Introduction

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In the current economic climate, businesses are under significant pressure to control costs and increase efficiency to improve their bottom line. IBM® DB2® for z/OS® customers around the world are still trying to gain competitive advantage by doing more with less: more business insight, more performance, more operational efficiency, more functionality, and more productivity with less cost, quicker time to market, and a lower TCO.

DB2 11 helps customers address key business issues by delivering innovations and business benefits in the following important areas:

- **Even more out-of-the-box CPU savings:**
  - Up to 10% for complex OLTP
  - Up to 10% for update-intensive batch
  - Up to 40% for queries
  - Up to 25% for uncompressed tables and 40% for compressed tables
- **Enhanced resiliency**
  - Fewer planned outages, fewer REORGs, faster recovery
  - Cost-effective archiving, ability to access warm/cold data in a single query
- **Business-critical analytics**
  - DB2 Analytics Accelerator performance enhancements
  - Big data integration
  - In-transaction realtime scoring
  - Advanced QMF™ analytic capabilities with mobile support
- **Simpler, faster upgrades for faster ROI**
  - 16X faster catalog migration
  - Protection from incompatible changes
  - Repeatable testing with real workloads and integrated cloning

We have seen many top 10 lists around DB2 11; in this section, we summarize the top 10 reasons why we feel it is the right time for customers to upgrade to DB2 11. We all know that *support for DB2 Version 10 will be withdrawn from Marketing* on July 6, 2015. However, there are many more reasons to migrate; users will see significant benefits from DB2 11.

Top 10 Reasons to Upgrade to DB2 11 for z/OS

1. Reduced COSTS! Even more cost savings—up to 40%
2. Business analytics for realtime decision making made simple
3. Enabled for big data and cloud phenomenon!
4. Enabled for a mobile world—with world-class JSON datastore
5. SPEED! Simpler, faster migration for FASTER ROI
6. TRUST—ENHANCED RESILIENCY 24x7
7. UNMATCHED DATA SECURITY in the industry
8. Certified for SAP applications from day 1—first time in history
9. Industry-leading Optimizer gets even better!
10. Improved productivity with DB2 11

1. Reduced Costs: Even More Cost Savings—Up to 40%

DB2 11 helps your bottom line with out-of-the-box CPU savings for online transaction processing (OLTP), batch, and query workloads to help you get the most out of your investment. These savings range up to 40 percent, depending on the workload. Additional savings and performance improvements may be found by leveraging DB2 features and making application changes.

Transparent archive capabilities help keep more data available with improved performance and reduced storage costs.

Specialty engines continue to add value for many IBM clients. DB2 11 delivers additional processing that is directed to execute under enclave SRBs and authorized to execute on a zIIP specialty engine, which can provide additional cost savings and efficiencies in your System z® environment.

2. Business Analytics for Realtime Decision Making Made Simple

Business analytics is now business-critical. DB2 11 makes it easier to bring analytic components closer to the core operational data—reducing latency, complexity, and costs while improving data quality and governance. Improved query, lightning-fast

analytics, and reporting facilities will help you outperform your competitors, reduce risks, and aid confident decision making with "Real-Time Data."

3. Enabled for Big Data and Cloud Phenomenon

Few IT professionals can have missed the big data and cloud phenomenon that has manifested itself in recent years. Despite the undeniable value of the highly structured operational data held within enterprise applications, a vast amount of less-structured data is being generated by social media streams, telemetry, click streams, and many other sources. Being able to analyze these big data sources undoubtedly holds significant value for many organizations, but the sheer volume and velocity at which the data is produced makes it a very challenging task for traditional database systems.

In response to this, a number of tools and techniques have emerged centered on the open source Hadoop framework, including IBM's InfoSphere® BigInsights™ technology. While these technologies address many of the challenges inherent in the analysis of big data, they also introduce new ones for organizations wanting to gain new insights by integrating the analysis of big data with core operational information. DB2 11 delivers some highly significant new features to allow DB2 and Hadoop/BigInsights to work together and better leverage each platform's respective strengths. This capability allows data to flow in both directions between DB2 and BigInsights, and from BigInsights to DB2.

The new integration capabilities delivered within DB2 11 allow organizations to more easily and efficiently combine the results of big data analysis with up-to-date operational data from DB2 OLTP databases, significantly increasing the practical value of any insights obtained.

4. Enabled for a Mobile World —With a World-Class JSON Datastore

With the enormous growth of smart phones and applications, customers everywhere are building systems of engagement using mobile technology. These new systems are extremely agile and typically use JavaScript® and JSON. Application developers are pushing for JSON datastores that they see in the NoSQL world, and DB2 11 is evolving to be a world-class JSON datastore, so you don't need to leave DB2 to get these benefits.

5. Speed: Faster Migration for Faster ROI

The faster an upgrade can be completed, the faster you can see the return on investment. DB2 11 catalog upgrades are up to 16 times faster than in DB2 10. Additional access path stability improvements help maintain and even improve performance when upgrading to DB2 11, providing more stability from day 1.

DB2 11 for z/OS introduces the concept of *application compatibility*, which enables you to separate release upgrades from application changes that may be needed to take advantage of a new function. New tracing capabilities help identify applications that may need changes, and then you can make plans for those application changes independent of upgrade schedules and plans. When the new DB2 version has been upgraded, the application will run as if it were on the previous DB2 version. Application changes can now be scheduled within the application's own development cycle. As the changes are completed, the application can then take advantage of the new capabilities in the new DB2 release. Separating application changes from database upgrades greatly simplifies planning and also speeds the upgrade itself.

Optim™ Workload Replay (OWR) lets you capture, save your production workloads, and then replay them in test environments to reduce migration risk. You can identify problems earlier using validation reports and performance tuning, avoid production outages, and increase production stability. OWR is integrated with the DB2 Cloning Tool to cost-effectively and easily copy your production database to your test environment. This single, repeatable process can dramatically reduce migration test efforts and investments while improving results.

6. Trust: Enhanced Resiliency 24x7

In DB2 11, the legendary resiliency of DB2 has been increased even further. Real-world proven resiliency and security are some of the core reasons why clients choose DB2 and System z. DB2 11 continues to raise the bar with additional capabilities for even higher availability and resiliency. Online schema enhancements allow changes to database objects while maximizing availability of the changed objects. The number of REORG jobs needed has been reduced while, at the same time, delivering performance improvements of up to 20 percent. Additional performance improvements of up to 70 percent for LOAD and up to 40 percent for RECOVER drive additional benefits and resiliency.

7. Unmatched Data Security in the Industry

Data security means protecting a database from destructive forces and the unwanted actions of unauthorized users. DB2 for z/OS remains the market leader when it comes to protecting your mission-critical data. "Bet your business" security has been extended to simplify management and compliance.

DB2 received a comprehensive overhaul of its security features within the DB2 10 for z/OS release. DB2 11 adds some important new functionality, including RACF® exit enhancements and column masking.

8. Certified for SAP Applications from Day 1—First Time in History

DB2 11 has been certified for SAP applications at General Availability (GA). This is the first time in the history of DB2 and the first time for any new release of any database supported by SAP. The day 1 certification of DB2 11 demonstrates the close technical SAP/DB2 collaboration and great stability of the DB2 11 product and enables SAP clients to immediately take advantage of the numerous DB2 11 enhancements. DB2 11 SAP certification not only addresses the latest SAP NetWeaver release, but all SAP NetWeaver releases as of 7.00 will be certified for DB2 11. For details, please visit the SAP DB2 for z/OS Community (*http://scn.sap.com/community/db2-for-z-os*).

9. Industry-Leading Optimizer Gets Even Better

No new release would be complete without further enhancements to DB2's industry-leading Optimizer—the key component that allows it to pick the most efficient access path for a given query.

The major items delivered as part of DB2 11 include:

- Hash join/sparse index enhancements
- Predicate indexability improvements
- Duplicate removal
- DPSIs and page range screening
- Optimizer RUNSTATS feedback
- Extended optimization

10. Improved Productivity with DB2 11

DB2 11 continues to build on the best practices of previous releases, providing many enhanced features—such as transparent archiving, XQuery support, and improved dynamic schema change—that reduce the effort required by developers and support staff to deliver robust DB2 applications and improve your ROI and TCO.