Contents

About the Authors iii
Introduction *by Surekha Parekh* ix

DB2 11 for z/OS: Technical Overview
by John Campbell and Gareth Jones 1
DB2 11 Performance Expectations 2
Performance Expectations for OLTP and Batch 2
Performance Expectations for Queries 3
DB2 11 Performance Expectations Summary 4
Performance Highlights 4
ESP Customer Feedback 6
DB2 11 Performance Improvements in More Detail 7
No REBIND Required 7
REBIND Required—With or Without APREUSE 13
REBIND Required—Without APREUSE 15
DBA or Application Programmer Effort Required 16
DB2-Related Enhancements in z/OS 2.1 17
Buffer Pool Enhancements 18
Query Performance and Management Improvements 19
Optimizer Externalization of Missing or Conflicting Statistics 19
APREUSE(WARN) 20
DPSI Improvements 21
Availability Improvements 21
Extended RBA and LRSN 21
BIND, REBIND, DDL, and Online REORG Break-in with Persistent Threads 22
Online Schema Changes 23
RAS Improvements 24
Autonomic Index Pseudo-Delete Cleanup 25
Reduction of Overflow Rows and Indirect References 26
DDF Enhanced Client Information Fields 27
Data Sharing Improvements 27
Security Enhancements 29
Utility Enhancements 30

Analytics Improvements....31
Temporal Data Enhancements....31
Transparent Archive Query....32
New Analytics Features....32
Integration with Big Data....33
New Application Features....33
Mobile Application Support....34
Easier DB2 Version Upgrade with Application SQL Compatibility....34

DB2 11 for z/OS: Migration Planning and Early Customer Experiences
by John Campbell and Gareth Jones....37
DB2 11 Major Themes....38
DB2 11 for z/OS: Migration Planning and Early Customer Experiences....37
DB2 11 Major Themes....38
CPU Savings....38
Enhanced Resiliency and Continuous Availability....38
Enhanced Business Analytics....39
Simpler, Faster DB2 Version Upgrades....39
ESP Highlights....40
DB2 11 Early Support Program Customer Feedback....40
Migration Considerations....42
Prerequisites: Hardware and Software....42
Customer Quotes from the DB2 11 Early Support Program....43
Prerequisites: DB2 Connect....44
Pre-Migration Planning....46
Important Preparation....46
Preparing Your Current DB2 10 NFM for Migration to DB2 11 CM....47
DB2 11 Migration Overview....48
Migration and Fallback Paths....49
APPLCOMPAT: Application Compatibility....49
Availability....51
BIND/REBIND/DDL/Online REORG Break-in with Persistent RELEASE(DEALLOCATE) Threads....51
Persistent Thread Break-in: ESP Customer Testing Experiences....53
Improved Control When Altering Partition Limit Keys....54

DROP COLUMN....55
Utility Enhancements....55
REORG Enhancements....55
RUNSTATS and RTS Enhancements....58
RECOVER Enhancements....59
Performance and Scalability....59
Performance Enhancements: No REBIND Needed (CM)....60
Performance Enhancements Requiring REBIND....61
Performance Enhancements Requiring DBA or Application Effort (NFM)....62
Optional Enhancements Requiring NFM and DBA Effort....62
DB2 Lab Performance Measurement Summary....63
Example of Customer Performance Testing....63
Automatic Pseudo-Deleted Index Entry Cleanup....66
Performance Enhancements....69
Q Replication Log Filtering....69
Archive Transparency....69
Optimizer Enhancements....69
GROUP BY Grouping Sets....69
Extended LRBA/LRSN....70
Other Performance Recommendations....75
Performance Summary....76
Other Enhancements....76
Remove Package Security Vulnerabilities....76
Archive Transparency....77
For More Information....77
DB2 11 Resources....78

DB2 10 Migration to DB2 11 and Application Compatibility
by Chris Crone and Jay Yothers....79
Migration Prerequisites....79
Modes of Migration....81
Functional Availability....82
Optional Migration Processing....84
The Essentials of Migration....85
Application Compatibility in DB2 11 for z/OS....85

Description of the Problem 85
Impact to Customers 86
Solution Requirements 86
Solution 87
Solution Details 87
Interaction with NFM 88
Identifying Applications That Need to Be Examined 88
New Reserved Words 89
New Reserved Word Solution 90
Pre-Migration Planning 90
What's Not Part of This Solution 91
Summary 91

Case Studies

BMW Group Develops Eco-Friendly Innovation for Smart Drivers with IBM 93
JN Data Gets the Early Adopter Advantage for Its Growing Business 97