and partners based on customer, market and technology-driven requirements for as long as they require. IBM is planning new releases of IDS approximately every 18 months as described in the sections below.

IDS 9.30 shipped in October 2001 and is enjoying rapid success. IDS 9.40 should ship in Q1, 2003, IDS 9.50 is in the planning stage, and the roadmap already extends to IDS 9.60.

IDS Version 7.31

IBM will continue to release fixpacks for IDS 7.31 versions of IDS 7 on a regular basis for several more years. IBM will support IDS 7.31 through at least 12/31/2005.

Customers should note that IDS 9 is the platform for future enhancements of the IDS product line.

IDS Version 9.21

Effective 4/1/2002 IDS 9.21 was removed from marketing. IDS 9.30 takes 9.21's place in the Informix lineup as the recommended IDS 9 version for new deployments.   Existing IDS 9.2x customers & Business Partners can continue to purchase additional license entitlements and will receive patch level support for IDS 9.2x.   Customers desiring regular fixpacks will now receive them through the new IDS 9.30.

IDS Version 9.30

IBM delivered its promise to the market with the announcement of IDS 9.30 in October 2001. For full details on IDS 9.30, please refer to the IDS web pages: http://www.ibm.com/software/data/informix/ids .

IDS Version 9.40

Development has completed their feature work on IDS 9.40 and are wrapping up the beta testing and defect closure phase of the project. The features and enhancements of IDS 9.40 are based on extensive feedback from our IDS 7 and 9 customer base. The projected release date for IDS 9.40 is Q1 2003.

SAP, PeopleSoft, Baan, Lawson and Business Objects have committed their support - all intend to port their applications to IDS 9.4 over the next few months.

In this release, IDS 9.40 will deliver key, customer requested OLTP enhancements, including:

Enhanced Scalability:

The 2-gigabyte chunk limit and the 4-terabyte maximum instance limit will be wiped out. IDS 9.40 will be able to support *32,768* chunks and each chunk can be as large as *4 terabytes*, which will increase the maximum size of an IDS instance from today's 4 terabytes limitation to *a theoretical 128 petabytes.* Not only will this feature greatly expand the scalability of IDS and allow it to make use of today's large disk drives, but also it will ease administration overhead by greatly reducing the number of chunks that a DBA must manage.

Enhanced Security:

Security is at the forefront of many customers' thoughts today. New capabilities for encryption and authentication are being added to IDS 9.4. IBM is committed to increasing the security features in all of its products.

Enhanced Performance:

Database performance tops many customers' lists. The IDS team is very focused on finding new ways to improve the performance of IDS 9. Included in this project is a focus on reducing the amount of tuning required after upgrading from IDS 7.

SQL Compatibility:

Business partners are always looking for ways to maximize their investments with each of the database vendors they support. The IDS team will deliver SQL compatibility features in every new release of IDS that will make it easier to port and maintain applications that must run against multiple vendors' databases.

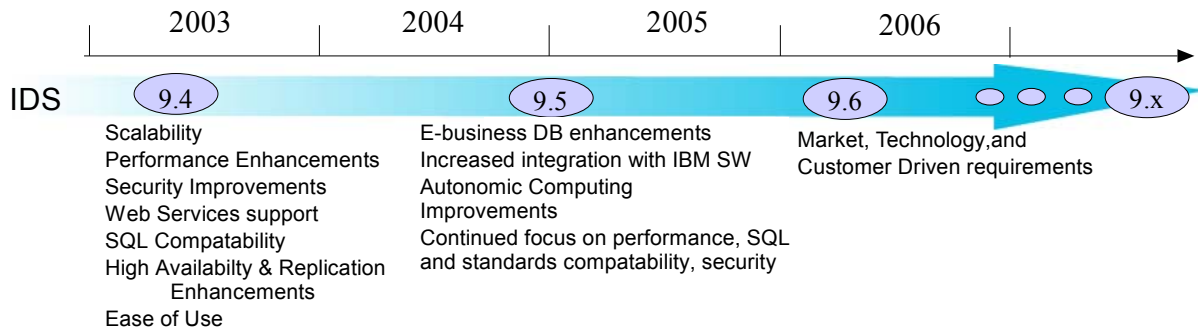**Leveraging IBM Technology:**

The IDS team is leveraging the IBM technology base to improve IDS 9.40. A key example of this is that IDS 9.40 will take advantage of the IBM Unicode implementation. In just one release, IDS's conformance to Unicode, from 1.x to 3.x, will be dramatically improved.

IDS Version 9.50 & IDS Version 9.60

The IDS team is hard at work on product futures beyond IDS 9.40. Your input is always desired. The future of IDS depends on building products that our customers require. If you wish to provide input regarding future IDS functionality, contact your sales team or your local technical support office. They will then forward your feature requests to product management and to the development team.

What are our early thoughts on IDS 9.50? We will continue to collaborate within IBM to improve IDS security, to add more SQL compatibility features, to further raise the performance bar, and, of course, to take advantage of IBM's leading WebSphere, Tivoli, Tools and other technologies. IDS excels in ease of administration features. By working to bring the IBM's SMART self-managing concepts to the IDS roadmap as well as the DB2 roadmap, IDS will become even easier to administer. And by bringing key features like IDS style replication for high availability to DB2, it will be easier for customers and business partners to take advantage of DB2 for new applications.

In summary

Timeline

| 2003 | 2004 | 2005 | 2006 |

IDS 9.4 — 9.5 — 9.6 — 9.x

9.4
Scalability
Performance Enhancements
Security Improvements
Web Services support
SQL Compatability
High Availabilty & Replication
    Enhancements
Ease of Use

9.5
E-business DB enhancements
Increased integration with IBM SW
Autonomic Computing
Improvements
Continued focus on performance, SQL
and standards compatability, security

9.6
Market, Technology,and
Customer Driven requirements

IBM Informix Internet Foundation

The IBM Informix Internet Foundation product bundle is no longer being offered. Existing customers and partners may purchase additional license entitlements and receive support for each product in the bundle.

The J/Foundation Java capability is now available as part of the default IDS 9.30 offering on the platforms that support Java.

Existing Internet Foundation bundle customers can upgrade any or all of the components of Internet Foundation as long they remain on maintenance, per the support plans for each product in the bundle.

DataBlade Modules

DataBlade modules are application and business logic that reside in the database. DataBlade modules allow IDS to integrate new data types, operations that process the data, and access methods that retrieve the data. The server provides the same level of support for these new data types, operations, and access methods that it provides for built-in data types. DataBlade modules add greater capability to the database server and enable you to easily manage any kind of information to meet the needs of your specific business domain.

IBM will continue to offer enhancements and support for the DataBlade technology products for existing customers and partners for as long as they require, while integrating key technologies like Rtree and TimeSeries technology into future releases of DB2. IBM maintains the skilled staff to install, configure, and support the use of these technologies in your environment. More details are described below.

Today, IBM offers the following DataBlade modules:

- **IBM Informix Spatial DataBlade** module enables users to manage geo-spatial data and features a specialized R-tree index, which provides extremely high-performance SQL access to spatial data.
- **Excalibur Image DataBlade** module provides for image retrieval and feature management.
- **IBM Informix Image Foundation DataBlade** module provides for image translation, retrieval of image metadata, and image format conversion.
- **Excalibur Text Search DataBlade** module supports full-text searching of documents stored in IDS.
- **IBM Informix Geodetic DataBlade** module stores and manipulates four-dimensional objects; it is particularly useful for managing spatial-temporal data.
- **IBM Informix NAG DataBlade** module provides numerical analysis functions and formulas.
- **IBM Informix C-ISAM DataBlade** module provides two main features: storage of C-ISAM data in the database and access to C-ISAM files from the database.
- **IBM Informix TimeSeries DataBlade** module supports management and analysis of time series data.
- **IBM Informix Video Foundation DataBlade** module provides an open architecture for video-enabling technologies.
- **IBM Informix Web DataBlade** module eases the development and management of Web-based DBMS applications.

The newest version of the Spatial DataBlade module Version 8.20 which is Generally Available since December 2002 includes a new Client API for Java Applications. The TimeSeries Real Time Data Loader Version 1.10 will be released in January 2003 and includes support for "regular" TimeSeries, templates and new configuration options for

data feeds, support for 64-bit platforms, and ease of use features such as simplified tick handling and command line utility simplification. The team is also working on fix-pack releases for other DataBlade modules including Web, TimeSeries, Spatial and Excalibur Text in 2003.

New Foundation Bundles

Finance Foundation for Capital Markets

Three different flavors of the Finance Foundation for Capital Markets bundle (Enterprise, Analytics and Real Time Editions) will be introduced in Passport Advantage in Q1 2003. This unique product is designed to help securities traders store and analyze market data in real-time as well as historical settings. The bundle incorporates the benefits of the IBM Informix TimeSeries DataBlade module, IBM Informix TimeSeries Real-Time Data Loader, IBM Informix NAG DataBlade module, IBM Office Connect, and IBM Informix Dynamic Server into a targeted solution that is ideal for finance professionals. Finance Foundation will be updated to include the latest versions of IBM Informix products, with the many new features and advantages they bring to customers.

Law Enforcement Foundation

IBM has recently launched IBM Informix Law Enforcement Foundation designed to help in the exacting field of law enforcement and police science. This product bundle uses the IBM Informix DataBlade technology to extend the IDS database, adding the ability to handle voice, iris, face, and fingerprint recognition. The unique ability to extend the access methods (index types) of the database allows these multi-dimensional data types to be handled with ease and speed. This provides huge productivity gains for organizations that adopt it. While only recently launched, this product has already been selected by law enforcement agencies on four continents. IBM is enthusiastic about the new market opportunities that this product provides and its ability to demonstrate excellent customer value and technological innovation.

Other Foundation Bundles

IBM is investigating other industry specific Foundation bundles for various customer segments for the future. Stay tuned to the IBM Data Management web site for continuing announcements of these products. As with the Internet Foundation bundle, IBM intends to continue to enhance and support the underlying products that comprise these offerings to existing customers and partners for as long as they require, while integrating key technologies of them into DB2.

Business Intelligence Servers (Red Brick and XPS)
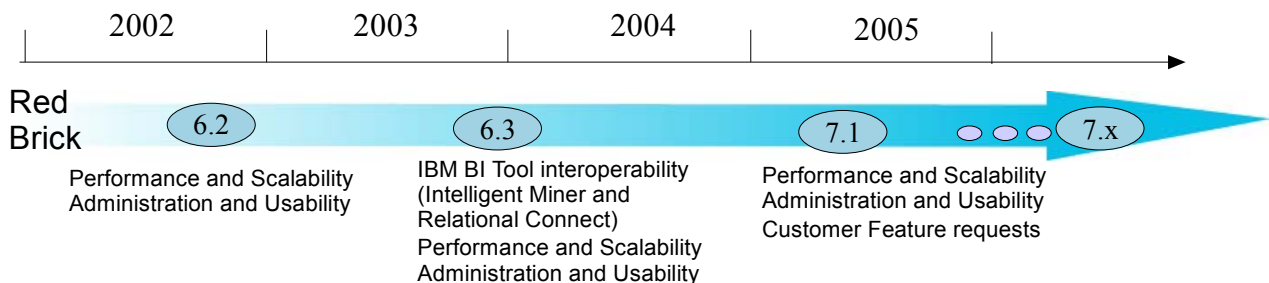
IBM Red Brick Warehouse

IBM will continue to offer enhancements and support of Red Brick for existing customers and partners for as long as they require. IBM also intends to integrate key features like Red Brick style loader enhancements and Red Brick style STAR Join optimizations into DB2, making is easier to take advantage of DB2 for new applications.

Red Brick Warehouse v6.2 released according to plan in Oct 2002. The themes for v6.20 were integrated analytics, enhanced performance, and continued ease of use improvements. By including support for ANSI standard SQL/OLAP extensions, we have added to Red Brick's strong analytic capabilities. Performance and usability were also enhanced with features such as built-in performance monitor, locally segmented indexes, remote loads, integrated backup & restore, and support for XML.

Planning, design and development are well underway for the follow-on release of IBM Red Brick Warehouse. We've been hearing from many of our customers and partners that continued improvements in the areas of ease of use, query performance, and data loading are critical as they continue the push to handle larger workloads with minimal capital outlay. Under consideration for the next release are the following: easier management of PSUs, improvements to basic STARJoin, TARGETJoin processing, and expression rewrites to allow more index use. This release is targeted for late 2003, consistent with our commitment to release new Red Brick updates to existing customers approximately every 18 months.

Since Red Brick version 6.0, customers who purchased Red Brick have received at no additional charge a tool called Vista, which can significantly speed up many types of queries. IBM's services team can provide hands-on mentoring in the use of Vista and assist your team in implementing it for your user community. They will extend the value of your Red Brick investment by helping you take full advantage of features you have today but may not be using.

In summary,

2002	2003	2004	2005

Red Brick

6.2 — Performance and Scalability / Administration and Usability

6.3 — IBM BI Tool interoperability (Intelligent Miner and Relational Connect) / Performance and Scalability / Administration and Usability

7.1 — Performance and Scalability / Administration and Usability / Customer Feature requests
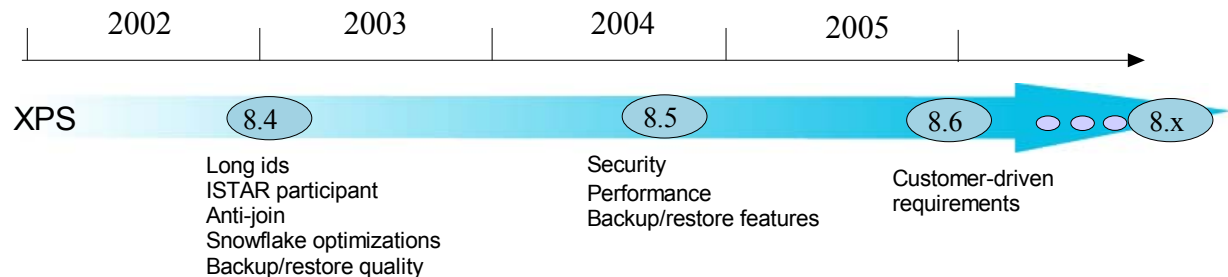
7.x

Extended Parallel Server (XPS)

IBM will continue to offer enhancements and support of XPS for existing customers and partners for as long as they require. IBM also intends to integrate key features like XPS style partitioning (fragmentation) into DB2, making it easier to take advantage of DB2 for new applications.

XPS Version 8.40 released according to plan in September 2002. The major benefits of Version 8.40, are continued ease of use, additional tool support and performance optimization. This release includes critical customer requested features, such as long identifiers support, distributed support via I-STAR (participant only), Roles and snowflake schema enhancements. In addition, several RAS (reliability, availability, serviceability) features have been incorporated to improve the overall ease of management necessary for running enterprise data warehouse environments.

A subsequent release, Version 8.50, is already being developed and will support major themes such as performance optimization and DB2 business intelligence tools integration. XPS version 8.50 will continue to provide ease of use features that make large warehouse administration require even less effort. This release is currently targeted for the second half of 2004.

Future versions of IBM XPS will aim to include tighter integration and support for IBM business intelligence products such as DB2 Warehouse Manager and QMF.

In summary,

2002	2003	2004	2005

XPS

8.4
Long ids
ISTAR participant
Anti-join
Snowflake optimizations
Backup/restore quality

8.5
Security
Performance
Backup/restore features

8.6
Customer-driven
requirements

8.x

Low-Admin "Classic" Servers

These traditional database servers have earned a reputation for solid reliability, robustness, simplicity and ease of use and are fondly called "The Classics". IBM will offer enhancements and support to existing customers and partners for as long as they require. We plan to do this by not disturbing the fundamental stability that makes them so attractive and will be primarily focused on porting them to new and updated operating systems as they become available.

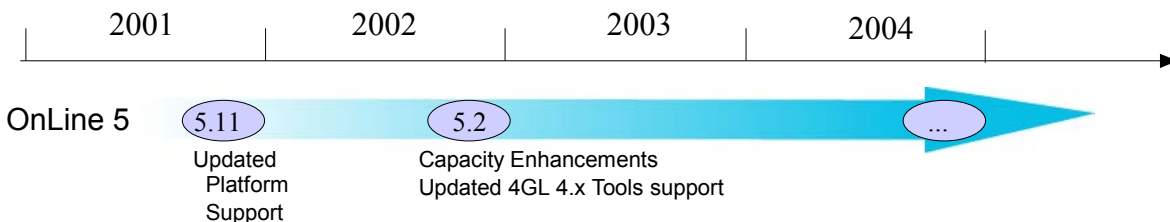### IBM Informix OnLine 5 and Online Extended 5.2x

OnLine 5 will periodically be enhanced for the new generation of lightweight "internet appliance" style servers of 1 or 2 CPUs, as well as continuing to do duty in the thousands of customer and VAR applications that rely on it today. Showing IBM's commitment to this family of products, Version 5.2 OnLine Extended was released in Q4 2002, and includes support for all the latest Unix and Linux operating systems.

OnLine Extended Edition Version 5.2 is Generally Available since November 15, 2002 and includes enhanced 4GL Tools support, capacity enhancements, and also bundles the IBM Informix STAR product. This allows customers to manipulate multiple OnLine databases in different locations as if they were one common database.

Online Extended, a new product name for two popular Informix products: Informix OnLine and Informix STAR, marks the beginning of a new era for the Informix Classic server family. With this release, IBM adds distributed computing to a proven database server at no extra cost.

Additional benefits can be viewed at www.ibm.com/informix/online5/extended.

In summary,

IBM Informix SE

Valued by the VAR community for it's ease-of-use and silent install, SE is embedded in thousands of partner applications throughout the world. Version 7.25, released in 2001, includes support for files larger than 2GB and is available on Unix, Linux and Windows. Future releases will primarily be to support operating system updates only.

IBM Informix C-ISAM

As the industry standard Indexed Sequential Access Method (ISAM) for UNIX worldwide for nearly two decades, C-ISAM is currently available for Linux on IBM 390 Systems as

well as a wide variety of Unix systems, Windows and Linux. No future feature releases are planned at this time.

Development Tools, APIs, Gateways, and Specialty Tools

Application Development Tools

IBM Informix 4GL (4GL) Family

The IBM Informix 4GL family provides a character based, fourth-generation application development environment that includes the Rapid Development System, Interactive Debugger, and 4GL Compiler. . A large number of Informix database customers and partners have deployed their mission-critical business applications using 4GL technology. IBM recognizes the value 4GL has provided as a Rapid Application Development (RAD) tool for Informix databases and is fully committed to continued enhancement and support of the 4GL product family.

Several important 4GL customers and partners, many of whom are IIUG members participated in an interactive webcast survey conducted by IBM in August 2002.
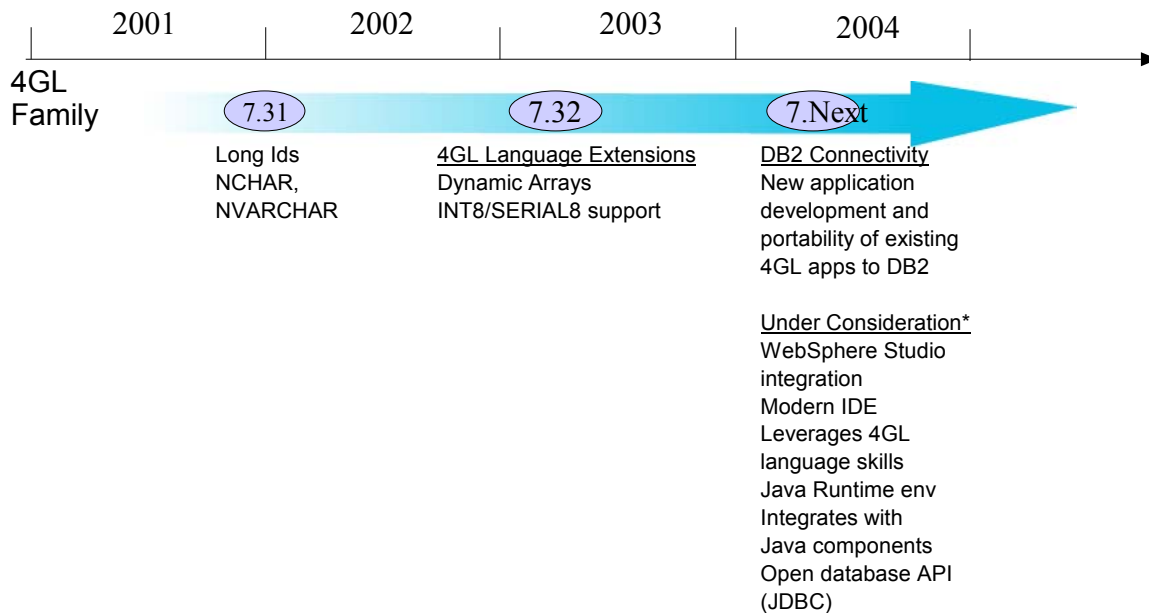
The conclusion of this survey was, Informix customers and partners tremendously value Informix database connectivity and prefer enhancements to 4GL that will offer superior application development capabilities with Informix databases. The 4GL product roadmap will reflect the valuable feedback gathered by this interactive survey.

The first step IBM has taken in the direction of fulfilling 4GL customers' and partners' wishes is by promising enhancements to the 4GL language that will offer enhanced support for IDS 9.x datatypes like INT8/SERIAL8 and the Dynamic Arrays functionality in its upcoming 4GL 7.32 release.

IBM will continue scoping of the Classic 4GL - DB2/Arrowhead Connectivity and 4GL WebSphere Studio Integration efforts, and update the 4GL installed base of the progress from time-to-time. Currently, 4GL connectivity to DB2 is planned to coincide with the next release of DB2, v8.2.

IBM is committed to continually upgrading its 4GL technology and thus provide ongoing value to its loyal 4GL customers and partners.

In summary,

2001	2002	2003	2004

4GL Family

(7.31)   (7.32)   (7.Next)

Long Ids
NCHAR,
NVARCHAR

4GL Language Extensions
Dynamic Arrays
INT8/SERIAL8 support

DB2 Connectivity
New application
development and
portability of existing
4GL apps to DB2

Under Consideration*
WebSphere Studio
integration
Modern IDE
Leverages 4GL
language skills
Java Runtime env
Integrates with
Java components
Open database API
(JDBC)

Four J's Business Development Suite (formerly Informix Dynamic 4GL)

In December 2001, IBM signed a Software Remarketing Agreement with Four J's Development Tools for the rights of IBM to remarket Four J's Business Development Suite (BDS). Under Informix, this product was known as Informix Dynamic 4GL. It was a means to quickly and easily recompile 4GL applications to a variety of graphical application development environments, including those that are Windows, HTML and Java based. IBM is currently selling and supporting Version 3.50, released to market in summer of 2002.

IBM intends to keep current with the newest releases of BDS, expecting newer releases to be available from Four J's in 2003 and beyond.

IBM Informix SQL (I-SQL)

IBM Informix SQL consists of five application development tools: a schema editor, menu builder, SQL editor, forms builder, and report writer. IBM will continue to sell and support this product. IBM's commitment to I-SQL is evidenced by a recent maintenance release, Version 7.31 in January 2002.

I-SQL customers are encouraged to take advantage of the 20% promotion discount on DB2 Web Query tool that offers sophisticated Web SQL functionality.

IBM intends to support I-SQL for existing customers and business partners for as long as they require.

IBM Data Management Tools Promotion

IBM offers the following benefit to its customers who have invested in Informix 4GL or SQL technology. Upon purchase or renewal of licenses or maintenance of Informix 4GL, v7.31 (or higher) or Informix SQL, v7.31 (or higher), IBM customers can save 20% on the latest versions of the following IBM Data Management Tools that will further enhance their Informix database productivity:

- DB2 Web Query*
- DB2 Table Editor*
- IBM Office Connect Web Edition

*Both DB2 Web Query and DB2 Table Editor have been recently certified with Informix Dynamic Server (IDS), versions 9.2x and 9.3x and will be certified with IDS 9.4 very near its release.

Client Development Tools and APIs

IBM offers a suite of products to enable clients to connect to its Informix databases, access data spanning multiple data sources, and work with a variety of specialized data types.

IBM will support existing CSDK customers and partners for as long as they require. New enhancement releases are planned to keep pace with new server releases and to address performance and standards compliance.

This section describes the components making up the Informix Connectivity suite:

- **IBM Informix Client SDK** packages several application programming interfaces (APIs) for servers into a single offering. Support is included for JDBC, C, C++, ESQL/C, Open Database Connectivity (ODBC) and OLE DB client side provider
- **IBM Informix Connect** is the set of runtime libraries required by the non-Java components of IBM Informix Client SDK. This software is required for deploying client applications to access IBM Informix servers.
- **IBM Informix JDBC Driver** is a pure Java type 4 driver based on the latest 1.x and 2.x Java Database Connectivity (JDBC) specifications. Embedded SQL/J is part of the IBM Informix JDBC driver.
- **IBM Informix ESQL/COBOL** is for supporting SQL statements embedded into COBOL language applications. The current plans for ESQL/COBOL are to continue to support the product for as long as our customers and business partners require, and enhance with market demand.
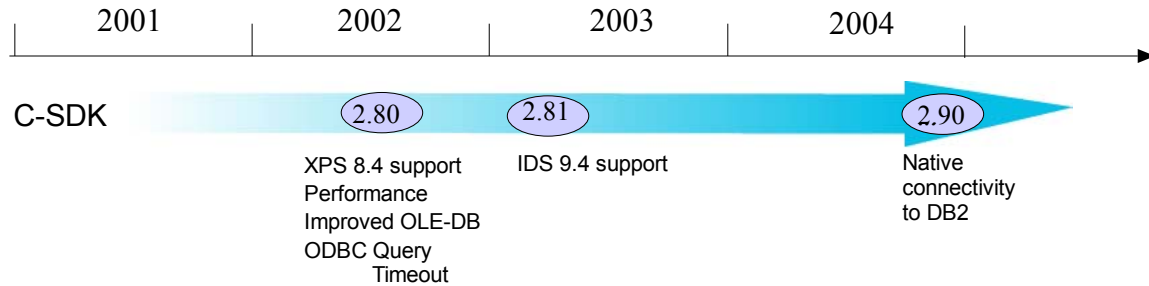
The key theme for connectivity products is fast, easy and reliable data access to Informix servers. Client SDK/I-Connect v2.80 delivered performance enhancements, additional platform support, new server support for XPS 8.4 and an enhanced development and deployment environment for windows based developers. While most Client SDK future releases are planned at approximately one-year intervals, v2.81 Client SDK will ship Q1 2003. The key features of v2.81 are to support the next major release of IDS v9.4 address customer requested features, support .NET application connectivity via the ODBC and OLE DB bridge and update OS platform support. Other Client SDK features under consideration include support for .NET application connectivity to IDS via the ODBC and OLE DB bridge.

In a future SDK 2.81 fix pack, we will certify the ODBC component to work with an open source ODBC driver manager.   Other Client SDK features under consideration include the ability to connect ESQL/C applications natively to DB2 databases and .NET Managed Provider support.

The next release of JDBC v 2.21.JC4 will ship in early 2003, focusing on IBM's on-going commitment for open standards compliance, supporting the latest servers, integration with WebSphere Application Server, and ongoing attention to product quality. New features include Setting Lock Mode and Isolation level for Connections, improved SQL Protocol Handshaking mechanism and support for Multiple User Defined

procedures/functions and stored procedures. Planning for v2.21.JC5 and v3.0 are in progress.

In summary,

	2001	2002	2003	2004

C-SDK   2.80   2.81   2.90

XPS 8.4 support   IDS 9.4 support   Native
Performance   connectivity
Improved OLE-DB   to DB2
ODBC Query
        Timeout

Gateways

To enable IBM customers and business partners to access data spanning multiple data sources, IBM offers the IBM Informix Enterprise Gateway Manager and the IBM Informix Gateway with DRDA. The Enterprise Gateway Manager provides programmers with transparent access to a number of non-Informix DBMS, including those offered by IBM, Sybase, Microsoft and Oracle. The Gateway with DRDA (Distributed Relational Database Architecture) also provides programmers with access to IBM's DB2 family, using native and faster connectivity protocols defined by IBM.

IBM intends to support existing Gateway customers and partners for as long as they require. New features under consideration include full two-phase commit, long-id support as well as multiple result sets returned from stored procedure in Enterprise Gateway Manager with DRDA. The next Enterprise Gateway Manager release (version 7.31.UD1) with long-id support is scheduled for mid-2003.   .

System Administration Tools

ISA

IBM Informix System Administrator is a browser-based, cross-platform database server administration tool. ISA provides an easy-to-use interface for the IBM Informix Dynamic Server command line, thus eliminating the need to memorize commands and options. The latest IBM Informix System Administrator, version 1.41, ships with XPS 8.40. The next major release of ISA, Version 1.50 is scheduled to be released with IDS 9.40 and will include support for the new features of this engine as well as enabling customers to work with the Storage Management module of IDS. Features and functions for future versions are currently under consideration for follow-on IDS servers.

Server Studio Java Edition

Server Studio Java Edition (JE) developed by AGS Ltd. in cooperation with IBM is a set of integrated tools that enables DBA's and developers to exploit the contents of their databases from a single graphical console and can be extended through Add-On Modules, obtainable directly from AGS into a complete administrative console for IBM Informix Database engines.

Server Studio JE 2.50, is bundled with the IDS 9.30 and 7.31 releases. This tool provides for table editing and other administrator and developer requirements that previously needed either use of command lines or bulky client/server products to accomplish.   A variety of add-ons and extensions are included on a try-before-you-buy basis. To contact AGS call (646) 274-1385 or visit **http://www.serverstudio.com**.

IBM is currently working with AGS to define and provide the functionality for the upcoming IDS 9.40 release.

I-DBA

I-DBA, a collection of four MS Windows-based administrative tools has been replaced with the third-party developed Server Studio JE in the second half of 2001. I-DBA will continue to be supported for existing customers and partners for as long as they require.

Performance Tools

I-Spy

I-Spy helps IDS and XPS data warehouse architects monitor client usage patterns and adjust resources accordingly. By using I-Spy, DBAs can tune systems for optimum performance.   I-Spy can also be used as a trouble-shooting tool in transaction processing environments.

IBM intends to support existing I-Spy customers and partners for as long as they require. There are currently no new feature releases planned

MaxConnect

MaxConnect helps improve the scalability and performance of IDS 7, IDS 9, and XPS servers by separating the physical connection management tasks from the session management tasks and off-loading certain work to a middle tier. In real world benchmarks MaxConnect has significantly improved performance of IDS systems without the need for costly hardware upgrades. Customers with more than 200 simultaneous user connections may benefit from MaxConnect.   IBM intends to support existing MaxConnect customers and partners for as long as require. There are currently no new feature releases planned.

IBM Data Management Tools

IBM is working to bring the strong set of Data Management tools to the Informix portfolio. The first example of this toolset is "DB2 Relational Connect" which today supports IDS 7 and 9. DB2 Relational Connect allows IDS to participate in a federated data query initiated from a DB2 database. The Informix Enterprise Gateway products allow a DB2 database to be queried from an IDS database. For more information on DB2 Relational Connect, see http://www.ibm.com/software/data/db2/relconnect/ .

Over the next 24 months additional compatibility tools will be announced.   Informix customers and business partners will benefit from these expansions to the Informix portfolio.
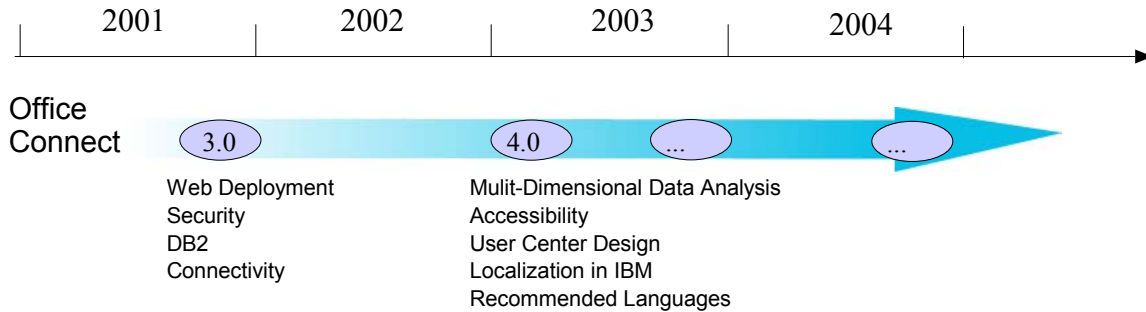

Other Specialty Tools

Office Connect

Office Connect increases utilization of data warehouses and operational databases by making it extremely easy for end users to access, understand, and even update their data using their existing investment in office automation technology.

IBM intends to continue to offer enhancements and support to existing Office Connect customers and partners for as long as they require.

The latest IBM Office Connect, Version 3.0 enhances business productivity with IBM databases by leveraging MS Excel and providing easy, distributed and secure data visualization, reporting and database update capabilities in both Intranet-Internet (Web Edition) and Client-Server (Personal Edition) environments. IBM Office Connect, Version 3.0 is also now tested and certified to seamlessly support IBM DB2 on both distributed and OS/390 platforms in addition to support of the IBM Informix databases. The next major release of IBM Office Connect is planned for the first half of 2003.

In summary,

2001   **2002**   **2003**   **2004**

Office
Connect

3.0

4.0

...

...

Web Deployment
Security
DB2
Connectivity

Mulit-Dimensional Data Analysis
Accessibility
User Center Design
Localization in IBM
Recommended Languages

MetaCube

MetaCube provides online analytical processing (OLAP) support for IBM Informix customers and business partners. MetaCube is positioned as an entry-level product that is capable of providing quick deployment for multi-dimensional OLAP applications. IBM intends to support existing MetaCube customers and partners for as long as they require. No future enhancements are planned at this time.

Object Translator

IBM intends to continue to offer support for existing Object Translator customers and partners for as long as they require. No enhancements are planned at this time and it has been withdrawn from marketing.   Key features of Object Translator have been included in the IBM WebSphere Studio product family.

Visionary

In July 2002, Rocket Software, an IBM Partner, purchased the rights and intellectual property to IBM Visionary. Customers who have existing support contracts with IBM will be supported until their contract expires. Customers may also opt out of IBM support and contact Rocket Software to assume the support contract (fee-based). On December 31 2003, all contracts will expire and IBM will no longer offer support. For more information about Rocket Visionary call 508-655-4321 or visit their website at http://www.rocketsoftware.com.

5/16/2003

Cloudscape

Cloudscape is best suited for use in desktop to server applications where a zero admin, small footprint, J2EE/JDBC compliant embeddable Java database with full SQL support is desired.

IBM intends to enhance, maintain and support the Cloudscape database product for channel partners and existing customers and for use by a growing number of IBM products including WebSphere Application Server v5. While IBM is not actively marketing Cloudscape to end user customers at this time, IBM will respond to interested inquiries on a case-by-case basis.

The latest Cloudscape release for v5.1 includes JDBC 3.0 support, holdable cursor, dirty read, referential constraints enhancements, performance enhancements in table scan, single statement caching and outer join optimization, client/server JDBC access over IBM DRDA protocol as a replacement for RmiJdbc and Network server enhancements,

IBM intends to continue to support Cloudsync customers and partners in line with the IBM Informix product life. The unique data synchronization technology provided by the Cloudsync product is being considered for integration into DB2 Everyplace Enterprise Edition .

The Cloudconnector product has been discontinued in line with the IBM/Informix product lifecycle.

Check the website (http://www.ibm.com/software/data/cloudscape) for the latest information regarding version 5.1 availability and distribution.

U2 Product Family (UniVerse / UniData)
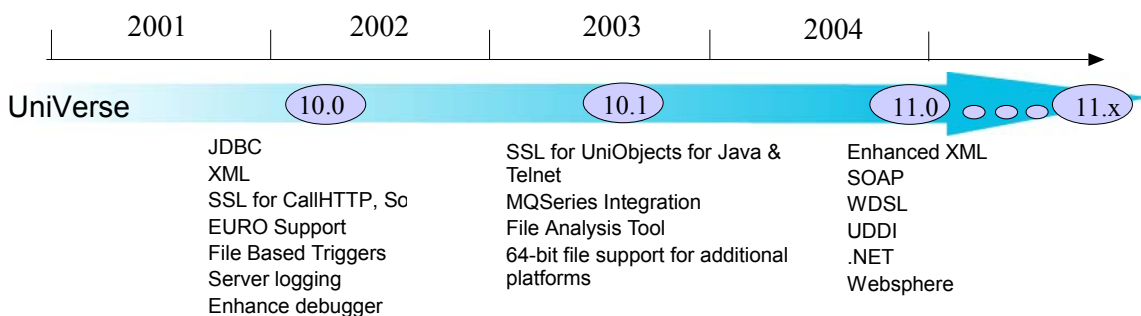
UniVerse

UniVerse is an extended-relational DBMS that supports both direct record I/O as well as standard SQL and offers ActiveX, ODBC, OLEDB, JDBC and Java interfaces.

IBM intends to offer enhancements and support UniVerse customers and partners for as long as they require. More details are included in this section below.

UniVerse 10, released in Q1 2002, provides a native JDBC driver as well as support for XML input and output from the database engine. Security improvements come from the added support of Secure Socket Layer (SSL) for the HTTP and Socket interfaces, as well as an encryption API in the stored procedure language. UniVerse file management, debugger and administration tools have been enhanced. Database triggers now support all UniVerse file types and the data replication feature has been enhanced to support virtual attributes and distributed files.

UniVerse 10.1, targeted for first half 2003 will be a minor update to include enhanced support SSL in both telnet and UniObjects for Java, extending options for secure communication with external applications. UniVerse 10.1 will also include a native interface to the IBM MQSeries (WebSphere MQ) message oriented middleware to offer extended enterprise application integration options. Other functionality being considered for UniVerse 10.1 or 11 include additional debugger enhancements, integration with WebSphere application server, enhanced support for XML, SOAP, WDSL, and UDDI protocols as well as NLS enhancements.

In summary,

2001	2002	2003	2004

UniVerse   10.0   10.1   11.0   11.x

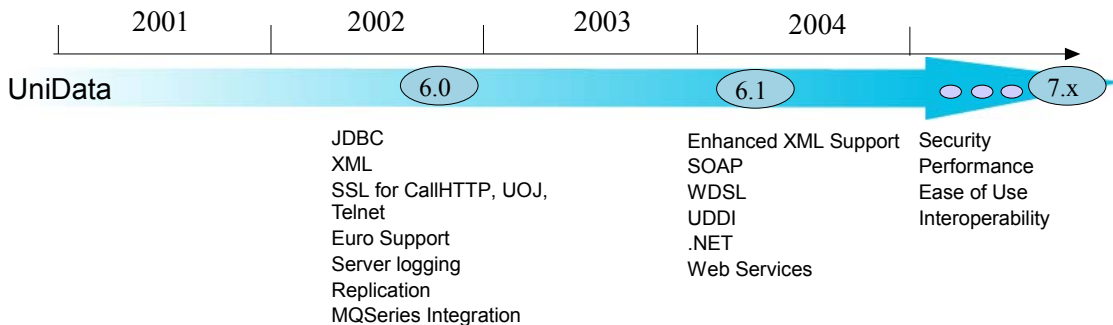|		
JDBC	SSL for UniObjects for Java & Telnet	Enhanced XML
XML		SOAP
SSL for CallHTTP, So	MQSeries Integration	WDSL
EURO Support	File Analysis Tool	UDDI
File Based Triggers	64-bit file support for additional platforms	.NET
Server logging		Websphere
Enhance debugger		

UniData

UniData is an extended-relational, ODBC-compliant database that supports repeating groups, hierarchies, and arrays. UniData offers both best-of-breed native interfaces with ActiveX, Java and C interfaces as well as industry standard interfaces such as ODBC, OLEDB, and HTTP.

IBM intends to offer enhancements and support UniData customers and partners for as long as they require. More details are included in this section below.

UniData 6.0, released in the second half of 2002, includes enhancements to openness, security, robustness and scalability. This release provides a native JDBC driver as well as support for XML input and output from the database engine. Security improvements come from the added support of Secure Socket Layer (SSL) for the HTTP and Socket interfaces as well as the telnet and UniObjects for Java protocols. UniData 6.0 includes real-time replication functionality as part of the core database feature set. Also included in this release is integrated native support for MQSeries (WebSphere MQ).

Enhancements under consideration for UniData beyond release 6 include enhancements to XML, additional support for the SOAP, WDSL and UDDI protocols as well as further integration with the WebSphere offerings.

In summary,

2001	2002	2003	2004	

UniData ◁ 6.0 ▷   ◁ 6.1 ▷   ○ ○ ○ 7.x

JDBC	Enhanced XML Support	Security
XML	SOAP	Performance
SSL for CallHTTP, UOJ, Telnet	WDSL	Ease of Use
Euro Support	UDDI	Interoperability
Server logging	.NET	
Replication	Web Services	
MQSeries Integration		

RedBack

RedBack is IBM's scalable object-enabling infrastructure solution for N-tier development for the U2 databases. Its inherent object capabilities, provided through user-defined RedBack Business Objects (RBOs), offer a natural solution for those customers looking to develop scalable object-based client/server or Web applications, or to interface with other 3rd party object-based products such as Crystal Reports.
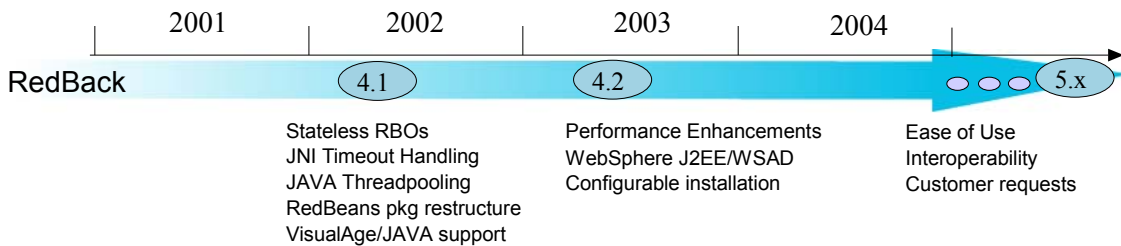
IBM intends to offer enhancements and support RedBack customers and partners for as long as they require. More details are included in this section below.

Release v4.0 was made generally available in Q3 2001, re-focusing the product exclusively as an object abstraction tool for back-end U2 databases and business application logic. The RBO scope and analysis tool was re-deployed as a JAVA applet. Enhancements to debugging facilities added the ability to track RBO performance through logging of execution times and optionally recording object properties. A new "SYSINFO" class provides access to installation specific information for problem diagnosis and application control. Auto correction capabilities improve support for XML parsing. RedBack v4 now supports the Microsoft V1.1 SOAP specification. The inclusion of a new RedBeans Server package adds support for J2EE. The RedBack Gateway component now supports variable responder configuration for easier administration.

Release 4.1 of RedBack, and features in mid-2002, and features further JAVA related capabilities, performance enhancements, improved documentation and demo suites. An IBM VisualAge/JAVA (VAJ) interface enables access to RBOs through the implementation of EJB prototypes allowing integration with WebSphere applications and services. A new JAVA threadpool sub-system, complete with administration facilities, provides an additional level of scalability. JAVA Native Interface (JNI) timeout handling allows developers to proactively accommodate situations where method calls do not return in a timely fashion. Recordsets can now by supported by entity beans as well as the U2 RPC mechanism. Stateless RBOs improve performance by decreasing I/O related to unnecessary or redundant storage. Streamlining storage and garbage-collections processes will improve performance of stateful RBOs.

Release v4.2, scheduled for general availability in the first half of 2003, continues to build on the performance enhancements and WebSphere interfaces introduced in v4.1. Changes to the U2 back-end state file structures will increase efficiency through a further reduction in disk I/O and will address state file data contention issues. IBM's new WebSphere Application Developer (WSAD) will integrate with RedBack by providing access to RBOs using plug-in technology.

In summary,

2001	2002	2003	2004

RedBack   4.1   4.2   5.x

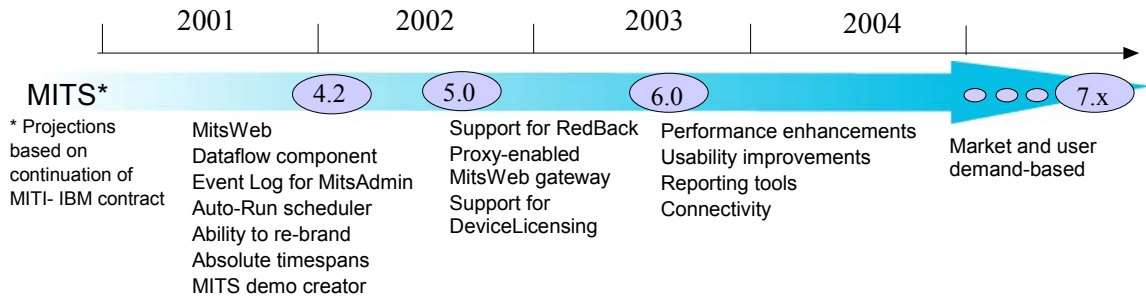|		
Stateless RBOs	Performance Enhancements	Ease of Use
JNI Timeout Handling	WebSphere J2EE/WSAD	Interoperability
JAVA Threadpooling	Configurable installation	Customer requests
RedBeans pkg restructure		
VisualAge/JAVA support		

MITS

The MITS (Management Information Tools Software) product suite provides an end-to-end business intelligence and online analytical processing (BI/OLAP) solution, specifically designed for the multi-valued, extended-relational database environment. The MITS product family includes MitsMaker, MitsServer, MitsSecurity, MitsAdmin, MitsView and new with MITS v4.2, MitsWeb.

MITS v4.2, released in January 2002, included MitsWeb, a new online viewing tool, MitsAdmin enhancements such as support for Auto-Run scheduler and a new Event Log. In addition, VARS could create a working demonstration system using the new MITS.REL feature. MITS v4.2.1, released in April 2002, improved the usability of all Mits components.

MITS, version 5.0, released in mid-2002, features support for RedBack via RedBack objects, connectivity with Apache and Microsoft Information Server, support for U2 device licensing, improved data formatting, and additional usability enhancements.

The MITS product family supports the UniData and UniVerse databases and is also available for D3®, mvBASE®, and mvENTERPRISE® as well as jBASE® on both 32-bit Windows platforms and a wide variety of UNIX platforms. IBM has an exclusive agreement with Management Information Tools, Inc. (MITI) to sell this product.
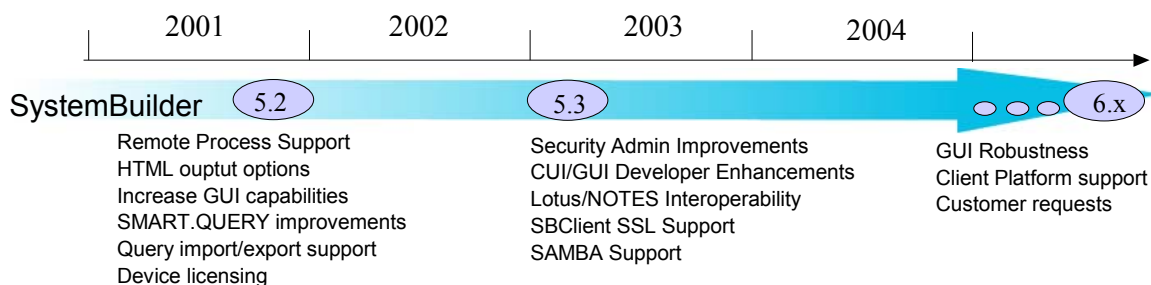

SystemBuilder

IBM System Builder is a native 4GL tool set for the U2 databases. SB+ Server provides developers the means to create process-oriented server-centric applications. SBClient further enhances SB+ applications by providing an ActiveX-based GUI environment as well as data migration between the server and client. SB+ integrates with RedBack to extend applications with JAVA technologies and browser-based interfaces.

IBM intends to offer enhancements and support existing SystemBuilder customers and partners for as long as they require. More details are included in this section below.

SystemBuilder release v5.2 has been generally available since Q3 2001. New features and enhancements include the ability to remotely initiate application sessions, increasing versatility and automation. Extensions to HTML-based reporting processes provide additional control and output options.   SBClient GUI enhancements allow provide increased user interface functionality. The SMART.QUERY ad-hoc reporting facility was enhanced to meet customer requests.   The release improves UniVerse NT communication performance and extended device licensing support to the Microsoft Terminal Server Edition(TSE) and Citrix environments.

Release v5.3, scheduled for the first half of 2003 will enhance security, facilitate data migration, ease development and strengthen GUI support. Security administration will streamline user group management. Support for Secure Socket Layer (SSL) support for the telnet protocol will parallel U2 database ability to provide secure communication channels between the client and server. Support for SAMBA will provide seamless data transfer between UNIX and NT. Enhancements to both server and client interfaces will provide additional functionality and ease of development. In addition System Builder v5.3 will increase interoperability and by adding support for IBM Lotus/NOTES mail integration, MAPI blind carbon copy (BCC) option, and enhancing the ability to launch desktop applications.

In summary,

2001	2002	2003	2004

SystemBuilder **5.2**   **5.3**   **6.x**

Remote Process Support	Security Admin Improvements	GUI Robustness
HTML ouptut options	CUI/GUI Developer Enhancements	Client Platform support
Increase GUI capabilities	Lotus/NOTES Interoperability	Customer requests
SMART.QUERY improvements	SBClient SSL Support	
Query import/export support	SAMBA Support	
Device licensing		

COBOL Direct Connect

COBOL Direct Connect (CDC) is a conversion tool and runtime interface for the UniData database. CDC converts C-ISAM files into UniData tables providing COBOL customers with all the advantages of an extended-relational database such as high availability and recoverability options as well as open interfaces such as ODBC, OLEDB, HTTP, and soon XML and JDBC, as well as tools such as RedBack Business Objects Server and the MITS BI/OLAP Tool Suite. CDC permits users to run both native ISAM files and UniData tables simultaneously, giving the user the best of both the COBOL and UniData environments. CDC is available for Acucobol and Merant's Micro Focus COBOL, including Server Express.

IBM intends to offer enhancements and support existing COBOL Direct Connect customers and partners for as long as require.
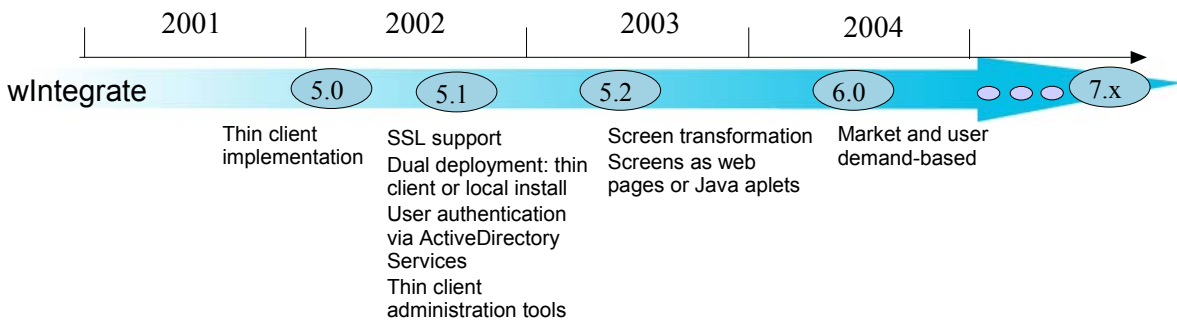
wIntegrate

wIntegrate is an advanced terminal emulation and host-based application enhancement tool for IBM's UniData and UniVerse databases, plus many other multi-valued databases. wIntegrate preserves the investment in host-based applications while giving them a more modern Windows look and feel. Although wIntegrate is not a 4GL or an application development environment, developers can easily create new front-ends for

legacy applications and extend them to the web, without changes the logic or structure of those programs.

IBM intends to offer enhancements and support existing wIntegrate customers and partners for as long as require.

The wIntegrate product family consists of wIntegrate and Dynamic Connect, both of which support U2 device licensing. The next release of wIntegrate will allow users to extend their Windows interfaces to the web and WAP via a thin-client interface.

In summary,

2001	2002	2003	2004	

wIntegrate   5.0   5.1   5.2   6.0   ○ ○ ○ 7.x

Thin client implementation	SSL support	Screen transformation	Market and user demand-based
	Dual deployment: thin client or local install	Screens as web pages or Java aplets	
	User authentication via ActiveDirectory Services		
	Thin client administration tools		

PI/Open

PI/Open is a heritage multi-valued database. IBM intends to support existing PI/Open customers and partners for as long as they require, while also providing a migration path to the UniVerse extended relational database.

Introduction to DB2

In the mid-90s, IBM's DB2 entered the distributed database market to provide an innovative and standards based offering with leading edge technology to meet and exceed customer database needs from single processor to massively parallel systems. IBM's DB2 has experienced 20 consecutive quarters of growth and has outpaced the industry's growth rate over the past few years.

Consider the following DB2 highlights:

- Choose either a complete IT infrastructure or mix-and-match systems

    IBM DB2 is addressing the needs customers have to integrate their databases well with industry leading hardware and applications to build a best of breed solution.   Many customers want a vendor that can put a complete IT infrastructure in place and support it -- that's the power of IBM. We supply hardware and software with the services and support to make it all work. Other customers want a vendor that is open and works with best of breed offerings from HW and SW partners. IBM provides this as well, by also offering DB2 on AIX, Solaris, HP, Linux and Windows, among others.

- Performance leadership

    DB2 continues to set the pace for performance and scalability across a wide variety of industry standard benchmarks representing a broad range of applications.   DB2 dominates the SAP® Standard Application Sales and Distribution (SD) three-tier benchmark with results that represent almost 2x the performance of the nearest competitor* to demonstrate transactional performance leadership. DB2 also published the industry's first 10 Terabyte TPC-H benchmark** to become the only vendor to demonstrate leading performance and scalability from 100 GB to 10 TB in a complex query/data warehouse benchmark.   Additionally, DB2 in conjunction with WebSphere Application Server holds the leading result for the SPEC jAppServer2002 distributed mode benchmark.***

    *The SAP Standard Application SD benchmark, R/3 Release 4.6C performed on September 14, 2002, by IBM in Beaverton, OR, USA was certified on Oct. 2, 2002, with the following data: 47,528 SAP SD users; 1.88s average dialog response time; 4,799,330 processed order line items/h; OS: AIX 5.1; RDBMS: DB2 v8.1; R/3 Release 4.6C; Central Server: IBM eServer pSeries 690, 32-processors SMP, Power4 1.3Ghz, 24 MB L2 cache, 64 GB main memory (cert # 2002053)

    SAP, R/3 and all other SAP product and service names mentioned herein are trademarks or registered trademarks of SAP AG in Germany and several other countries. All other trademarks are the property of their respective owners.

    **62,214 QphH@10000GB;266$/QphH@10000GB;System Availability: 05/15/2003

    TPC Benchmark, TPC-H, QppH, QthH and QphH are trademarks of the Transaction Processing Performance Council

***297.65TOPS; 1108.14 $/TOPS

All results current as of January 29, 2003.

- Innovations and patents

  IBM is the data management technology leader with the most inventions and patents. The relational data model, and SQL language were invented at IBM. Cost based query optimization technology was also invented by IBM, and continues to lead the industry in query optimization.

- Federated databases

  Because very few customers have all their data in a single vendor's database, IBM created the innovative federated approach to data management. Federated databases allow customers to access, manage and analyze data residing anywhere, in any format or in any database -- including Oracle, Microsoft and Sybase. No other database management software company delivers that type of support.

- Integrated XML functionality

  IBM has integrated XML functionality in DB2 to facilitate data interchange in support of business-to-business (B2B) applications. DB2 is the industry's first relational database with integrated in-memory text search capabilities that perform Internet searches more than 10 times faster than traditional database search engines.

- E-business features

  The growth of e-business is increasing the need for customers to manage and distribute digital content, including images, computer-generated output, business documents, and rich media. IBM Content Manager, based on DB2, is the only product of its kind designed to efficiently store and manage all types of content. For example, Content Manager enables corporations to electronically manage, protect and share critical business information, in any format, including XML and HTML. Images, audio and video, computer generated output and business documents can now be securely shared electronically - a crucial step in the e-business transformation.

- Autonomic computing

  IBM is making significant investment in autonomic computing to provide customers with self managing, self tuning and self healing databases to minimize complexities of managing networked computing infrastructure, and reduce the overall total cost of ownership.

- Application compatibility and support

IBM DB2's leading technology and our strategy of not competing with application vendors has led many application developers such as SAP, PeopleSoft, Siebel, Retek and J.D.Edwards, to choose IBM's DB2 as their preferred database platform for both internal and external applications.

IBM Informix Partnerships

IBM's commitment to business partners is very strong as seen in our award winning PartnerWorld partner programs. Leading application developers, like Baan, Peoplesoft, and SAP are committed to protecting their Informix customer's investments as well as providing their applications on DB2. Their plans have been summarized below.

IBM- Baan Strategy for Informix Customers

The Baan strategy for Informix customers is to continue to provide investment protection & support for existing Baan customers running on Informix. **Baan** and **IBM** are both committed to the support of our joint solution and Informix customers can continue to rely on the existing **certified** Informix and Baan product lines. **IDS 9.4** certification with Baan **iBaan** ERP **5.0c** is nearing completion and is expected to be available concurrent with the General Availability of IDS 9.4. Neither IBM, nor Baan, will force any Informix customer to migrate to DB2.   Baan has formally committed support for IDS through **Baan IV and iBaan ERP version 5.x.**

Informix customers may choose to transition to DB2 because **Baan develops all new solutions on DB2** and they may benefit from having access to Baan's full range of products. A transition to DB2 may be exceptionally timely for existing customers looking to purchase new Baan and Invensys products, such as Baan CRM and WonderWare, not currently available on Informix IDS. For customers considering such a transition it is important to stress that the most secure path is to remain with IBM**,** as both the IDS and DB2 engineers are now part of one development and support organization. For new Baan Unix-based applications IBM recommends DB2. For customers not looking to migrate we also recommend consideration of the IBM Gold Program which offers investment protection for IDS customers who want the option to trade licenses to DB2 in the future (see your Sales team for more information).

Companies who have deployed **iBAAN** ERP solutions on the IBM IDS database **also** have the ability to maximize their software and hardware investments by stretching the performance and scalability of their existing environment by using MaxConnect.

IBM- PeopleSoft Strategy for Informix Customers

The PeopleSoft strategy for Informix customers is to continue to provide investment protection & support for existing PeopleSoft customers running on Informix.   Satisfied Informix customers can rely on the existing Informix & PeopleSoft product lines. PeopleSoft and IBM are both committed to the support of our joint solution. IBM will not force any Informix customer to migrate to DB2.   PeopleSoft has formally committed support through PeopleSoft V8.x for Human Capital Management (HRMS), Financials, ESA, SCM and Distribution product suites.   PeopleSoft has not yet made any formal commitments, or statements, beyond their V8.x. support for the Informix Platform. IBM expects that decision to be announced at PeopleSoft's User Conference in the summer of 2003.

Informix customers may choose to transition to DB2 because they may benefit from having access to PeopleSoft's full range of products. A transition to DB2 may be

exceptionally timely for existing customers looking to purchase new PeopleSoft V8.x applications CRM, EPM (Analytics) or Learning Solutions not available on Informix IDS. For customers considering transition from Informix it is important to stress that the most secure path is to remain with IBM since PeopleSoft has announced DB2 as its strategic database for Unix and IDS and DB2 engineers are now part of one development organization. For new PeopleSoft V8 application decisions IBM recommends DB2. The DB2 PeopleSoft Migration Program is available to PeopleSoft customers considering a database migration in the next 12 months. For customers not looking to migrate now may we recommend consideration of the IBM Gold Program which offers investment protection for IDS customers who want the option to trade licenses to DB2 in the future (see your Sales team for more information).

IBM- SAP Strategy for Informix Customers

The SAP strategy for Informix customers is to continue to provide investment protection and support for existing SAP customers running on IDS. For the currently released mySAP products on IDS satisfied SAP/Informix customers can rely on support from SAP and IBM as detailed below.

In 2002, SAP and IBM enabled all currently supported SAP/IDS applications (in their then most current version) on the new SAP runtime environment, WAS 6.20. In addition, any enhancements made to these applications that become available in 2003 and 2004 (WAS 6.30 & 6.40 only) will also support IDS with only two exceptions. Those new features that require JAVA based database access and those which require Unicode support will not be enabled on IDS. The standard SAP support policy applies, so that those applications will be supported until their general SAP defined end of maintenance date, which typically covers 5 years from General Availability. For new SAP application decisions IBM recommends DB2. For customers not looking to migrate we also recommend consideration of the IBM Gold Program which offers investment protection for IDS customers who want the option to trade licenses to DB2 in the future (see your Sales team for more information).

Other Partners

IBM places significant value on retaining and growing Informix partnerships. .As a result of IBM's acquisition of Informix, thousands of Informix partners worldwide are continuing their business model of bundling IDS with their high value applications. One indicator of partner retention is that year to year revenue associated from these ISVs is up. The primary message we want to convey is that we are committed to continue and strengthen these alliances with a steady stream of Informix product enhancements, through the backing and resources of IBM. There will be no forced migration to DB2. We'll continue to support the Informix product line as long as needed by our partners and their customers. In order to drive home this message, we have published long term product roadmaps.

We have more people working on IDS today than at the time of the Informix acquisition.

Informix built much of its success on strong relationships with thousands of partners who have developed solutions and distributed products in areas where IBM had little presence. This earned Informix a very strong share in the Small to Medium(SMB) Business area, for customers with less than a thousand employees. IBM and Data Management are currently highly focused on this area.. We therefore have strong mutual interest and a common rallying point to target our energies to market and sell joint solutions in this segment.

If our partners wish to port their application to DB2, IBM offers a gold bundle for IDS to DB2 transition at no additional license or maintenance charge. So while there is investment protection for ISVs continuing to sell current applications with IDS, there is potential for significant increased opportunity when their platform support extends to DB2, our Data Management products in Content Management and Business Intelligence, to WebSphere and our other IBM Software Group offerings from Tivoli and Lotus. We will provide DB2 porting assistance via our Data Management technical support team and via Partnerworld. We strongly encourage partners who haven't yet signed up with Partnerworld, to do so.

While our basic channel strategy remains the same, that is, partners can purchase and resell our product and maintenance to any customer, the future of our channel incentives will be more performance driven, providing the highest levels of support and financial rewards to partners that drive the highest revenue and value to IBM and our common customers. We understand the concerns that Informix partners have moving from their current agreements and support to new IBM contracts. We recognize the concerns regarding margins, and that is why the IBM Entry OEM Agreement program has been developed taking these concerns into account. The Entry OEM Agreement is modeled after the Informix ISV VAR agreement and is a specific example of how the best of the Informix programs was used to build a brand new program within IBM.

In addition to IBM supporting Informix partners, we also have strong support for our common customers through the International Informix Users Group(IIUG). While Partnerworld offers many programmatic benefits via its membership, IIUG membership offers a strong network and peer support system. We want to encourage partners to join and participate in the IIUG where our messages will be communicated on an ongoing basis.

We offer an attractive value proposition to our partners. First is fast time to market and revenue achievement. By simply signing up with Partnerworld our partners can immediately start utilizing the support benefits provided which include technical support, educational forums, access to development tools, and ongoing communication. Second, with the help of Partnerworld, partners can achieve accelerated revenue growth. Partnerships with Spirent, Apropos and Fasoft are just a few examples of the many joint success stories.

Refer to URL: **http://www.ibm.com/informix/** for more details.

By joining Partnerworld for Developers ISV's can showcase their solutions as part of the Global Solutions Directory, the resource for finding technology solutions and promoting products and services on a worldwide basis. This Online Catalog is utilized by IBM sales and service representatives to locate solutions for their customers.

It is important to note that IBM does not offer application solutions that compete with our partners, as our competitors do.

Finally, we want to let our partners know we will communicate with them via many Web based events, roadshows, face to face meetings and other activities throughout 2003.

Conclusion

IBM has a long tradition of extending the value of customer investments by supporting and enhancing the products upon which our customers rely. Customers and business partners should be confident that their existing investments in the IBM Informix portfolio will be supported and enhanced as described in this paper. Customers and partners using Informix products will not be forced to migrate to DB2.

Over the long term, IBM intends to integrate key technologies from a number of different IBM Informix products into future versions of DB2, supporting Informix's original goals to deliver the Arrowhead vision to the Informix customer base.

IBM recommends that customers and partners implementing new applications strongly consider DB2. Review the vision and strategy earlier in this paper and speak with your IBM sales representative about what will be right for your situation.

The now-integrated Data Management team has a strong history of supporting customers and business partners over the long term. IBM promises to bring Informix users continued support for their products of choice, greater financial stability from their DBMS vendor, and an exciting future with new levels of technical innovation.