Beyond Query/400: IBM DB2 Web Query for System i

Jacqueline Jansen
jjansen@ca.ibm.com

i want stress-free IT.
i want control.
i want an i.

"The Information you already possess holds the knowledge you seek"
### System i for BI is Again!

- New Model 515 and 525
  - New Entry Point Pricing
- New System i POWER6 570
  - Enterprise Data Warehousing
  - #1 in SAP Data Mart Benchmark
- DB2 for i5/OS V5R4
  - On Demand Performance Center
  - System Wide Index Advice and Autonomic Indexes
  - Encoded Vector Index Advice and MQT Statistics
  - Sustained Leadership in SAP BW Benchmark
- DB2 Web Query for System i
  - New modernized version of Query/400
- IBM and Tools Innovation Products for BI


### Industry Acceptance: Gartner Magic Quadrants

Gartner Magic Quadrant:
Data Warehouse DBMS Servers

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
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<tbody>
<tr>
<td>IBM Power/DB2</td>
<td>Fujitsu/Oracle</td>
<td>HP/Oracle</td>
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<td></td>
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</tbody>
</table>

Publication Date: 25 August 2006 ID Number: G00141428
Beyond Query/400

Query/Reporting Solution with OLAP enablement

- Operational Data: Heterogeneous or Homogeneous
- External Data

Informational Data

- Intranet Extranet Internet
- Multidimensional Analysis
- Data Mining
- Query/Reporting

System i Query/Reporting Environment

- System i
- Windows
- DB2

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**DB2 Web Query**  Overview

- Comprehensive Enterprise Query and Reporting Suite
  - Report, Analyze, Visualize
  - Grow into enterprise data warehousing
- Provides SIMPLE Information Access
  - For users at all skill-levels
- Built on the “Best-In-Class” integration platform
  - Extensible connectivity to 250+ data sources and many System i ERP systems
- For Strategic, Tactical and Operational information Systems throughout your organization and beyond

---

**Know Your Audience**

**Technical:**
Capable of developing application around the tool. Can create reports and queries from scratch.

**More tech than Business:**
Capable of using a tool to create reports and queries from scratch.

**More Business Than Tech:**
Access must be easy. Data-Driven.
Know Your Audience

DB2 Web Query Is Easier to Learn for Business Users

According To Independent Research…

• Most end users of DB2 Web Query need little or no training

• With most query and reporting products end users required from 3 to as many as 10 days of training.

End User Tools

Get them the most sophisticated tools

Get them the right tools:

• Excel users want to use Excel
• Match the tools to the requirements
• Tools need to be simple and intuitive
• End users will not endure heavy training
• Internet capable, installable, auto upgradeable
IBM DB2 Web Query for System i

- IBM delivers a Web-based query and report writing product that replaces IBM Query for iSeries (Query/400)
- Base Product
  - Report and graphing Assistants
  - Power Painter
  - Spreadsheet integration
  - Web-enable Query/400 reports
- Additional IBM Features
  - Active Reports (Disconnected)
  - On Line Analytical Processing
  - Developer Workbench
- Additional Add-On Available
  - ERP Adapters
  - Database/Cube/Mining Connectors
  - Extract/Transformation/Load

For more details, refer to:
http://www.ibm.com/systems/i/software/db2/webquery

Intelligence Dashboards and Scorecards

- Manage corporate objectives and strategies
- KPIs
- Drill downs
- Operational Reporting, Data Marts, Data Warehouse
- Fastest time to market and lowest TCO
Beyond Query/400

Graphing Assistant

Report Assistant

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Line Total</th>
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<tbody>
<tr>
<td>Audio</td>
<td>382,683,321.00</td>
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<tr>
<td>Camcorders</td>
<td>444,531,041.00</td>
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<tr>
<td>Cameras</td>
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<td>Video</td>
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<tr>
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Beyond Query/400

Gross Profit by Product Category

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Gross Profit Rank</th>
<th>Product Category</th>
<th>Line Total</th>
<th>Cost of Goods Sold</th>
<th>Gross Profit</th>
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</thead>
<tbody>
<tr>
<td>Audio</td>
<td>1</td>
<td>Audio Systems</td>
<td>$122,345,560</td>
<td>$12,209,820</td>
<td>$110,135,740</td>
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<tr>
<td></td>
<td>2</td>
<td>Speakers</td>
<td>$64,717,063</td>
<td>$64,600,950</td>
<td>$16,117,113</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>CD Players and Recorders</td>
<td>$53,847,499</td>
<td>$37,630,460</td>
<td>$16,217,039</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>MP3</td>
<td>$43,431,968</td>
<td>$24,430,860</td>
<td>$19,001,108</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Amplifiers/PreAmps/Tuners</td>
<td>$42,374,428</td>
<td>$16,739,570</td>
<td>$25,634,858</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Receivers</td>
<td>$35,907,113</td>
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<tr>
<td><strong>TOTAL PRODUCT TYPE Audio</strong></td>
<td></td>
<td></td>
<td>$382,983,221</td>
<td>$219,586,620</td>
<td>$163,396,591</td>
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<tr>
<td>Camcorders</td>
<td>1</td>
<td>DVD Camcorders</td>
<td>$210,378,037</td>
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<td>Organizers</td>
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<td>$143,826,960</td>
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<td>DVD</td>
<td>$209,027,046</td>
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<td>TV</td>
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<td><strong>TOTAL</strong></td>
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Prepared on 04/21/07 at 16:37:53

Report Assistant: Drill Down

Revenue by Product Type

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Line Total</th>
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<tbody>
<tr>
<td>Audio</td>
<td>$300,663,321</td>
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<tr>
<td>Calculators</td>
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<tr>
<td>Cameras</td>
<td>$189,113,667</td>
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<tr>
<td>Office</td>
<td>$210,212,194</td>
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Gross Profit for Audio

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Gross Profit Rank</th>
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<td>$163,396,591</td>
</tr>
</tbody>
</table>

Prepared on 04/21/07 at 11:55:53
Output Reports and Graphs to:

- HTML
- PDF
- Excel 97/2k/2k w formula's
- Active Reports
- Postscript
- DB2 for i5/OS table
- Excel 95
- Doc with and without page breaks
- WK1
- DIF
- Lotus
- Tab Delimited
- XML

Power Painter

- Business people designing reports for business people
- Powerful thin-AJAX based Report Design tool
- Build Rich Compound Reports in your business unit
- Simple, flexible access without the need to rely on IT
DB2 Web Query Developer Workbench

- Excellent Date understanding and added functionality including Date decomposition (Year, Quarter, Month, Day)
- Creation of Hierarchies and Dimension
- Very good awareness of DB2 Foreign Key constraints
- Basic DB2 Web Query metadata also includes: Column-titles, Business Descriptions, Alias, Format, Usage, Pre and Post Processing Calculations, hundreds of data manipulation functions
- Federated Queries
- SQL Wizard
- HTML Layout painter

Help is Available

- HTML
- EXCEL
- PDF
- and more...
Beyond Query/400

Import Query/400 Definitions

Then Modify with Report Assistant

Query/400 Output
Beyond Query/400

Query/400 Output via DB2 Web Query

<table>
<thead>
<tr>
<th>Country</th>
<th>Product Type</th>
<th>Product Category</th>
<th>Store Name</th>
<th>Line Total</th>
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</thead>
<tbody>
<tr>
<td>Canada</td>
<td>Audio</td>
<td>Amplifiers/PreAmps/Tuners</td>
<td>ABC Electronics</td>
<td>3,324,409.00</td>
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<tr>
<td></td>
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<td></td>
<td>Home Audio Outfitters</td>
<td>1,415,374.00</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>PlanDta Digitale</td>
<td>54,145.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Winnipeg Audio</td>
<td>282,517.00</td>
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<tr>
<td></td>
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<td>Audio Systems</td>
<td>12,000,000.00</td>
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<tr>
<td></td>
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<td>ABC Electronics</td>
<td>12,018,859.00</td>
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</table>

Very basic modifications with Report Assistant

Store Revenue by Product

<table>
<thead>
<tr>
<th>Country/Product Type</th>
<th>Product Category</th>
<th>Store Name</th>
<th>Product Type</th>
<th>Line Total</th>
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</thead>
<tbody>
<tr>
<td>Canada Audio</td>
<td>Amplifiers/PreAmps/Tuners ABC Electronics</td>
<td>Audio</td>
<td>3,324,409.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Home Audio Outfitters</td>
<td>Audio</td>
<td>1,415,374.00</td>
<td></td>
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<tr>
<td></td>
<td>PlanDta Digitale</td>
<td>Audio</td>
<td>54,145.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Winnipeg Audio</td>
<td>Audio</td>
<td>282,517.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Audio Systems</td>
<td>Audio</td>
<td>12,000,000.00</td>
<td></td>
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<tr>
<td></td>
<td>ABC Electronics</td>
<td>Audio</td>
<td>12,018,859.00</td>
<td></td>
</tr>
</tbody>
</table>

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DB2 Web Query - Intelligence Query and Analysis
Active Reports

- Self-contained analytical reports
  - Delivered to users via email or browser
- Users interact with the data on the report w/o being connected to infrastructure
- Intuitive built-in controls
  - Sorting, Filtering, Visualization, Charting, Dynamic Roll-ups
  - Export to HTML, CSV or Excel
  - Export Charts to Word, Excel, or Powerpoint
- Perfect for large scale information delivery applications where extensive user training is not possible
  - Great for Non-technical users
Beyond Query/400

On-Line Analytical Processing (OLAP)

Gross Profit by Product Category

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Product Category</th>
<th>Line Total</th>
<th>Cost of Goods Sold</th>
<th>Gross Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio</td>
<td>Amplifiers/Preamps/Timers</td>
<td>$42,574,420</td>
<td>$25,739,572</td>
<td>$16,834,848</td>
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<tr>
<td>Audio Systems</td>
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<td>$56,564,800</td>
<td>$35,139,200</td>
<td>$21,425,600</td>
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<td>CD Players and Recorders</td>
<td></td>
<td>$53,347,700</td>
<td>$32,189,800</td>
<td>$21,157,900</td>
</tr>
<tr>
<td>DVD</td>
<td></td>
<td>$41,491,600</td>
<td>$26,430,600</td>
<td>$15,061,000</td>
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<tr>
<td>Receivers</td>
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<td>$32,990,000</td>
<td>$23,967,111</td>
</tr>
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<td>Speakers</td>
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<td>$34,717,663</td>
<td>$24,890,992</td>
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<tr>
<td>Camcorders</td>
<td>Digital Camcorders</td>
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<td>$7,801,762</td>
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<tr>
<td>DvDs</td>
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<td>Cameras</td>
<td>Digital Cameras</td>
<td>$184,170,667</td>
<td>$133,509,830</td>
<td>$50,660,837</td>
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<tr>
<td>Office</td>
<td>Handheld and FSA</td>
<td>$19,554,100</td>
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<td>$5,492,700</td>
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<td>Organizers</td>
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TOTAL:       |                                   | $1,561,223,919 | $1,129,157,916 | $432,066,003 |

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DB2 Web Query - Intelligence Reporting MS Excel Integration

- DB2 Web Query has excellent MS Excel integration
- Dynamically generates fully formatted Excel spreadsheets
  - With Drilldowns, Formulas, Summations, Color-coding and more
- Improves end user productivity; reduces errors
Additional Features from Information Builders

- Report Caster
  - Subscribe and publish paradigm
  - Intelligent Bursting
- ERP Adapters
- Data Mining and Cubing API Adapters
  - SPSS’ Clementine and ESSBASE/400
- Geographical Information Systems (ESRI) API Adapters
- Extract Transformation Load (ETL)
  - Data Migrator
- Additional RDBMS Adapters

Report Caster

- Automated Delivery Of Information
  - a.k.a. “push” or “casting”
- On Schedule
  - Set by administrator
  - …Or by user subscription
- On Alert/Event
  - Initiated by a real-time events
- Intelligent bursting
- Output format(s) required
- Delivery Destinations
  - Web Server
  - Database archive (library)
  - eMail
  - Mobile device
  - Printer/Fax

XML, CSV, etc.
**Beyond Query/400**

**Leveraging HA/DR Servers**

I/T Optimization through Combined H/A and BI Server
- Leverage H/A software to create Operational Data Store (ODS) in near real time
- Utilize ODS as the source for ETL processes into the Data Warehouse
  - Combine with target side remote journaling for ETL efficiencies
- No impact to Production Databases
- Utilize mostly idle capacity of H/A Server for Data Warehouse Workloads
- Optionally mirror Data Warehouse

**DB2 for i5/OS Enablers for BI**
- Built into i5/OS
  - SQL Query Engine (SQE)
  - On Demand Performance Center
  - Database Parallelism*
  - Real time statistics
  - Materialized Query Tables
  - Star Join/LPG
  - Query Rewrite
  - Encoded Vector Indexing
  - Remote Journaling (Trickle Feed)
  - Single Level Storage
  - Autonomic Indexes
  - Index Advisor
  - Database Monitors

Query Optimization Experiences

• SMB Distributor
  – Existing Informix on HP DW
    • 2 hour queries
  – i570 2 CPU LPAR
    • DB2, EVIs, LPG, SMP: **2 hours to 12-49 SECONDS**
• SMB Apparel Manufacturer/Distributor
  – 13 minute queries to 2.5 minutes
  – **25 second queries to .5 SECONDS**
• SMB Service Bureau
  – Batch oriented .NET query running on SQL Server, 2 hours
  – Migrated database to DB2 for i5/OS
  – **2 Hours to 6 MINUTES**
• Large Account Retailer
  • ETL with RPG Taking 7 hours
  • SQL, MQTs, EVIs: **7 hours to 8 MINUTES**

Building an SQL Optimization Education Plan

• Four day SQL/Query Performance Workshop
  – 4.5 Day Course in Rochester
    • ibm.com/servers/eserver/iseries/service/gs/db2performance.html
• SQL Optimization Assessment
  – Available for use with Services Vouchers
  – NOT a performance analysis – only an assessment
• Database Analysis Tools from Centerfield Technology
  – http://www.centerfieldtechnology.com/
• IBM Global Services – Rochester – Performance Analysis Services
  – Contact: Dan Heithoff – dheithoff@us.ibm.com

**Note:** Traditional Performance Analysis addresses RESOURCE utilization, but does not address database optimization
Quick Start Services

- Getting Started with the New Web Query Tool

The service offering will help you get started with developing and running reports using the New Web Query Tool. IBM experts will help you install the software, create and import meta data, help you import query/400 definitions and assist you in building reports using either the built-in reporting features and/or the graphical assistance components allowing you to do drill downs.

ibm.com/systems/i/editions/services.html

DB2 Web Query Pricing

- DB2 Web Query (5733-QU2) Base shipped to Query/400 Customers
  - If licensed to QU1 today and on SW Maintenance, then DB2 Web Query is shipped when i5/OS V5R4 is ordered (QU2 can also be ordered directly for customers on V5R4)
  - A specific number of named users are included based on processor tier
    - New QU2 SWMA
- DB2 Web Query Quick Start service added to voucher program for Enterprise and i5/OS Editions
- DB2 Web Query offered at a competitive price

<table>
<thead>
<tr>
<th>Tier</th>
<th>Base Server License</th>
<th>Included Users</th>
<th>Additional Named User</th>
<th>Active Reports*</th>
<th>OLAP Module*</th>
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<td>P10</td>
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*Enables all named users to use this feature

US List Prices, subject to change without notice

Developer Workbench $995 per user

*
Beyond Query/400

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