



IBM

# The QMF 11 Product Family

Business Intelligence & Analytics for the Enterprise



10100101101010010100100110101010110010101101001011010100101001001101010110010101  
1010010110101001010010011010101011001010110100101101010010100100110101010110010101

Joe Sacco - DB2 QMF Product Manager

Mike Biere – QMF Sr. Product Specialist

## QMF 11 – further expanding the value and depth of the QMF product family

Powerful new business analytics features and functions

Sophisticated dashboards for the business users and executives

Enterprise data access to many new data sources via JDBC

Access to OLAP information (Essbase, MS Analysis Services, SAP/BW)

QMF Analytics for TSO - Delivering unprecedented charting and statistical analysis capabilities directly to the mainframe

Mobile device support

... and more!



\*\* While maintaining and supporting your investment in existing QMF objects (queries, forms, procs)!

## QMF 11 ... why should you care?

### Existing QMF customer

- Significantly enhanced
- New QMF Analytics for TSO component
- Investment protection and innovation of existing resources
- TCO is based on an enterprise-wide model. The greater the number of users and databases accessed ... the lower the cost

### Potential new customer

- A managed, predictable analytics solution from IBM with a known cost
- Wide range of deployment options with no additional charge
- Presents a significant new approach and option within DB2 for z/OS... Business Analytics bundled as a feature code

## Clear ROI with QMF Enterprise Edition - Save Money

A true Enterprise license, no charging per user or by user-type

Lower administration, maintenance, and service costs



QMF High Performance Option saves CPU, improves efficiency

Service all users in the enterprise – capitalize on your current investment

## Clear ROI with QMF Enterprise Edition - Save Time

Build once, deploy everywhere!

Capability for global deployment



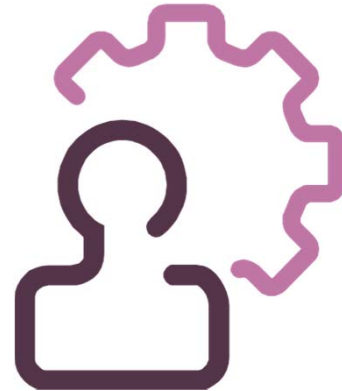
Easy to install, easy to get up and running, and easy to be productive quickly!

Faster query results than ever before are now possible

## Clear ROI with QMF Enterprise Edition - Save Resources

QMF fully supports  
the IBM DB2  
Analytics  
Accelerator

QMF for Workstation  
eliminates overhead  
of TSO sessions  
during the development  
of queries and reports



Enhanced data  
access and data  
federation out of  
the box

Sophisticated caching  
for query results to  
significantly reduce  
the overhead on the  
DB2 engine

## What we're hearing from enterprise accounts about business analytics ... the Top 7 requirements

1 Modern features: graphical queries, reports, charts, dashboards, KPIs, innovation such as mobile device support

2 An enterprise model that scales and does not wildly vary in cost if the usage increases

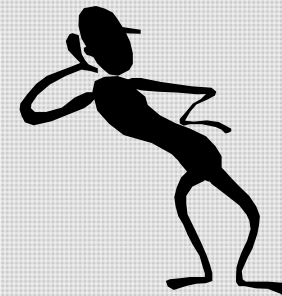
3 Support for IBM advancements such as the DB2 Analytics Accelerator for DB2 for z/OS

4 Usage model for all end users and user types

5 Access to all data on all platforms

6 More effective deployment, less "shelf ware"

7 Ease of installation, administration, maintenance

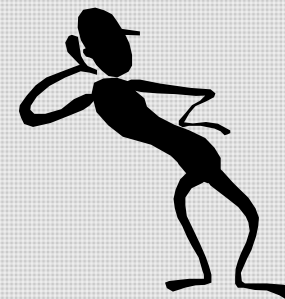


## How QMF addresses the Top 7 customer requirements

1

Modern features:  
graphical queries,  
reports, charts,  
dashboards, KPIs,  
innovation such as  
mobile device support

**QMF includes significant  
enhancements:  
Graphical queries, reports,  
charts, dashboards, KPIs  
and mobile device support**





## How QMF addresses the Top 7 customer requirements

2 An enterprise model that scales and does not wildly vary in cost if the usage increases

**QMF is licensed for the DB2 you access – no user pricing**

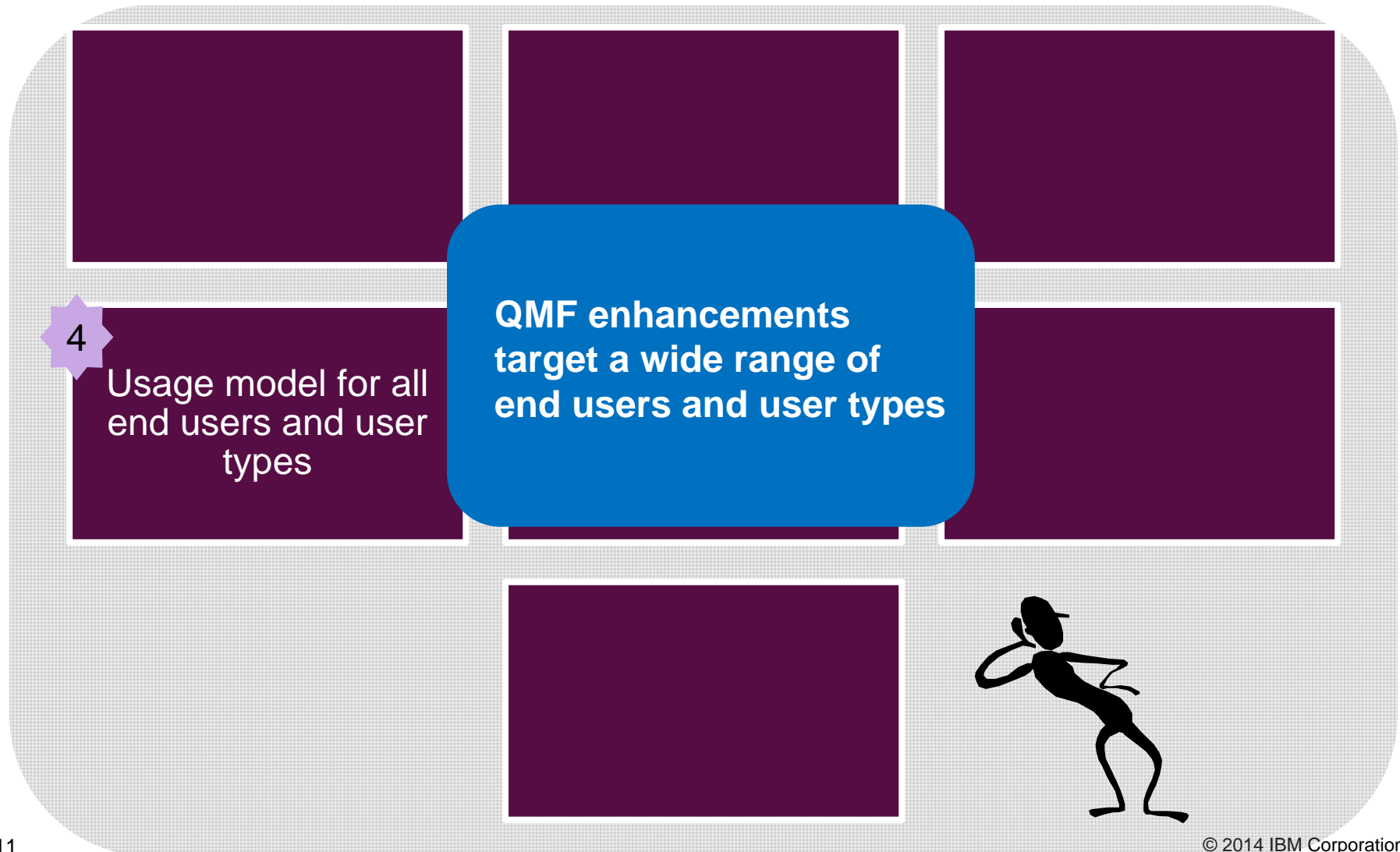
## How QMF addresses the Top 7 customer requirements

3 Support for IBM advancements such as the DB2 Analytics Accelerator for DB2 for z/OS

QMF supports the DB2 Analytics Accelerator, temporal data

QMF is a feature of DB2 for z/OS

## How QMF addresses the Top 7 customer requirements

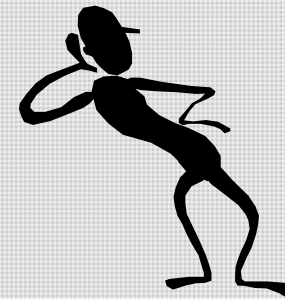


## How QMF addresses the Top 7 customer requirements

QMF provides enhanced data access:  
JDBC to many sources (e.g. Oracle, Sybase, SQL Server, Teradata, IMS, Excel), OLAP, internal federation, and 'virtual' data sources

5

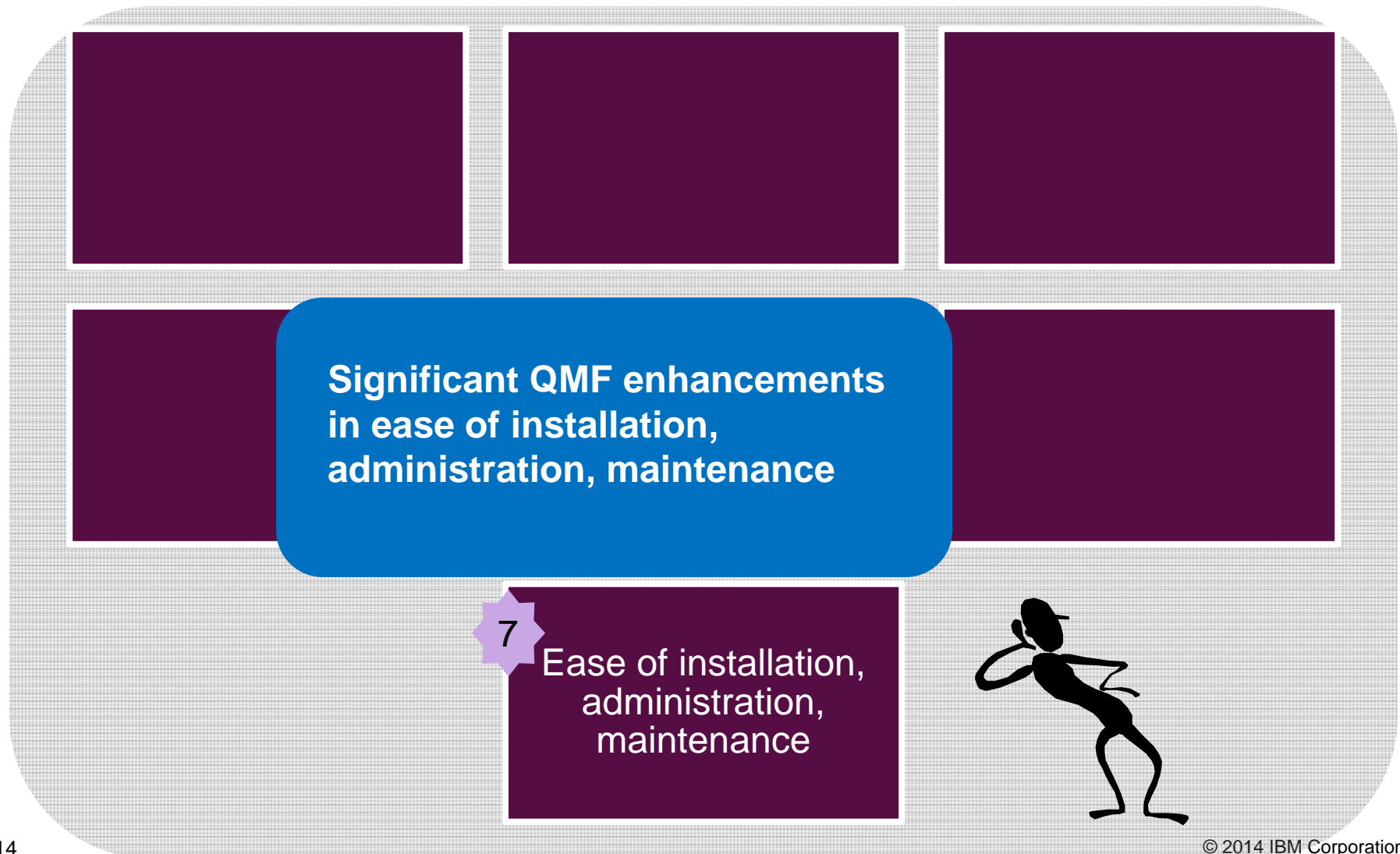
Access to all data on all platforms



## How QMF addresses the Top 7 customer requirements



## How QMF addresses the Top 7 customer requirements



## QMF Enterprise Edition 11 – “hot” new features

### For Workstation & WebSphere

- ✓ **Big Data support for IBM BigInsights (with BigSQL as an alternative to Hive) and Hadoop via Hive**
- ✓ **Dynamarts – BI “to go” encapsulate data within a report/chart**
- ✓ **JavaScript tables:** launch SQL queries against tables defined by JavaScript and populated on the fly by JavaScript calls to remote websites' HTTP data
- ✓ **Ad Hoc reports**
- ✓ **Quick Reports**
- ✓ **Visual applications**

### For TSO

- ✓ **Query Analytics for TSO**
- ✓ **Performance improvements and many ‘tweaks’ for existing customers**

# QMF functions with IBM BigInsights and Hadoop

Once the data is returned to QMF, it can be used in any QMF Report, chart, application or visualization.

The collage displays several QMF reports and visualizations:

- Map:** A map of the United States with a pie chart showing regional data.
- Table:** A table with columns: REGION, STATE, DIVISION, ORDERMONTH, AMTK.
 

REGION	STATE	DIVISION	ORDERMONTH	AMTK
1			11	\$1,009
2			11	\$1,301
3			11	\$1,904
4	EAST	California	11	\$3,370
5				\$5,584
6				\$5,584
7				\$5,584
8	All values			\$5,584
- Bar Chart:** AMTK by STATE -EAST. Shows bars for California, Oregon, and Washington.
- Bar Chart:** AMTK by DIVISION -EAST. Shows bars for Institution, Retail, and Wholesale.
- Bar Chart:** AMTK by ORDERMONTH -EAST. Shows horizontal bars for different order months.
- Pie Chart:** AMTK by STATE -EAST. A pie chart showing the distribution of AMTK by state.
- Table:** ANYCORP Staff Report by Department. Summary for department # 10.
 

Job	Name	Years	Salary	Comm	Total
MGR	JONES	12	21234.00	0.00	21234
	DANIELS	5	19260.25	0.00	19260.25
	LU	10	20010.00	0.00	20010
	MOLINARE	7	22959.20	0.00	22959.2
MGR sub-total:		4	8	83463.45	0.00
- Table:** Department Details.
 

ORGNUM	TITLE	LAST NAME	TOTAL	SA
19	ACCT	REILLY	\$68,197.32	\$65
	EXEC		\$257,618.00	\$25
	SUPT		\$101,451.50	\$98
Summary of 19			\$427,266.82	\$418
- Table:** Department Details.
 

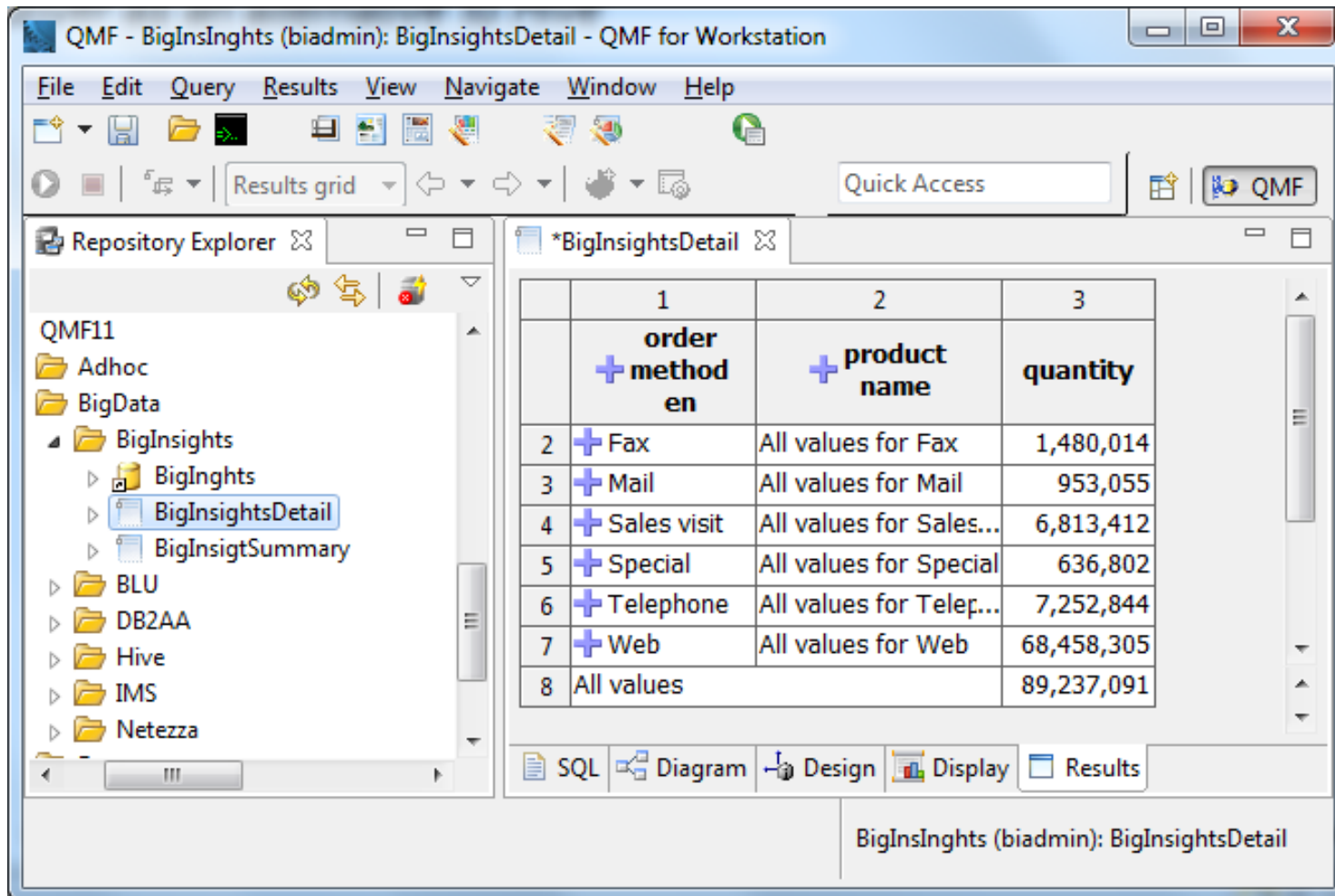
ORGNUM	TITLE	LAST NAME	TOTAL	SA
42	ACCT	DEZAZZO	\$217,153.45	\$211,342.20
	EXEC	SMITH	\$74,464.00	\$73,230.00
	SUPT		\$215,694.60	\$210,087.40
Summary of 42			\$507,312.05	\$504,659.60
- Table:** Forecast for All.
 

FROM DATE	TO DATE	REVENUE -	MA (1)	Polynomial (1)	DExp (1)
1/1/98	1/31/98	89392.00	89392.00	107267.46	89392.00
2/1/98	2/29/98	112881.00	89392.00	89106.22	112881.00
3/1/98	3/31/98	82002.00	181128.00	31564.62	126338.00
4/1/98	4/30/98	82175.00	84767.67	62892.00	113635.00
5/1/98	5/31/98	82002.00	82002.00	82002.00	82002.00
- Table:** Regional Report - Raw.
 

ORDERMONTH	AMTK	PROJECTION
10	\$889	\$978
11	\$710	\$781
12	\$706	\$777
Institution Total	\$2,305	\$2,536



## QMF 11 supports IBM InfoSphere BigInsights *via direct access using the BigSQL driver as an alternative to Hive*



The screenshot shows the QMF 11 interface for a user named 'biadmin' connected to 'BigInsightsDetail'. The interface includes a menu bar (File, Edit, Query, Results, View, Navigate, Window, Help), a toolbar with icons for file operations and navigation, and a 'Quick Access' search box. On the left, the 'Repository Explorer' shows a tree view of the data source structure, with 'BigInsightsDetail' selected under 'BigInsights'. The main area displays a table with 3 columns: 'order method en', 'product name', and 'quantity'. The table contains 8 rows of data, with the first row being a header and the remaining 7 rows showing order details. At the bottom, there are tabs for 'SQL', 'Diagram', 'Design', 'Display', and 'Results', and a status bar showing the current connection and data source.

	1	2	3
	+ order method en	+ product name	quantity
2	+ Fax	All values for Fax	1,480,014
3	+ Mail	All values for Mail	953,055
4	+ Sales visit	All values for Sales...	6,813,412
5	+ Special	All values for Special	636,802
6	+ Telephone	All values for Telep...	7,252,844
7	+ Web	All values for Web	68,458,305
8	All values		89,237,091

# QMF 11 supports Hive data sources ... and the underlying Hadoop data

The screenshot displays the QMF 11 interface. On the left, a tree view shows a 'Hive' folder containing 'Hive Data Sources', which includes 'H1', 'H2', 'HiveOrg', 'HivePizzaDetail', 'HivePizzaDetailRollup', and 'HiveStaff'. The 'HivePizzaDetail' source is selected. A red circle highlights this section. An 'JDBC Libraries' dialog box is open, listing the Hive JDBC Driver and associated JAR files. The main window shows a table with the following data:

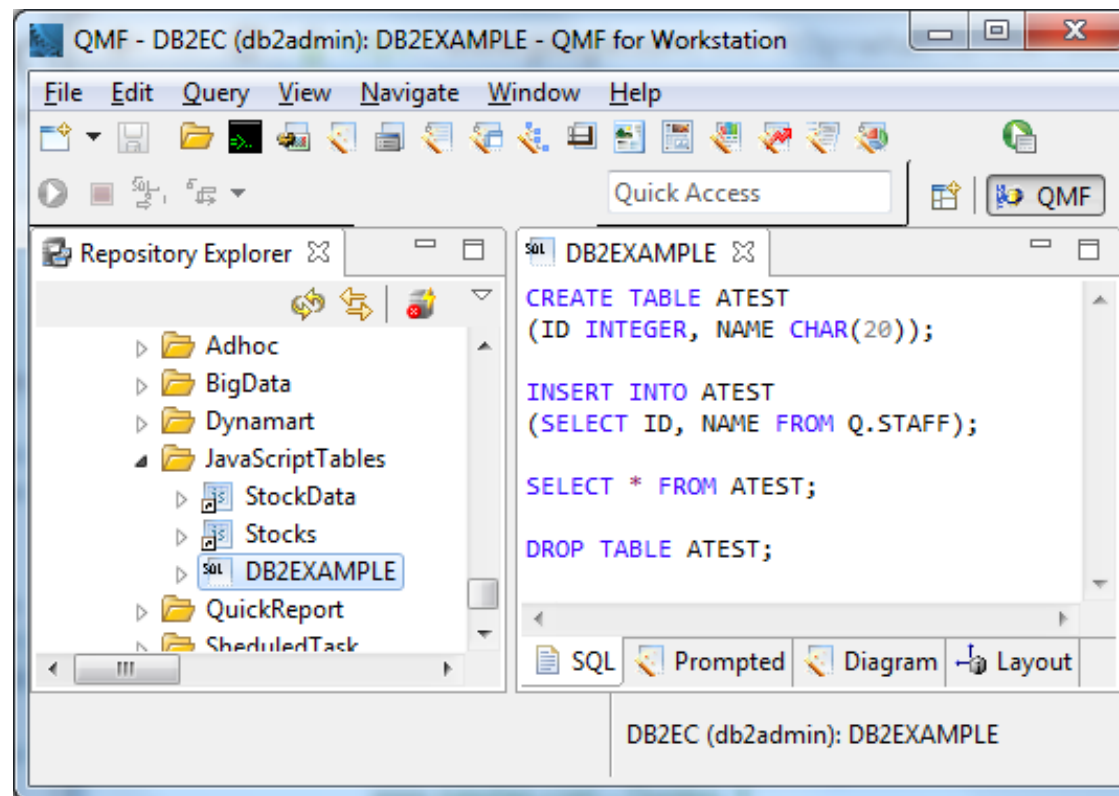
	name	address	city
21051	DICARLOS PIZZA SHOP	41 COURTLAND AVE	WHEELING
21052	MANINIS PIZZA HOUSE	503 WARWOOD AVE	WHEELING
21053	PIZZA EXPRESS	707 WARWOOD AVE	WHEELING
21054	PIZZA OUTLET	1127 MARKET ST	WHEELING
21055	T & ZS PIZZA SHOP	608 NATIONAL RD	WHEELING
21056	TOMS FAMOUS PIZZA	1069 MAIN ST	WHEELING
21057	TONYS PIZZERIA	3707 JACOB ST	WHEELING
21058	PIZZA TIME	29 E 3RD AVE	WILLIAMSON
21059	DOUGH BOX	458 N WASHINGTON	AFTON

At the bottom of the window, the status bar indicates 'H1 (biadmin): HivePizzaDetail'. The interface includes a menu bar (File, Edit, Query), a toolbar with icons for file operations and QMF, and a bottom toolbar with buttons for SQL, Prompted, Diagram, Layout, Results, and Preview.

## JavaScript calls to http URLs that supply data.

A non-SQL capability: A JavaScript defined table can be created and will reside in the QMF table lists. When queried it will launch a request and return data in a typical result set. This data is available for any QMF report or visualization.

To understand how it works look at this DB2 query. It creates a table, populates it with a select statement, queries the table and then drops the table.



# QMF 11 support for Netezza

Connection type:  JDBC  JNDI

JDBC Driver:  ...

JDBC URL:

The screenshot shows the QMF 11 interface with a Repository Explorer on the left and a query results window on the right. The Repository Explorer shows a tree structure with 'Netezza' highlighted in red. The query results window displays a table with columns 1, 2, and 3, and rows for REGION, ORDERDATE, and TOT.

	1	2	3
	+ REGION	ORDERDATE	TOT
1	+ EAST	96	\$24,238,448,640
2	+ NORTH	96	\$19,773,826,560
3	+ SOUTH	96	\$35,216,893,440
4	+ WEST	96	\$14,700,049,920
5	All values	384	\$93,929,218,560

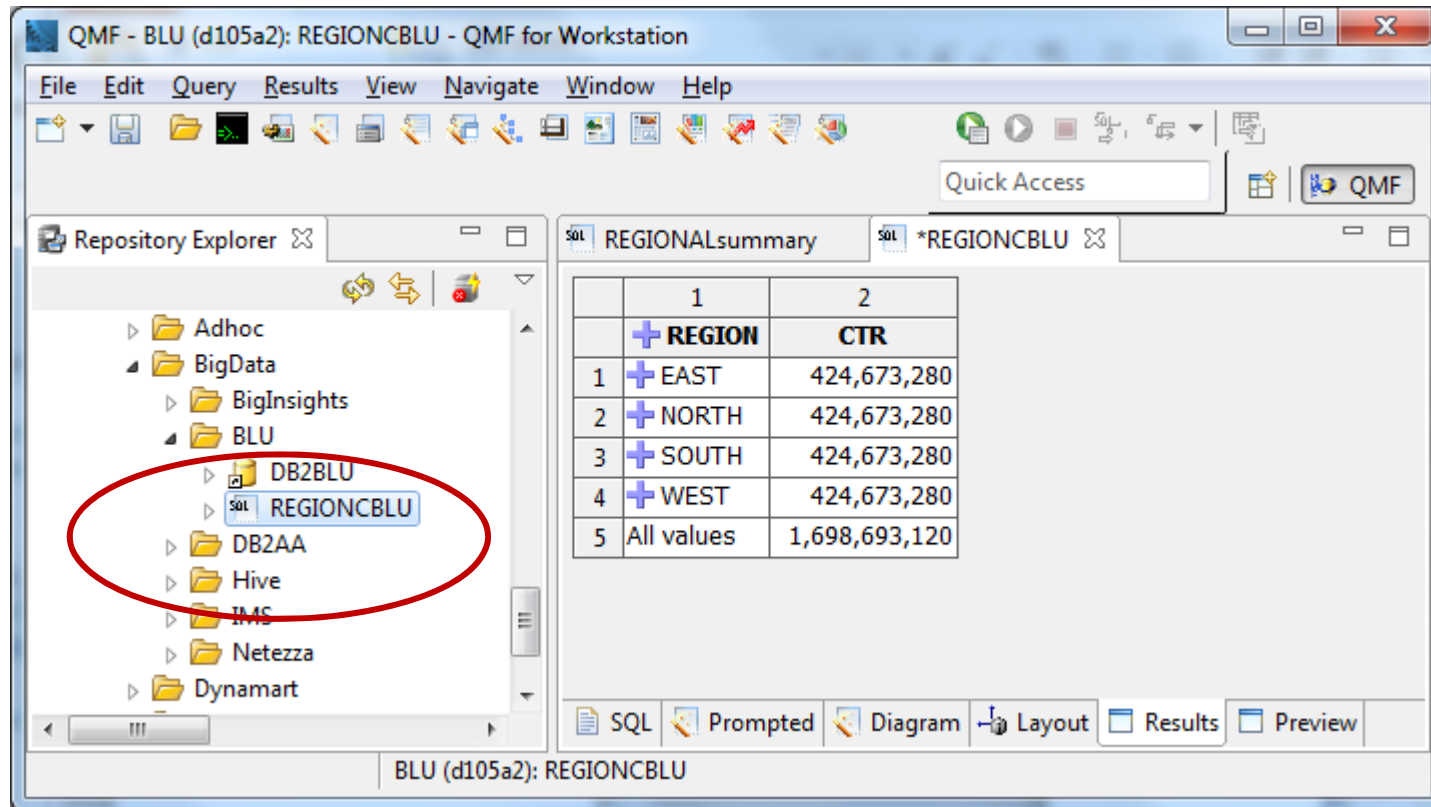
SQL Prompted Diagram Layout Results Preview

All 384 rows were fetched. | Netezza (jdevlin): REGIONALsummary | R/O

# IBM DB2 with BLU Acceleration

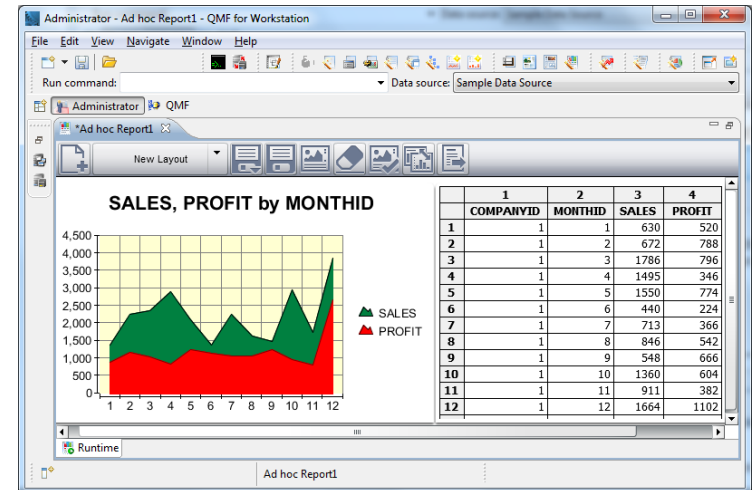
Support for DB2 with BLU Acceleration A simple upgrade of advanced editions of DB2 for Linux 10 or DB2 for AIX 10 to version 10.5 brings query acceleration.

<http://www-01.ibm.com/software/data/db2/linux-unix-windows/db2-blu-acceleration>



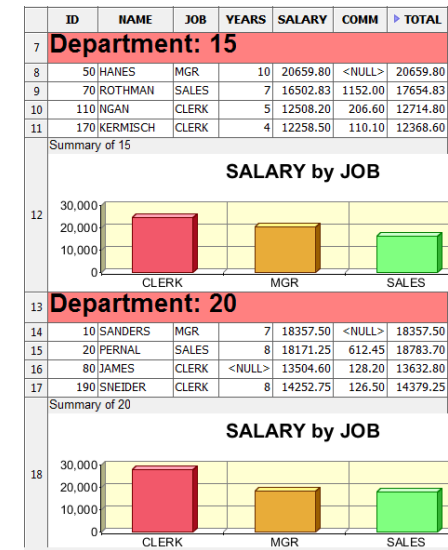
## Ad hoc Reports & Dynamic Dashboards

- Allow workstation and web users to assemble their own BI content and share their findings with other users
- Ability to embed this capability within dashboards
- Available in both QMF for Workstation and QMF for WebSphere



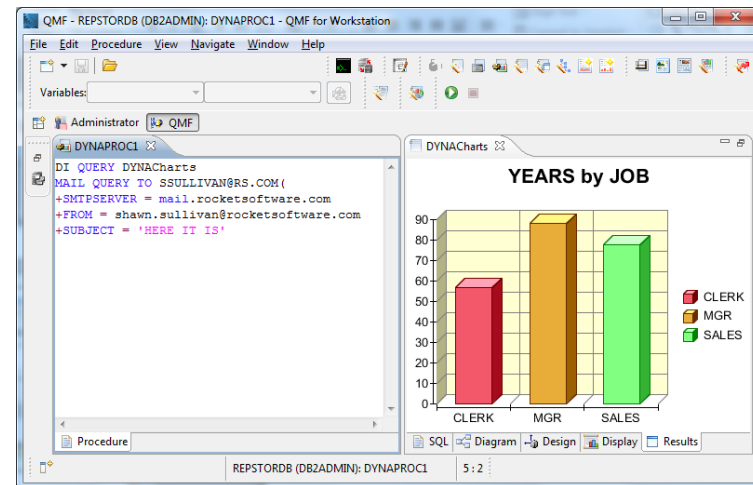
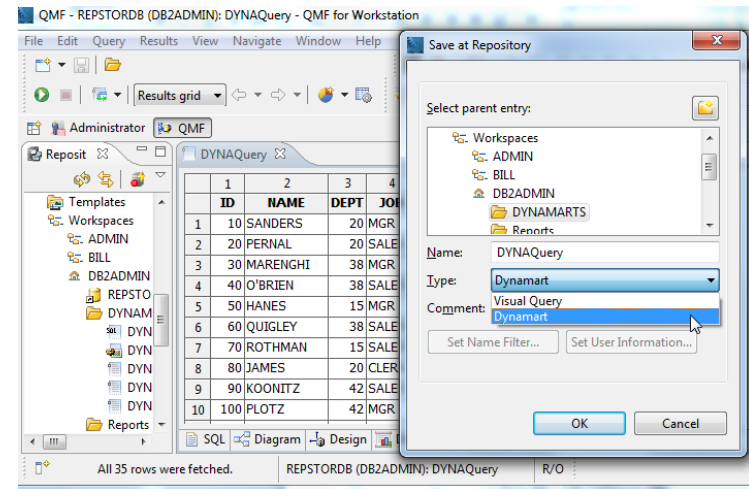
## Quick Reports

- A new wizard-driven process allows non-technical users to quickly produce reports outside of a report design environment
- Reports include live expand/collapse features and embedded charts
- Available in both QMF for Workstation and QMF for WebSphere



# Dynamarts: Offline data sets

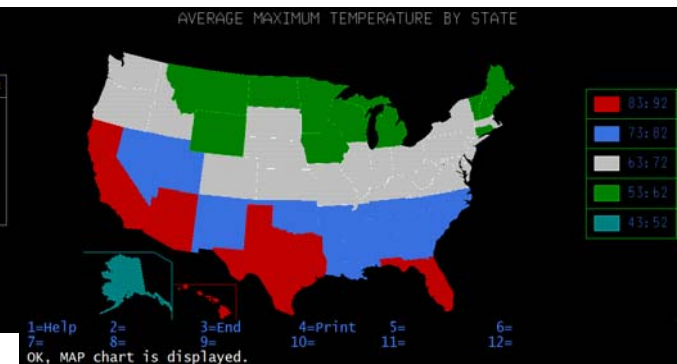
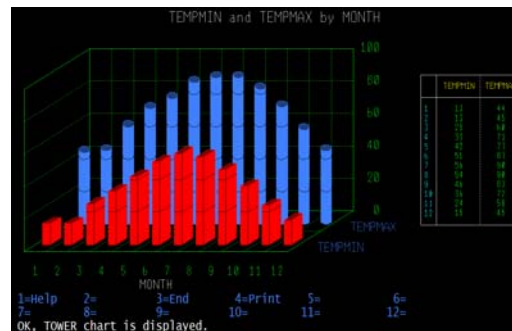
- Data can now be optionally stored with the query
- Allows dashboards/reports to be partially or fully driven by offline/scheduled data sets
- Users can send a snapshot of the result set and associated report to others so that they can ‘see it as it was’ or refresh it to ‘see it as it is’
- Available in both QMF for Workstation and QMF for WebSphere



# Query Analytics for TSO

Menu-driven, sophisticated new charting and statistical analysis

- Enhance and embellish existing or new query results
- Select from a variety of options and styles
- Additional statistical display options and analyses available from the UI
- No training or skills required
- New objects that can be saved and listed within QMF





## QMF Enterprise Edition 11 – capability highlights

- ✓ **Graphical queries, reports**
- ✓ **Dashboards and KPIs**
- ✓ **Advanced analytic functions and analysis**
- ✓ **JDBC access to any RDBMS**
- ✓ **Spatial data access**
- ✓ **Multi-dimensional analysis**
- ✓ **Operational Business Intelligence (e.g. access to IMS, Adabas, IDMS)**
- ✓ **Text Analytics**
- ✓ **Heterogeneous database access**
- ✓ **Federated data**
- ✓ **Scheduling for automation**
- ✓ **Virtual data sources (e.g. use queries as input vs SAVE DATA)**
- ✓ **Superlative support of the IBM DB2 Analytics Accelerator**
- ✓ **Mobile device support**
- ✓ **Full DB2 11 for z/OS support (temporal data, etc.)**

## The QMF 11 Enterprise Edition (QMF/EE) solution components

### QMF HPO

- 'High Performance Option' for QMF for TSO/CICS is a multifaceted tool that helps database administrators manage QMF objects and increase performance in the TSO and CICS environments

### QMF for Workstation

- Extends the key functionality of QMF for TSO/CICS on distributed platforms via a rich desktop development environment. Runs on Windows, Linux, and the Mac

### QMF for WebSphere

- Provides a feature set similar to that of QMF for Workstation, using a thin-client, browser-based solution as well as mobile device support. Runs on Windows, Linux, Solaris, AIX, HP-UX, iSeries, z/Linux, and z/OS

### QMF Analytics for TSO

- Delivers unprecedented charting and statistical analysis capabilities directly to the mainframe

## QMF/HPO – a unique feature with QMF Enterprise Edition

- **QMF High Performance Option (HPO) is a multi-faceted offering installed as a companion product to DB2 QMF for TSO.**
- **QMF HPO contains two subcomponents: HPO/Manager and HPO/Compiler**

### QMF HPO/Manager

**Govern (pre-emptively and in real time) ad-hoc and dynamic query and reporting activities**

**Easily collect detailed information to precisely control CPU resource usage at varying levels, according to any number of schedules applied to QMF user groups**

### QMF HPO/Compiler

**Convert frequently used queries and reports into efficient COBOL programs**

**Reduce resource consumption and improve performance**

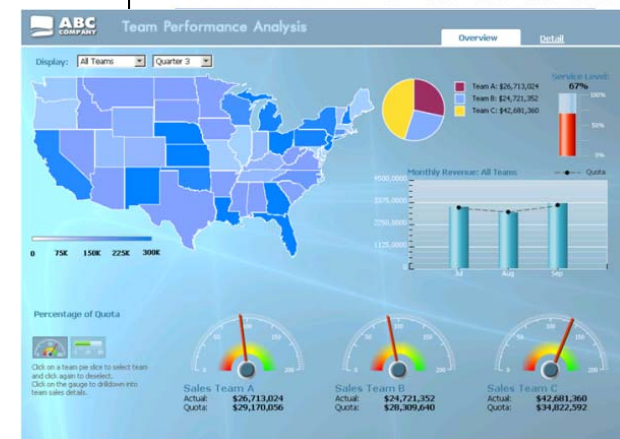
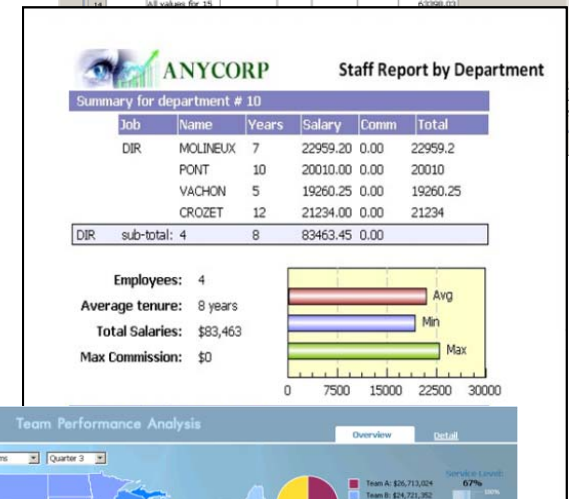
**Automatically write a COBOL program to perform the same actions as running a QMF query and form within QMF for TSO**

**This COBOL program will run as a stand-alone application, independent of QMF for TSO**

## QMF for Workstation and WebSphere

- Ad-hoc & prepared queries
  - Create/edit/re-use QMF queries
  - Apply groupings, aggregations and conditional formats and more
  - One-click export to Excel, data files or DB table
  - One-click generation of reports from the data
  
- Tabular and graphical reports
  - Generate QMF tabular reports or graphical *visual reports*
  - Highly customizable page-based layouts
  - Draw data from any number of data sources
  
- QMF Dashboards
  - Customized, interactive data visualizations
  - Rapid authoring model

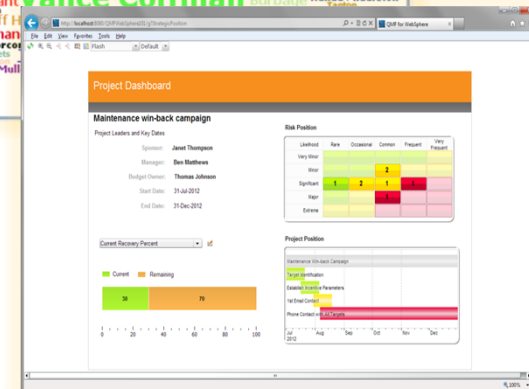
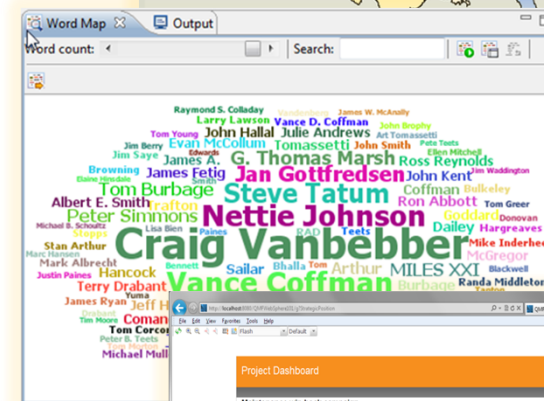
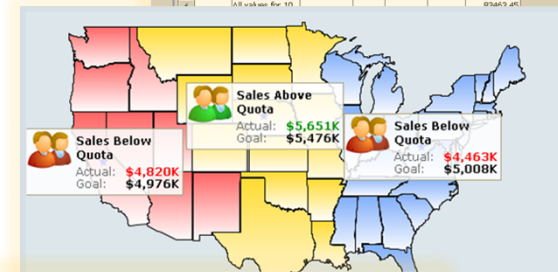
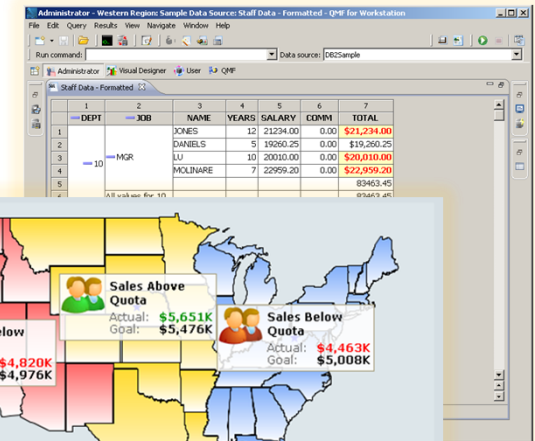
1	2	3	4	5	6	7	
DEPT	JOB	NAME	YEARS	SALARY	COMM	TOTAL	
1		KAMES	12	21234.00	0.00	\$21,234.00	
2		DANIELS	5	19260.25	0.00	\$19,260.25	
3	MGR	LIU	10	20010.00	0.00	\$20,010.00	
4		MOLINARE	7	22959.20	0.00	\$22,959.20	
5						83463.45	
6	All values for 10						83463.45
7	CLERK	KERMESCH	4	12259.50	110.10	\$12,369.60	
8		NGAN	5	12508.20	206.60	\$12,714.80	
9						25983.40	
10	MGR	HAMES	10	20659.00	0.00	\$20,659.00	
11						20659.00	
12	SALES	ROTHMAN	7	16502.03	1152.00	\$17,654.03	
13						17654.03	
14	All values for 15						83398.01



# QMF for Workstation and WebSphere V11

## What's New?

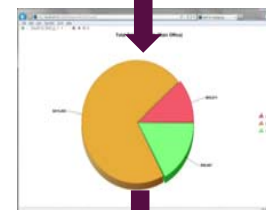
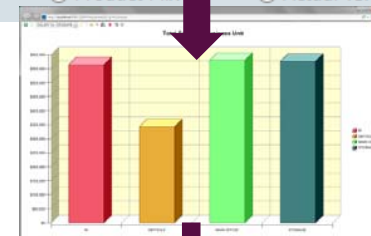
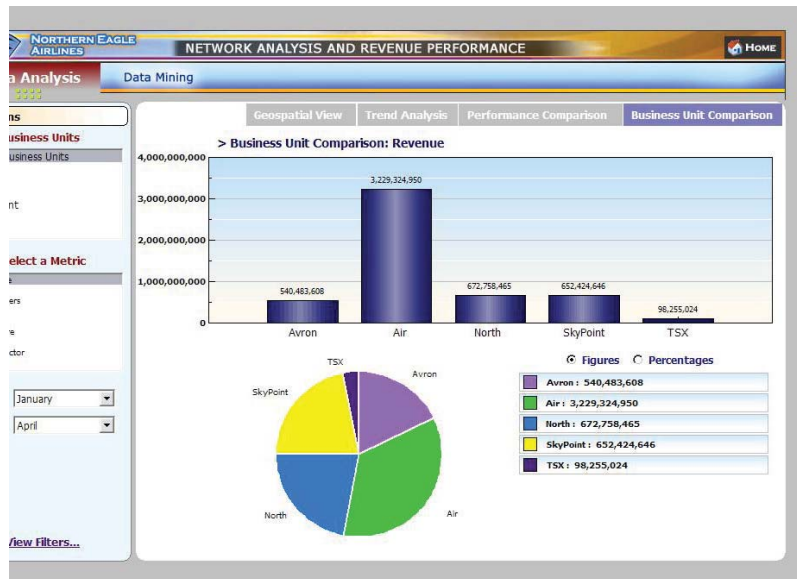
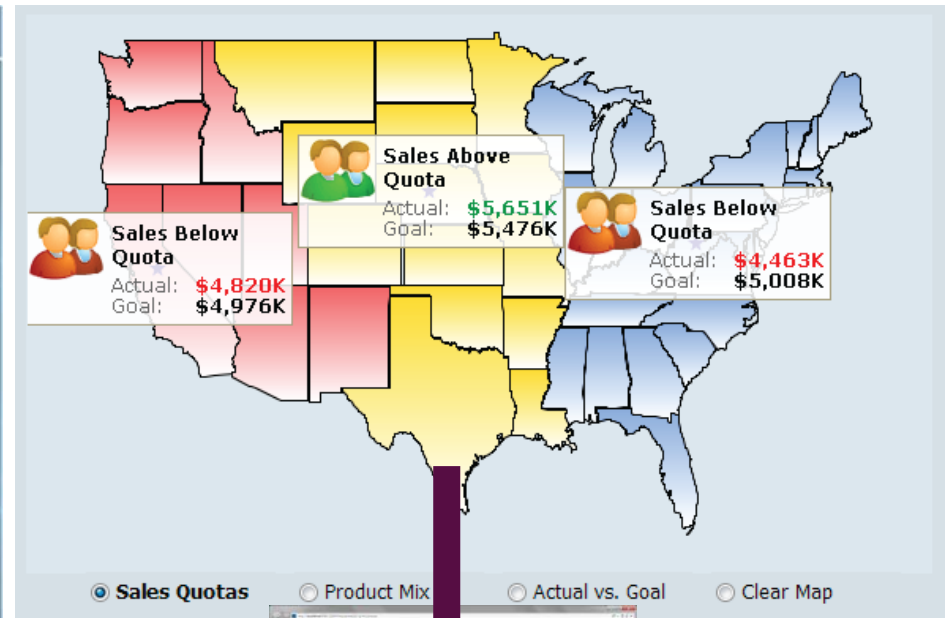
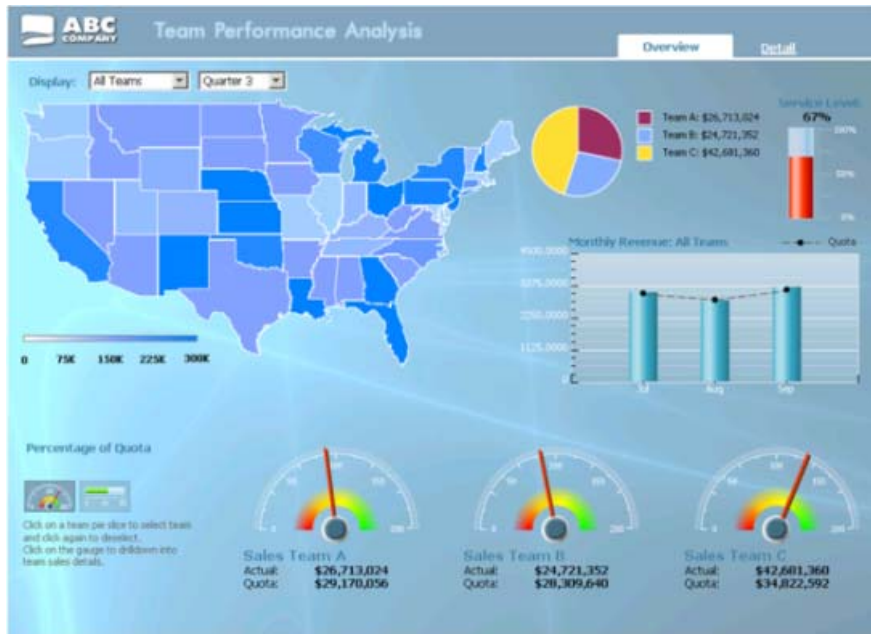
- Analytics on free-form text
- Increased support for ad-hoc reporting and dynamic dashboards
- Enhanced scheduling of tasks
- Wizard-driven reporting facility
- Support for saving queries with their data



## QMF dashboards

- ✓ Provide business users with direct access to enterprise data in real time
- ✓ Highly customizable – provide the functions, options, and capabilities to meet the needs of the business users across the enterprise
- ✓ Able to access, aggregate, and federate data concurrently drawn from heterogeneous relational and OLAP sources
- ✓ Interactive, ad-hoc visualizations with optional write-back capability
- ✓ Publish via the workstation, the web, or mobile devices





Drill-thru for data discovery with no limits to the number of levels!



Dashboards of any shape, size, and content are supported. There is no 'typical' dashboard ... a myriad of possibilities are available - such as this one created for an automotive customer.

Dashboards may contain a mixture of output and styles. Objects may be 'wired' together. For example, a query result from DB2 may be used to drive another query from a non-DB2 data source.



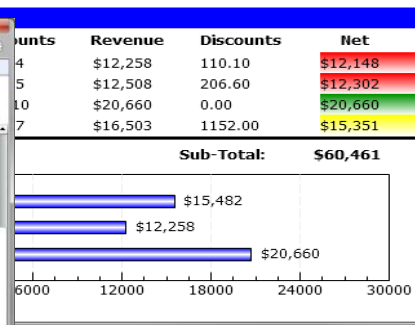
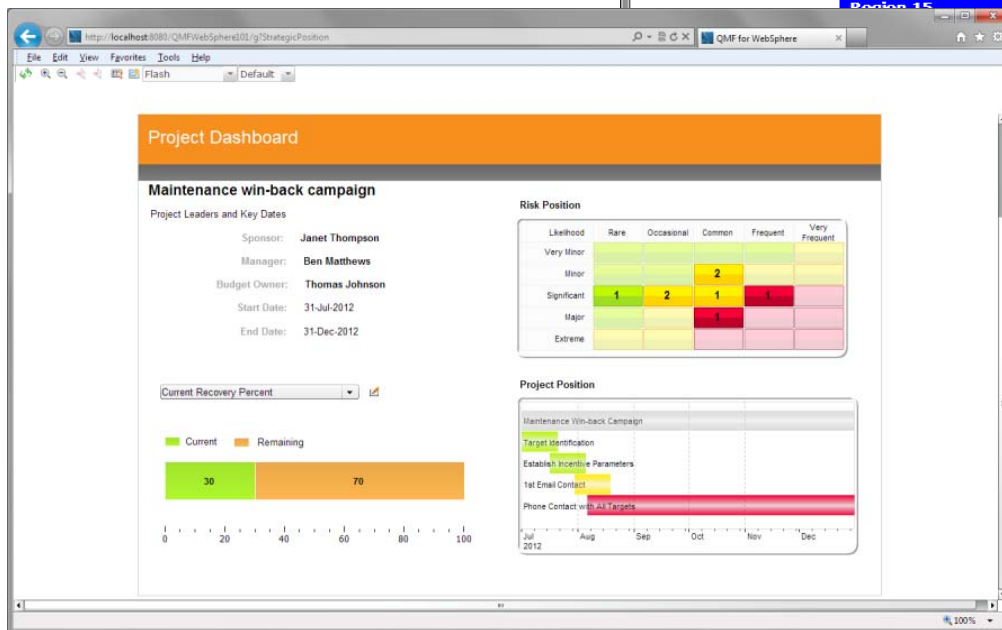
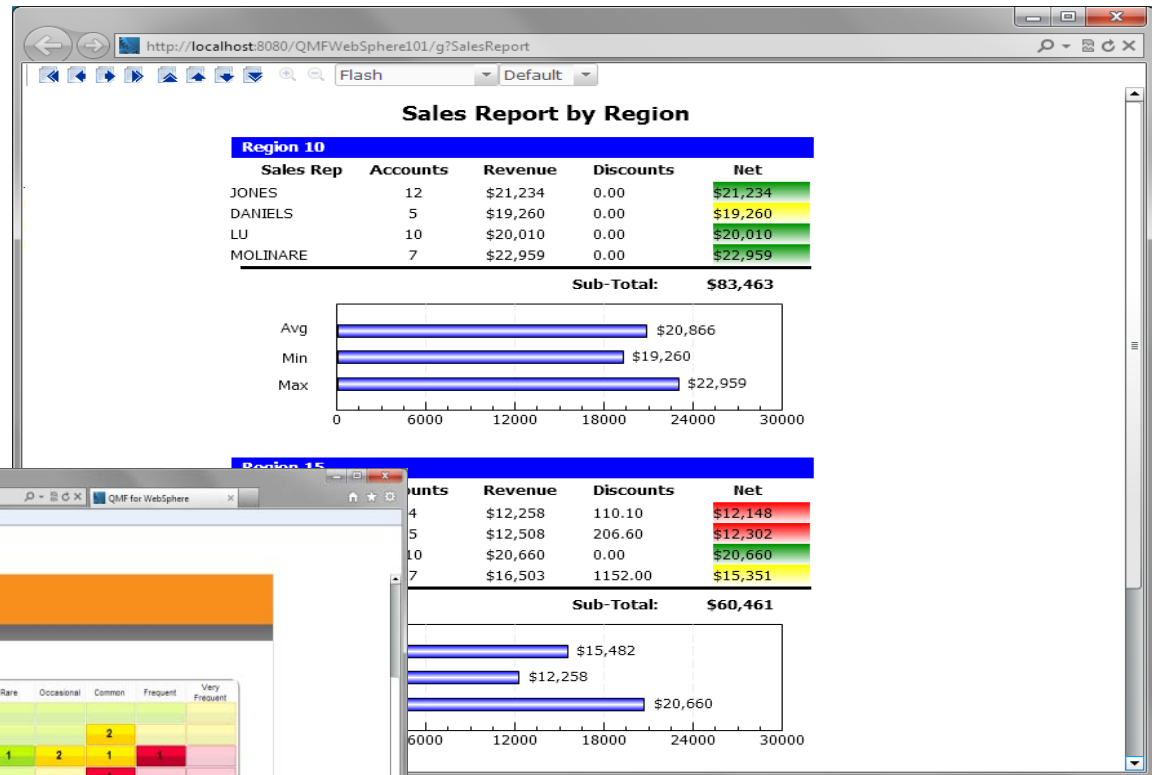


## Additional Dashboard Features

- **All queries can be assigned 'expiration schedules'**
  - **Cache data** and only fetch it when it expires
  - Flexible **scheduling** (e.g. 'first Tues in month' etc.)
  
- **Support for localization**
  - Display report and dashboard text customized by user or group
  - Text loaded into string tables for supported locales
  - Dashboards automatically invoke the locale-specific string table
  - Dashboards/reports support DBCS, Unicode and RTL layouts
  
- **Dashboard security model**
  - Database level or ...
  - Active Directory, LDAP or ...
  - QMF-defined users/groups
  - Ability to tailor dashboard content, based on user's access level
  - Apply access permissions on a per-dashboard basis



Create any report you require with highlights, graphics, images, and more...



Deliver to workstation clients, web clients, or mobile devices

## QMF Graphical Reports

- Generate HTML or PDF graphical reports
- Draw data from one or more data sources
- Support optional cover sheets, summary pages and report annexes
- Schedule at designated intervals and deploy via the workstation, web, mobile device, or email
- Directly embed reports within portals, custom web sites, or web applications

The screenshot shows the QMF report design tool interface. The top part displays a report design canvas with a table structure for 'Regional Data - Raw'. The table has columns for ORDERYEAR, REGION, DIVISION, and STATE. Below the design tool, a preview of a legal exchange invoice is shown. The invoice title is '>> Legal Exchange Invoice From Law Firm: Alver & Johnson'. It includes fields for Invoice Number (10390895), Invoice Date (22/11/2003), Matter Number (377562), Matter Name (Jacob Muller vs Mathew Evans), Client Personnel (James Walker), and Customer Pay (Y).

The invoice also contains two tables: one for FEES and one for EXPENSES.

**> FEES:**

Date	TK Name	Code	Hours	Rate	Org. Amt	Curr. Amt	Description
21/11/2003	Stephen Hall	L310	40.9	\$153.90	\$6,294.51	\$6,294.51	-
21/11/2003	William Harris	L310	61.3	\$184.70	\$11,322.11	\$11,322.11	-
<b>Total Fees:</b>					<b>\$17,616.62</b>	<b>\$17,616.62</b>	

**> EXPENSES:**

Date	TK Name	Code	Units	Cost	Org. Amt	Curr. Amt	Description
21/11/2003	Harold Wilson	E120	1	\$958.70	\$958.70	\$958.70	-
<b>Total Expenses:</b>					<b>\$958.70</b>	<b>\$958.70</b>	

**> BILLING SUMMARY:**

	Original Amount	Current Amount
Fees:	\$17,616.62	\$17,616.62
Expenses:	\$958.70	\$958.70
<b>Totals:</b>	<b>\$18,575.32</b>	<b>\$18,575.32</b>

## More on Graphical Reports ...



**Generated with 'one click' from a query results window**

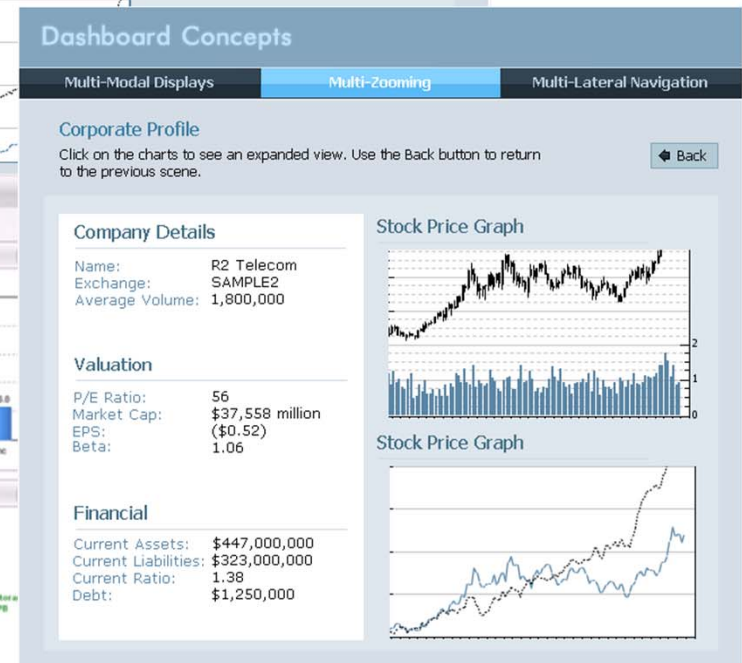
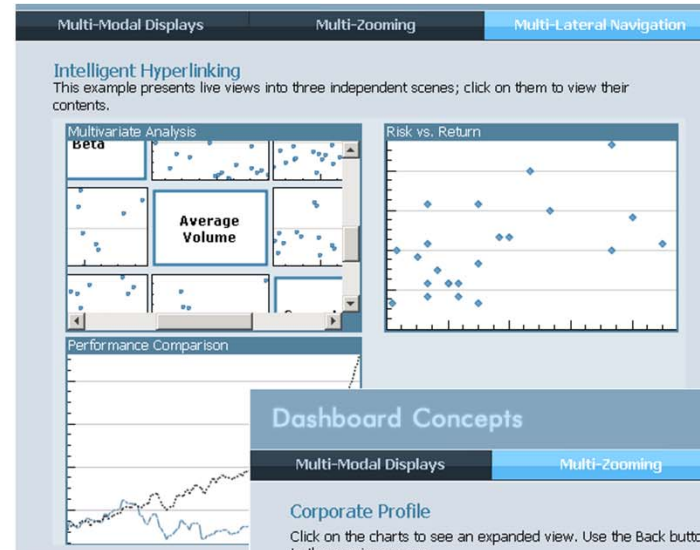
**Auto-generated to match the result set format, including groupings and aggregations**

**Automatically generated from existing QMF forms**

**Tailor results or accept defaults, no additional edits required**

**Authors have a comprehensive palette of graphical layouts to further refine the report**

- ✓ Standard statistical analysis methods (regression, etc.)
- ✓ Predictive capabilities
- ✓ Forecasting capabilities
- ✓ Interoperate with SPSS or other tools



## QMF on the Web and enhanced mobile support

### ■ QMF for WebSphere

- Disseminate queries, reports and dashboards to users across the enterprise for all browsers and platforms
- Create, run and share queries on the Web
- Run and share reports on the Web
- Deploy dashboards to business users as stand-alone solutions or embedded within web pages and web applications
- Deploy to mobile devices (iPad, Android)



### ■ Ability to render content in

- Pure HTML & JavaScript\*
- Adobe Flash Player
- PDF
- Excel

## What is QMF Analytics for TSO?

- Provides new charting and analytical capabilities within QMF for TSO
  - Part of DB2 QMF Enterprise Edition V11



- Charting, Statistical analysis, Geospatial mapping
- User Interface designed for ease of use
- Invoked from the QMF TSO command line with the SHOW ANALYTICS command, using the current QMF result set for the data to be analyzed
- Adds significant analysis capabilities to the TSO user
  - Great for users with an existing TSO based workflow
  - Important if data needs to be kept within security of z/OS environment

# Sophisticated new charting and statistical analysis directly on TSO with QMF Analytics for TSO – all menu driven

QMF ANALYTICS HOME PANEL

**Charts**

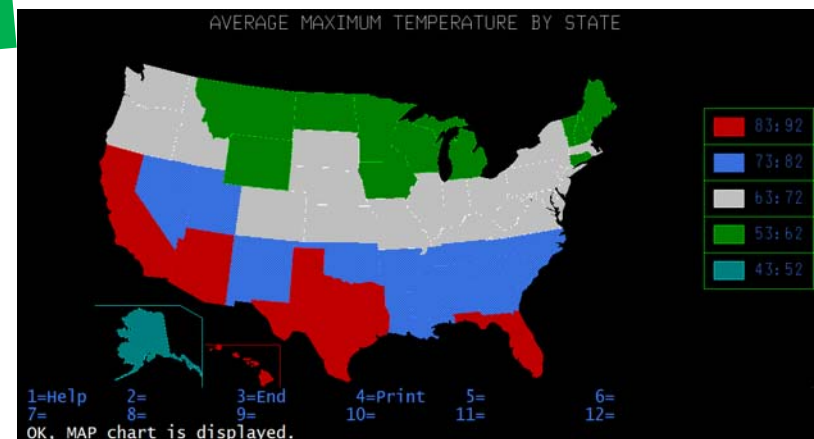
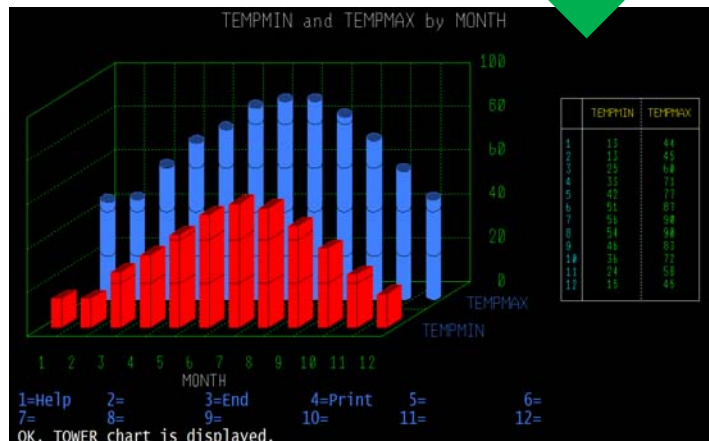
- Histogram
- Map
- Mixed
- Pie
- Plot
- Tower

**Statistics**

- Basic
- Curve Fitting - Bivariate
- Curve Fitting - Univariate
- Discounted Cash Flow
- Linear Trend

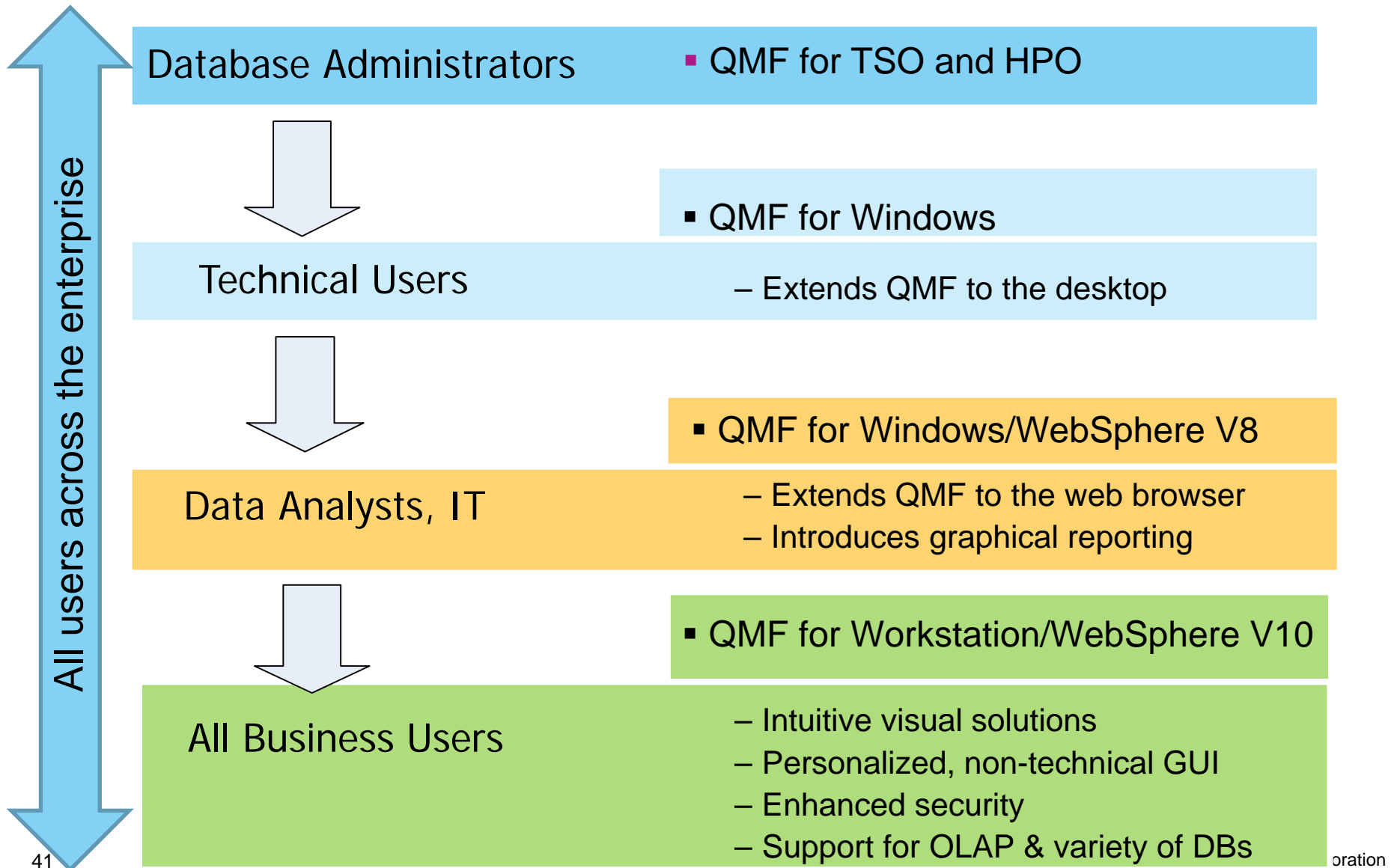
IBM\* Rocket\*\*  
 Licensed Materials - Property of IBM. 5615-DB2 5697-P43  
 (c) Copyright IBM Corp. 2013  
 (c) Copyright Rocket Software, Inc. 2013  
 \*Trademark of International Business Machines\*\*Trademark of Rocket Software Inc

1=Help 2= 3=End 4= 5= 6=  
 7= 8= 9= 10= 11= 12=



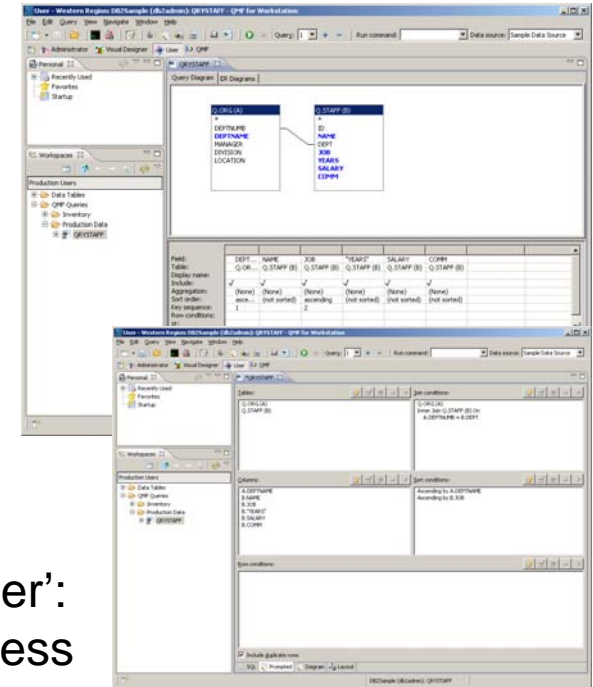


## Evolution of Target User Base



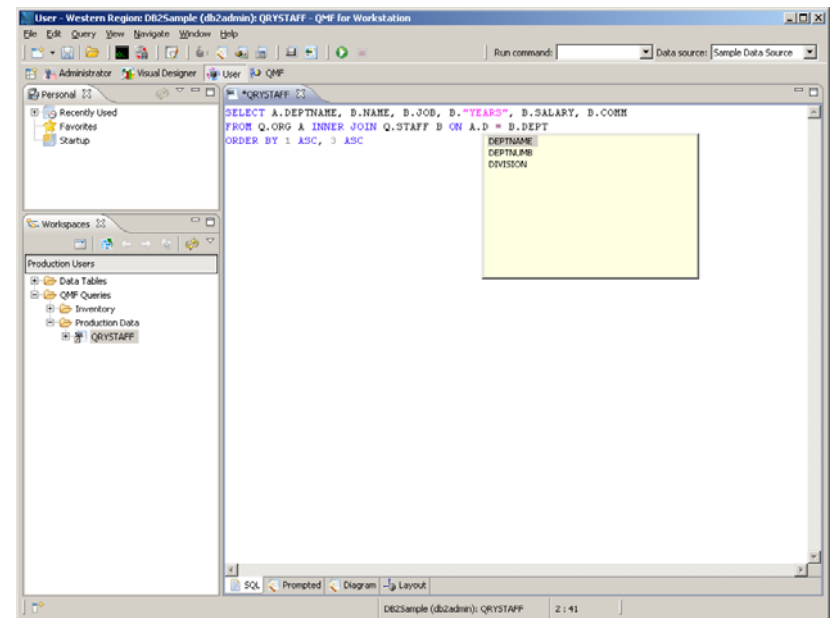
## Query creation for the 'casual' End User

- Rapidly build and execute ad-hoc queries without SQL skills
- Develop queries with a 'query diagram' designer:
  - ER diagrams provide pre-built data schemas
  - Easily define columns, conditions, aggregations, sorting options, and order of columns
- Step-by-step development with a 'prompted query builder':
  - Leads the user through the query development process
  - Each aspect of the query (tables, columns etc.) is assigned a panel for easy navigation
- Diagram designer and prompted interfaces are available in both the workstation and web user interfaces



## Query creation for SQL users

- Enter and edit SQL via the web or workstation
- Full-featured, colorized SQL editor includes code assist, code completion and dynamic parameter hints, increasing development productivity
- Users can move between the prompted diagram and SQL views, refining a given query with all three editor modes
- For example, a user could:
  - Define query tables by selecting elements from a pre-existing data diagram
  - Add query conditions using the expression designer within the prompted query view
  - Add final refinements via the SQL editor (such as nested SQL or unions)



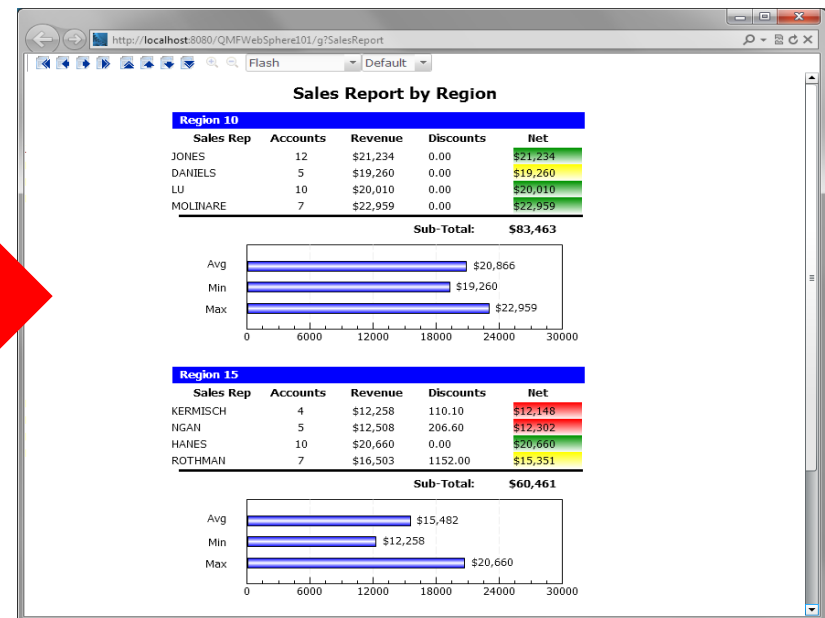
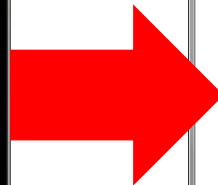
## QMF Enterprise Edition for mobile users

- From TSO to your iPad – QMF now has something for everyone
- Allows enterprise users to access QMF dashboards and reports from their tablet devices
- Bookmarks allow users to seamlessly transition between devices, preserving the content currently being viewed



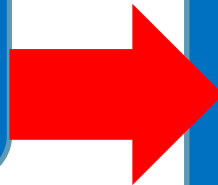
# Evolution of QMF Objects

ID	NAME	DEPT	JOB	YEARS	SALARY	COMM
11	SANDERS	20	MGR	7	18360.50	-
21	PERNAL	20	SALES	8	18174.25	612.45
31	MARENGHI	38	MGR	5	17509.75	-
41	O'BRIEN	38	SALES	6	18009.00	846.55
51	HANES	15	MGR	10	20662.80	-
61	QUIGLEY	38	SALES	-	16811.30	650.25
71	ROTHMAN	15	SALES	7	16505.83	1152.00
81	JAMES	20	CLERK	-	13507.60	128.20
91	KOONITZ	42	SALES	6	18004.75	1386.70
101	PLOTZ	42	MGR	7	18355.80	-
111	NGAN	15	CLERK	5	12511.20	206.60
121	NAUGHTON	38	CLERK	-	12957.75	180.00
131	YAMAGUCHI	42	CLERK	6	10508.90	75.60
141	FRAYE	51	MGR	6	21153.00	-



## QMF for TSO supports:

- ✓ Queries, Forms, Procedures



## QMF for Workstation/WebSphere supports:

- ✓ Queries, Forms, Procedures
- ✓ Enhanced Visual Reports
- ✓ Visual Dashboards
- ✓ Analytical queries
- ✓ Visual queries

## Metadata Layer enhances analysis

Create custom views of tables or sets of tables

Alter table names, column names, add calculated columns, pre-joined views, etc. without altering the physical structure of the underlying databases – creates a virtual view of underlying data sources

End users access the 'virtual' tables – QMF translates their SQL to that which matches the underlying table schemas

Shields users from the underlying complexity of database schemas

Change DBMS schemas with no impact upon reports, dashboards, queries

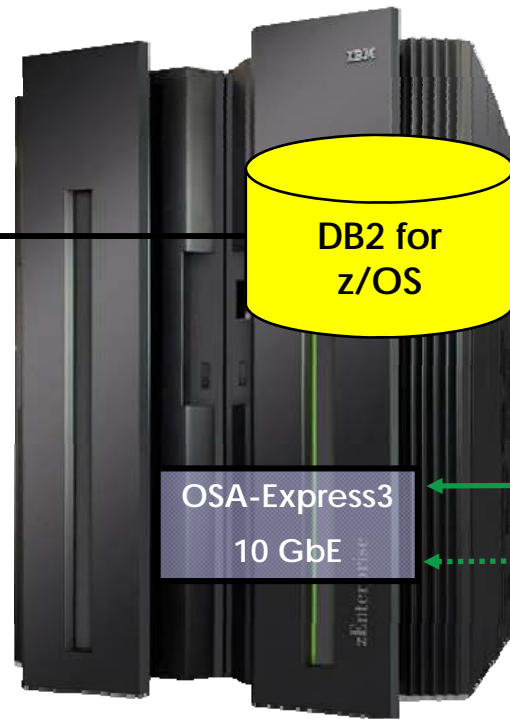
Federate data from different sources on different platforms, thus vastly enhancing the business user's reach to critical information

# Full support of the DB2 Analytics Accelerator

QMF Users &  
QMF BA solutions



zEnterprise



Netezza  
Technology



Network  
Primary

10Gb  
Backup

Note ; All QMF Enterprise Edition components include explicit support for DB2 Analytics Accelerator and prepare and execute queries that maximize the chance of their being offloaded to DB2 Analytics Accelerator, given that the data is available on the system.

Data Warehouse application  
DB2 for z/OS enabled for IBM  
DB2 Analytics Accelerator

IBM DB2 Analytics  
Accelerator

## The DB2 Analytics Accelerator

Accelerating decisions to the speed of business

*Blending System z and Netezza technologies to deliver unparalleled, mixed workload performance for complex analytic business needs.*



### Get more insight from your data

- ✓ Fast, predictable response times for “right-time” analysis
- ✓ Accelerate analytic query response times
- ✓ QMF provides a special register to enable/disable the use if needed
- ✓ Improve price/performance for analytic workloads
- ✓ Minimize the need to create data marts for performance
- ✓ Highly secure environment for sensitive data analysis
- ✓ Transparent to the application



## Query acceleration performance & savings

			DB2 Only		DB2 with IDAA		Times Faster
Query	Total Rows Reviewed	Total Rows Returned	Hours	Sec(s)	Hours	Sec(s)	
Query 1	2,813,571	853,320	2:39	9,540	0.0	5	1,908
Query 2	2,813,571	585,780	2:16	8,220	0.0	5	1,644
Query 3	8,260,214	274	1:16	4,560	0.0	6	760
Query 4	2,813,571	601,197	1:08	4,080	0.0	5	816
Query 5	3,422,765	508	0:57	4,080	0.0	70	58
Query 6	4,290,648	165	0:53	3,180	0.0	6	530
Query 7	361,521	58,236	0:51	3,120	0.0	4	780
Query 8	3,425.29	724	0:44	2,640	0.0	2	1,320
Query 9	4,130,107	137	0:42	2,520	0.1	193	13

- Queries run faster**
- Save CPU resources
  - People time
  - Business opportunities
  - Less delay for business analytics users

Customer results, October 2011

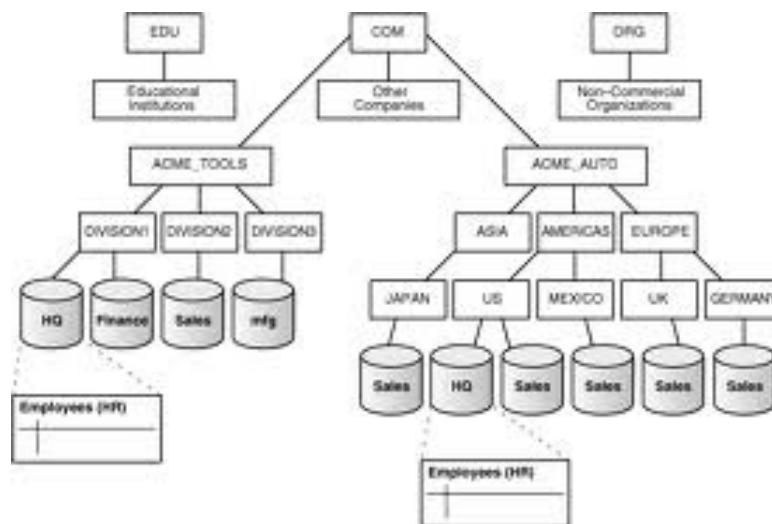
DB2 Analytics Accelerator: “we had this up and running in days with queries that ran over 1,000 times faster”

DB2 Analytics Accelerator: “we expect ROI in less than 4 months”

*Accelerating decisions to the speed of business*

## Operational Business Intelligence - IMS access with QMF

- ***Increase the value of your IMS investment***
  - JDBC Open Data Access to IMS in a managed environment
  - Users graphically construct ad-hoc IMS queries
  - Create reports and dashboards that draw directly from IMS data
  - Roll out web-based graphical content that blends IMS data with relational and multi-dimensional data sources
  - Incorporate IMS data within federated queries
  - QMF's JDBC workloads are zAAP eligible



## QMF – acquisition and cost factors

- QMF charges are based upon the DB2 for z/OS footprint. Thus, you have managed and predictable cost of acquisition
- Deployment is based upon an enterprise license model with no per-user cost or differences in user types
- Install and access data from any database and any server
- QMF is simple to install, maintain, and administer
  - ✓ Auto-deployed settings & centralized administration
  - ✓ Upgrading between versions requires zero migration
  - ✓ New versions work with existing content
  - ✓ New QMF customers are typically up and running within a couple of hours



## QMF Enterprise Edition 11 Summary

**QMF is a world-class, enterprise-wide business analytics suite**

**It has a new UI, data sources, deployment options, dashboard and predictive analytics capability**

**Administration and installation options have been greatly simplified as well as expanded to provide a wide range of possibilities**

**QMF continues to be a feature of DB2 for z/OS, but may be installed and deployed on any server in an enterprise at no additional cost**

**Sophisticated new functions have been added such as data federation, new metadata support, and a new analytics query style**

**QMF supports an ever expanding number of users and user types such as mobile devices (e.g. iPad and more)**

**QMF Analytics for TSO delivers unprecedented charting and analysis capabilities directly to the mainframe**

# Options to get the most out of QMF 11

**QMF 11 Trial Download is available for you to test-drive!**



**Visit...**

<https://www.ibm.com/services/forms/preLogin.do?source=swg-im-qmf>

**to start your QMF 11 trial today, and test drive the most exciting version of QMF to date!**

- QMF Best Practice - Empowering the Business User Part 1
- QMF Best Practice - Empowering the Business User Part 2
- QMF Best Practice - Creating a Dashboard
- QMF Best Practice - Quick, Easy Reporting
- QMF Best Practice - Automating Queries and Reports for the Enterprise
- QMF Best Practice - Text Analytics
- QMF Best Practice - Going Mobile
- QMF Best Practice - Ad hoc Reports
- QMF Best Practice - Dynamarts
- QMF Best Practice - Quick Reports
- QMF Best Practice - Scheduled Tasks
- QMF Best Practice - The Painless QMF Migration



**QMF Best Practice Videos are available to jumpstart customers with QMF 11 trials!**

**Just visit:**

<https://ibm.biz/BdDG3N>

# QMF 11 Trial Red Carpet program

Our QMF team is committed to making every QMF 11 trial a success for our customers!

To assist customers in making the most of their QMF 11 trials, we have a number of red-carpet services available, including:

- ✓ Short, on-demand QMF 11 capability videos, accessible here: <https://ibm.biz/BdDG3N>
- ✓ Optional subscription to receive weekly QMF 11 Tips and Tricks emails during their trial
- ✓ Complimentary, monthly enhancements webinars to learn how to leverage new QMF 11 capabilities
- ✓ A scheduled one-on-one session with a QMF expert to assist with installation, configuration and/or getting a jump-start with QMF functionality



## Collateral and Information

- *DB2 QMF family product pages:*  
<http://www.ibm.com/software/products/us/en/qmf>
- *Try QMF 11 Enterprise Edition free for 60 days*  
<https://www.ibm.com/services/forms/preLogin.do?source=swg-im-qmf>
- *QMF 11 Best Practices Videos*  
<https://ibm.biz/BdDG3N>
- *QMF Redbook*  
<http://www.redbooks.ibm.com/abstracts/sg248012.html>

