



IBM Software Group

IBM DataQuant for z/OS and Multiplatforms

<http://www-306.ibm.com/software/data/db2imstools/db2tools/dataquant/>

Product Overview

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IBM DataQuant – factors in its development

- Created to modernize the customer's QMF environment and extend their investment in QMF
- Separate from DB2 and available as a one-time charge product
- Comprehensive package taking the best of QMF and its workstation components
- Operate as a standalone BI tool but the ideal environment is in conjunction with QMF
- Was developed in Java on the Eclipse platform starting from scratch



Summary of capabilities

- Integrated infrastructure supporting a full spectrum of BI capabilities
 - ▶ Table data editing
 - ▶ Ad-hoc query
 - ▶ Graphical reporting
 - ▶ Interactive visual dashboards
 - ▶ ... and more
- Deployment models:
 - ▶ Workstation (rich client)
 - ▶ Browser-based (thin client) users
- Zero coding, drag-drop authoring model
 - ▶ Content authors quickly develop interactive dashboards and graphical page-based reports
 - ▶ Lines of business can refine or design their own reports and dashboards
- Powerful data analysis
 - ▶ Support for both OLAP and relational data sources
 - ▶ Includes over 100 built-in analytical functions



Product Editions

- IBM DataQuant for z/OS - 5697-N64
 - ▶ OTC offering, IPLA Licensing
 - ▶ Try & Buy available

- IBM DataQuant for Multiplatforms - 5724-R90
 - ▶ OTC offering, Passport Advantage Licensing
 - ▶ Try & Buy available

- Select the edition appropriate to the platform of the database servers that will be accessed – not where DataQuant itself will be installed



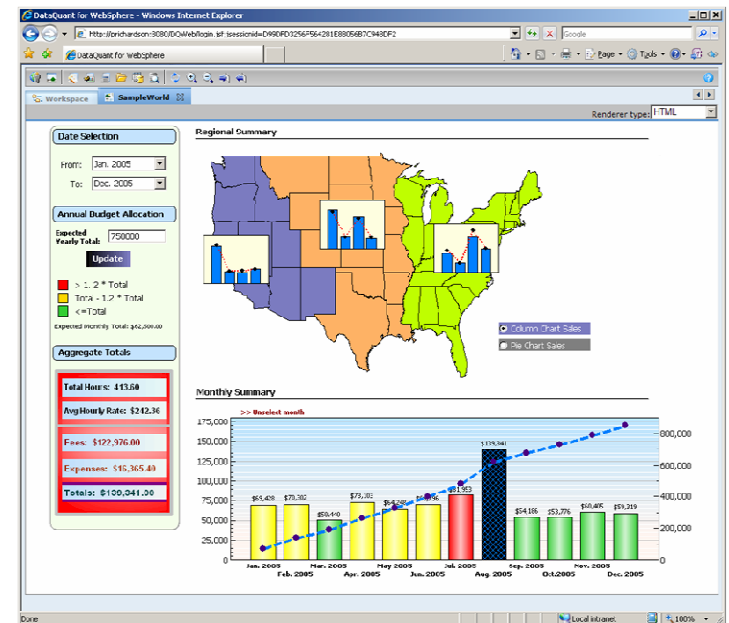
Product Components

- DataQuant for Workstation
 - ▶ Java-based, rich client application based upon the Eclipse platform
 - ▶ Provides a graphical environment for the development of query, report, dashboard and database visualization solutions
 - ▶ Supports multiple workstation environments: Windows, Linux and Solaris
- DataQuant for WebSphere
 - ▶ Provides a comprehensive runtime environment, capable of displaying all DataQuant content, under an HTML, 'thin client' model
 - ▶ Runs under IBM WebSphere Application Server (WAS) on all platforms supported by WAS, including Windows, Linux, Solaris, HP-UX, iSeries, zLinux and z/OS

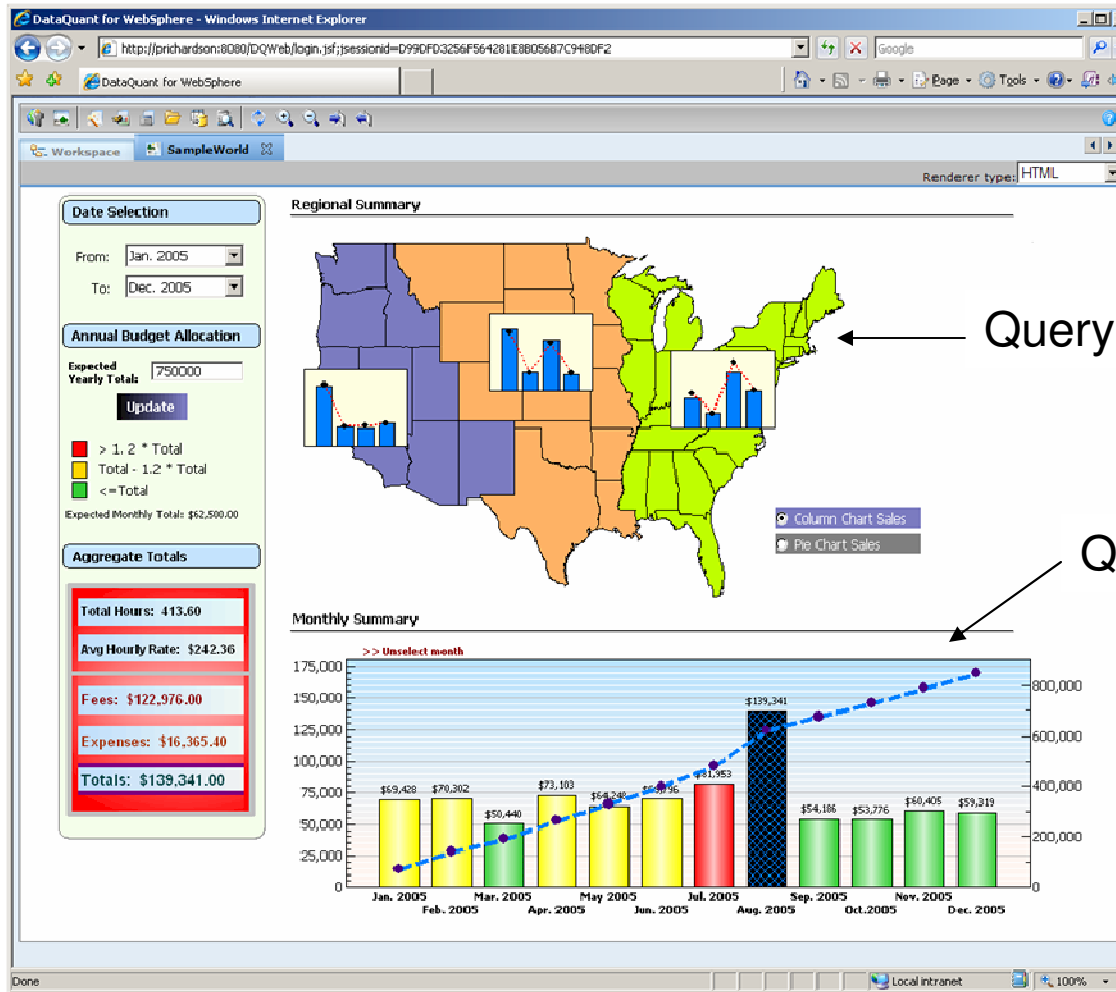


Visual Dashboards – BI for the enterprise

- Present data concurrently drawn data from multiple heterogeneous data sources
- Support for dynamic queries and optional data 'write-back'
- Rapid dashboard authoring environment
- Deploy dashboard solutions to both workstation and web browser users
- Embed dashboard content in 3rd party web pages, portals and web applications
- Support for OLAP and relational data



Visual Dashboards with QMF



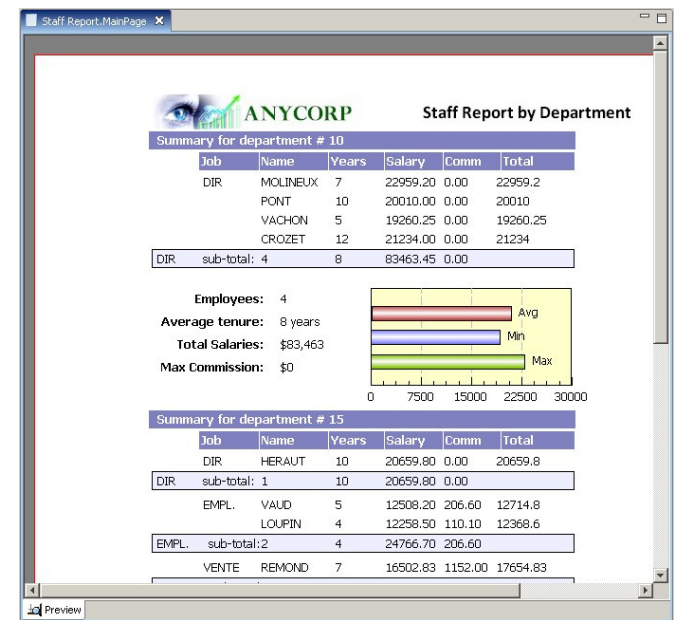
Query A results

Query B results



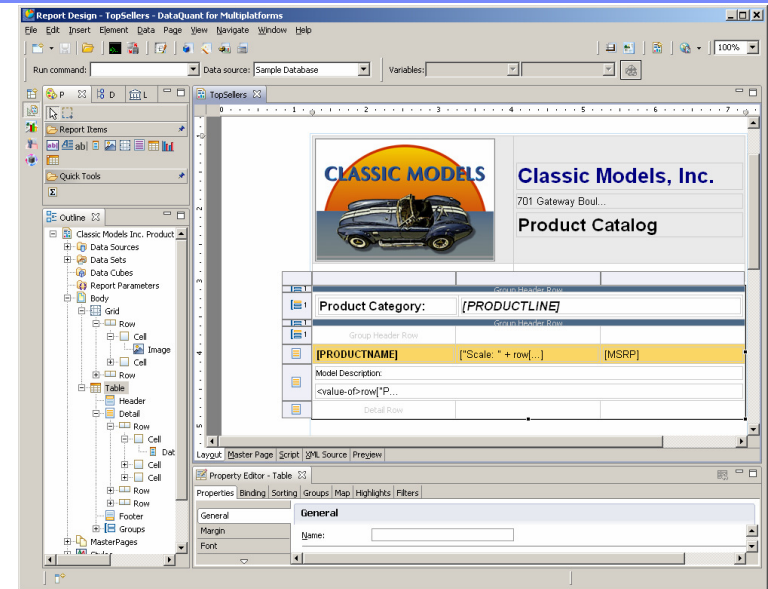
Page-based Reporting

- Generate HTML or PDF graphical reports, drawing data from one or more data sources
- Support for optional cover sheets, summary pages and report annexes
- Generate reports at designated intervals and make available to end users via the workstation, web or email
- Directly embed reports within portals, custom web sites or web applications
- Three reporting technologies:
 1. Simplified tabular report designer
 2. Graphical report designer
 3. BIRT-based report designer



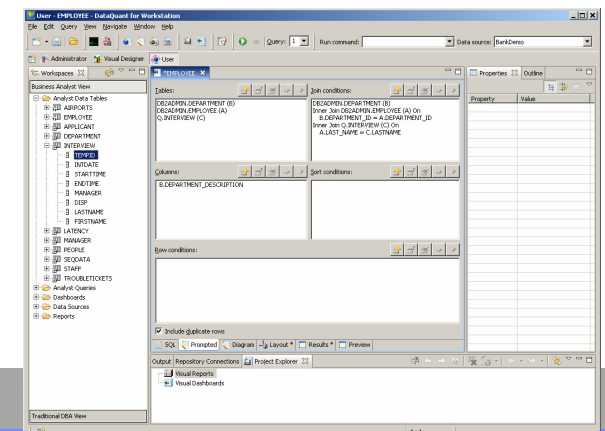
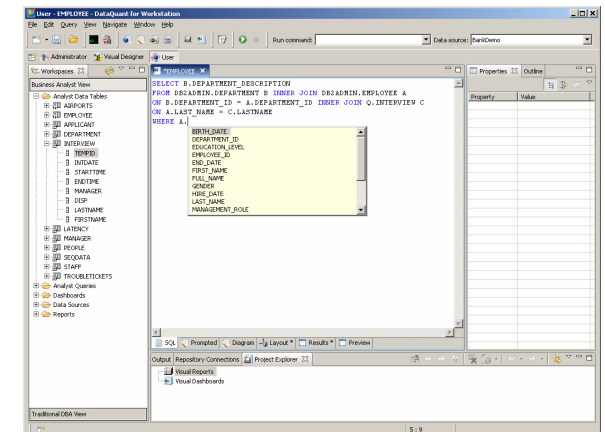
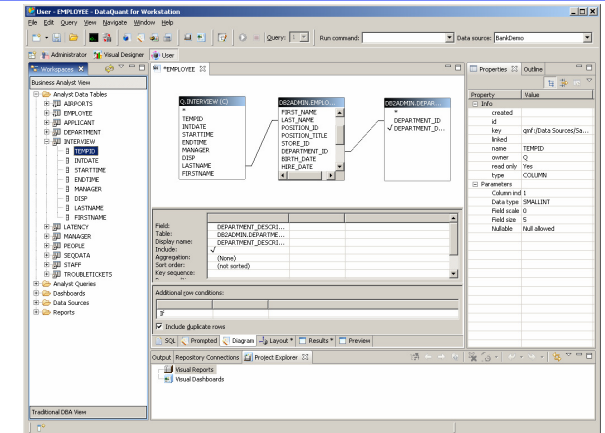
BIRT Reports

- Supports the increasingly popular BIRT reporting format
- Design format complements DataQuant's 'native' graphical and tabular report designers
- Import BIRT reports developed outside of DataQuant, as well as the ability to export DataQuant-developed reports for use in external BIRT-enabled applications
- BIRT reports are fully integrated into the DataQuant application:
 - ▶ Work with DataQuant queries and data sources
 - ▶ Subject to DataQuant's object tracking, security and resource governing
 - ▶ Stored in the DataQuant repository and accessible by both web and workstation users



Query Development Facilities

- Graphical development via 'query diagram' designer
- Step-by-step development via 'prompted query builder'
- SQL development via colorized editor with code assist, code completion and dynamic parameter hints
- Support for both relational queries (SQL) and OLAP queries using multi-dimensional expressions (MDX) query language
- Available in both the workstation and web-based environments

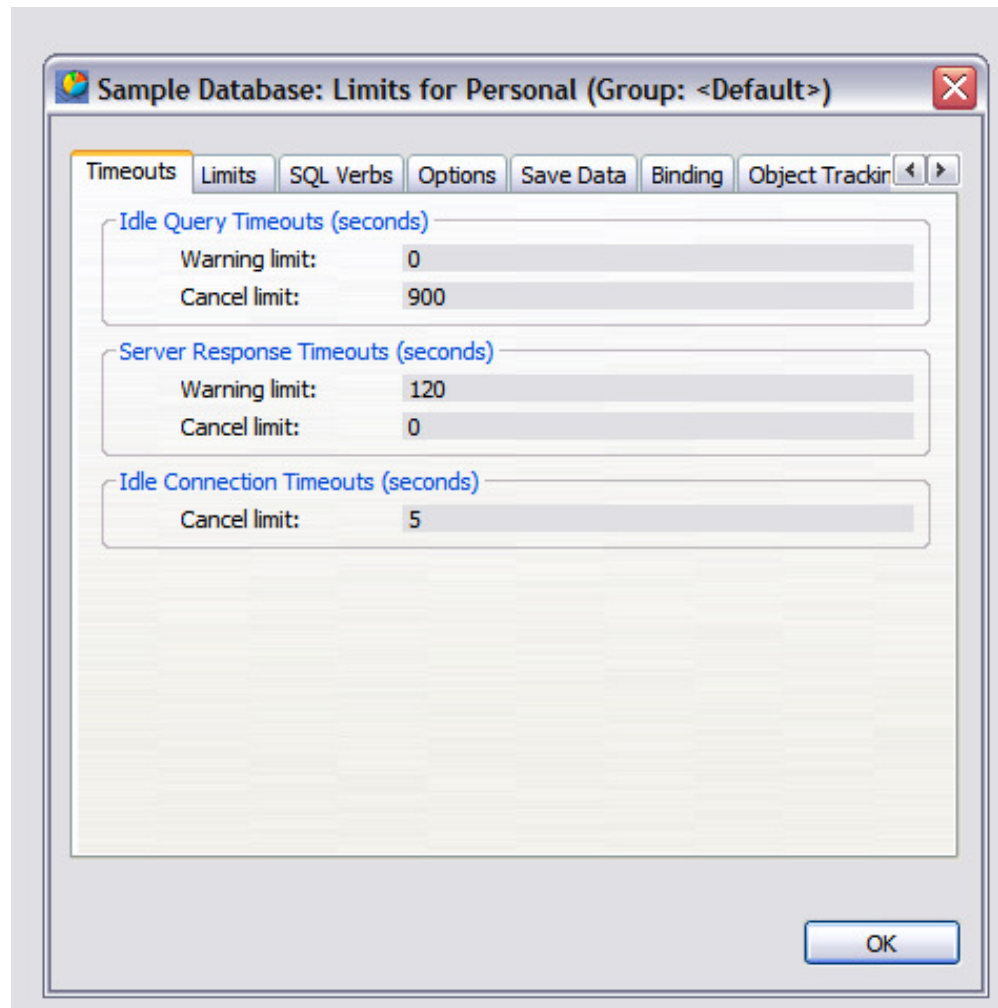


Application Security & Personalization

- Application-level security with support for single sign-on
 - ▶ Optionally interfaces with existing LDAP directories
 - ▶ Built-in 'internal security' model available for customers that do not operate LDAP-based directories
 - ▶ Optionally logs onto data sources using accounts mapped from LDAP/internal security directory
 - ▶ Ability to place permissions on all object types, from dashboard content to individual table columns
- Personalization
 - ▶ Tailors 'look and feel', including available reports, visualizations and data on a per user/group basis
 - ▶ Ability to store user and group-specific offline views of database objects
 - ▶ Ability to create an unlimited number of workspaces, each containing differing collections of data sources, reports and visual dashboards

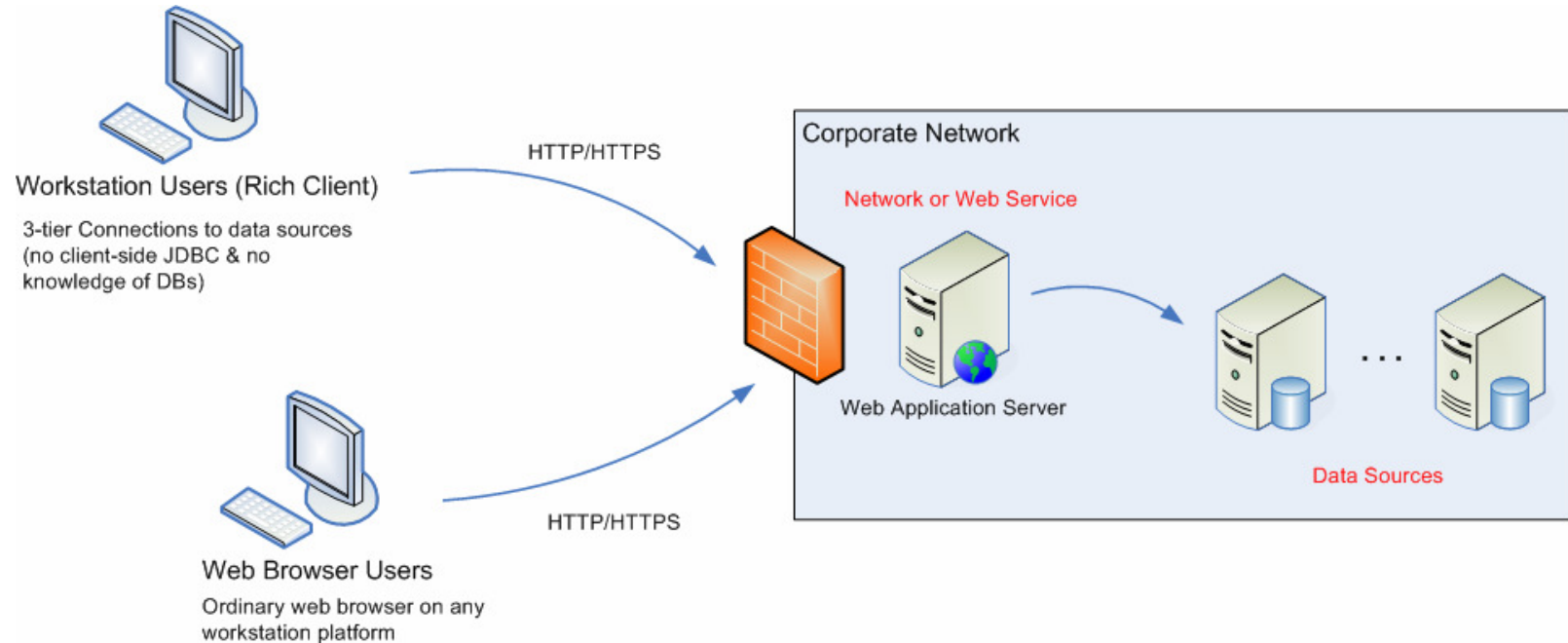


Systems Management and Administration



SOA and Web Services

- Permits organizations to share designated BI assets with business partners and/or customers
- Allows both web and workstation users to open, execute and retrieve data, reports and visualizations over a HTTP or HTTPS connection



Embedded Capabilities and APIs

- Dashboards and reports can be optionally embedded directly within portals, web sites or custom web applications

Dashboard or report embedded in external web page

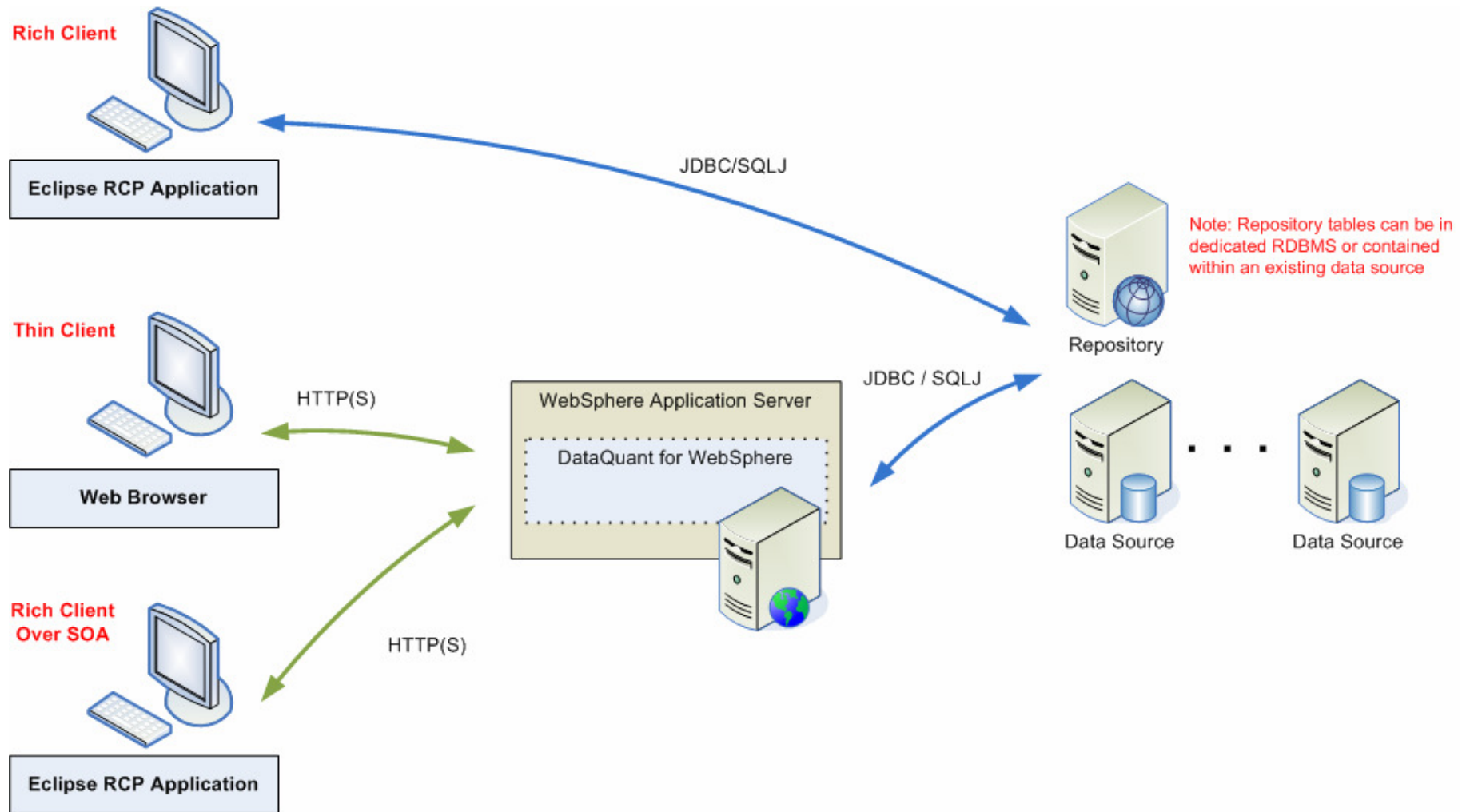


Existing web page content

- Additional customization via three API layers
 - ▶ Java APIs for tight integration with Java-based apps or web apps
 - ▶ Web Service APIs for integration over HTTP(S) connections
 - ▶ Command library APIs for external batch operations and scheduling



Operational Architecture



Backward Compatible with QMF Infrastructure

- Queries, forms and procedures remain object-compatible with prior QMF versions
- Retains full support for QMF Catalogs
 - ▶ Ability to create, run, edit and share QMF objects with QMF for TSO¹ and prior QMF distributed products
 - ▶ Optionally use resource limits defined in QMF catalogs
- Database explorer provides familiar look and feel for prior QMF users
- Built-in ability to import QMF Server Definitions Files (SDF) and QMF Visionary solutions
- Built-in ability to migrate visual reports into the new graphical format

¹Support limited to function availability on distributed platforms – not all z/OS or REXX functions are available



DataQuant and Cognos 8 BI positioning

■ DataQuant

- ▶ a BI 'tool' that has ease of use out of the box but all extensions must be created
- ▶ best suited to extending the QMF install base
- ▶ can interoperate with Cognos 8 to enhance System z Cognos accounts with their QMF investment

■ Cognos 8 BI

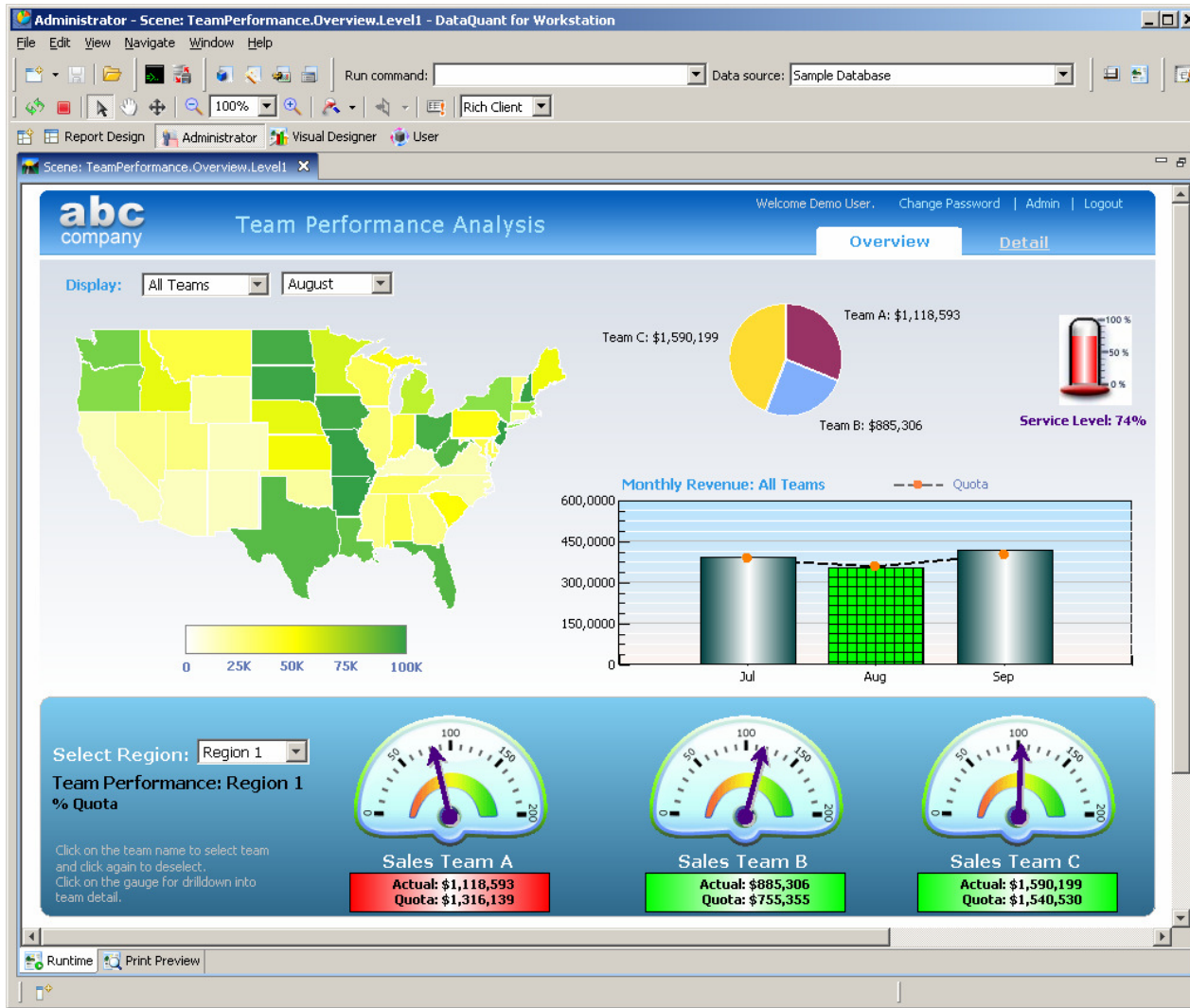
- ▶ our stated BI strategic product suite
- ▶ a BI 'platform' with integrated, extensible features and Performance Management capabilities
- ▶ has many years of known industry credibility and a large organization to back it up and assist
- ▶ extraordinary functional capabilities



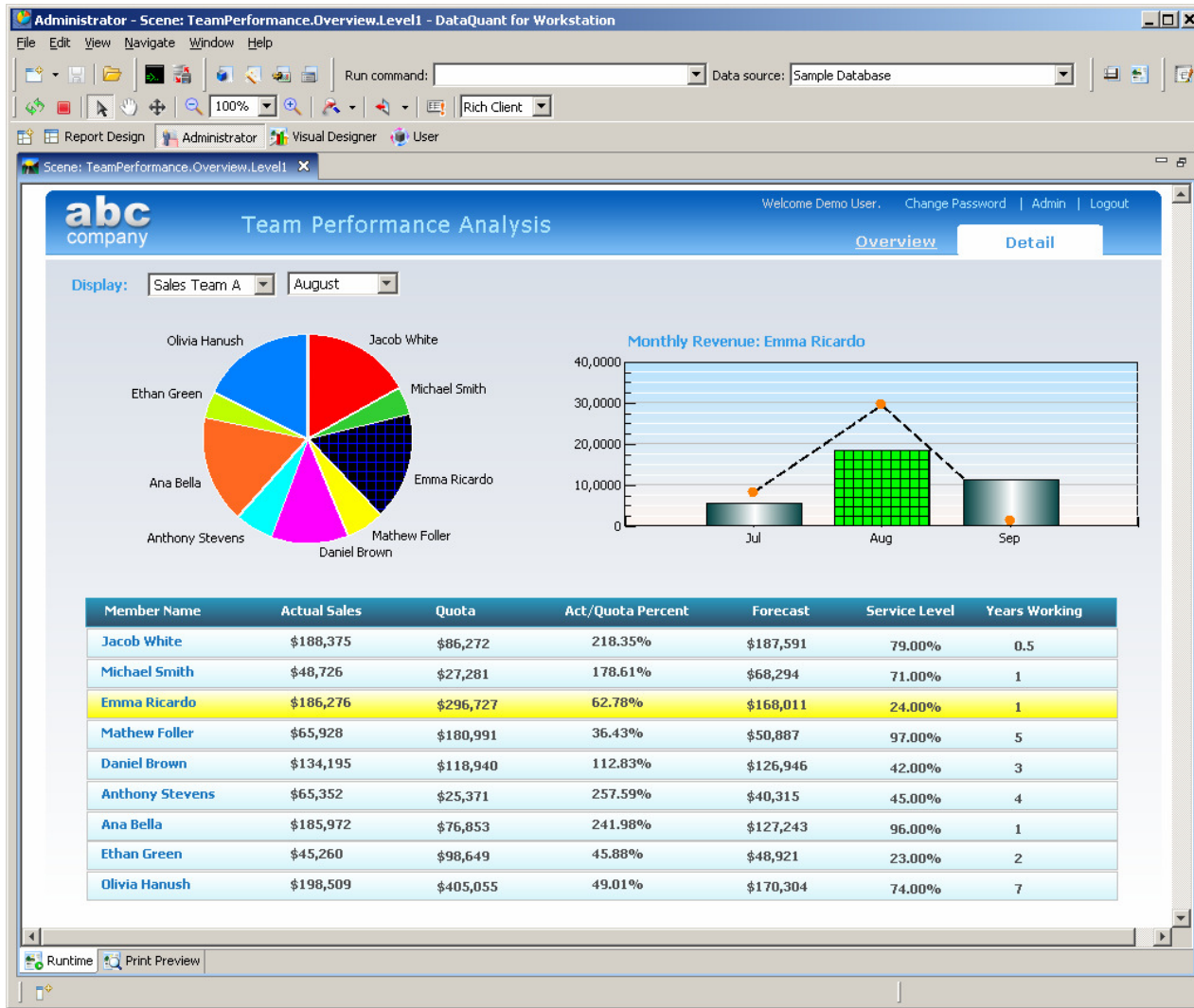
IBM DataQuant Examples



Visual Dashboards – DataQuant for Workstation



Visual Dashboards – DataQuant for Workstation



Enhanced Visual Reports – DataQuant for Workstation

ANYCORP Staff Report by Department

Summary for department # 10

Job	Name	Years	Salary	Comm	Total
MGR	MOLINARE	7	22959.20	0.00	22959.20
	LU	10	20010.00	0.00	20010.00
	DANIELS	5	19260.25	0.00	19260.25
	JONES	12	21234.00	0.00	21234.00
MGR sub-total:		4	8	83463.45	0.00

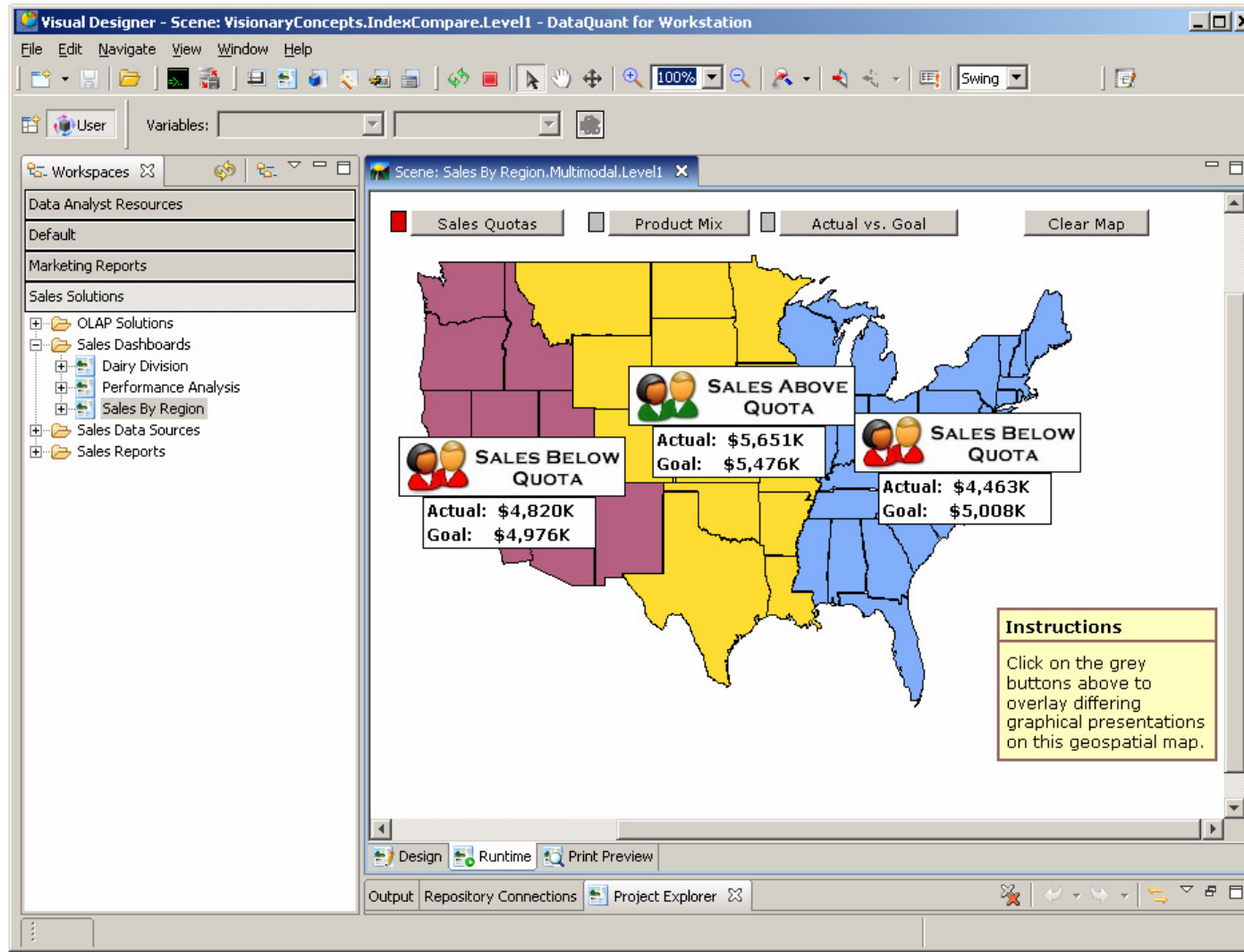
Employees: 4
 Average tenure: 8 years
 Total Salaries: \$83,463
 Max Commission: \$0

Summary for department # 15

Job	Name	Years	Salary	Comm	Total
CLERK	NGAN	5	12508.20	206.60	12714.80
	KERMISCH	4	12258.50	110.10	12368.60
CLERK sub-total:		2	4	24766.70	206.60
MGR	HANES	10	20659.80	0.00	20659.80
MGR sub-total:		1	10	20659.80	0.00
SALES	ROTHMAN	7	16502.83	1152.00	17654.83



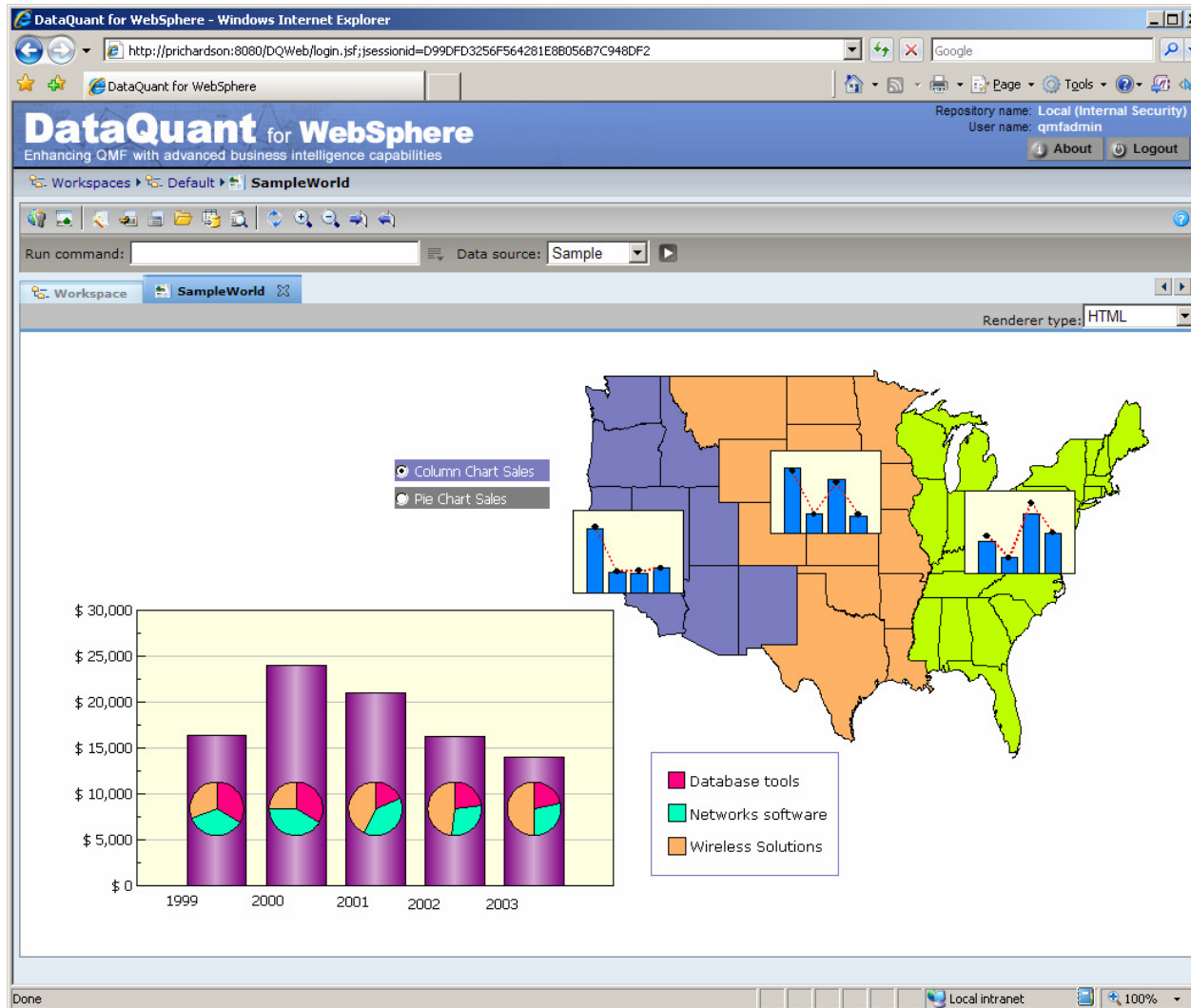
Visual Dashboards – DataQuant for Workstation



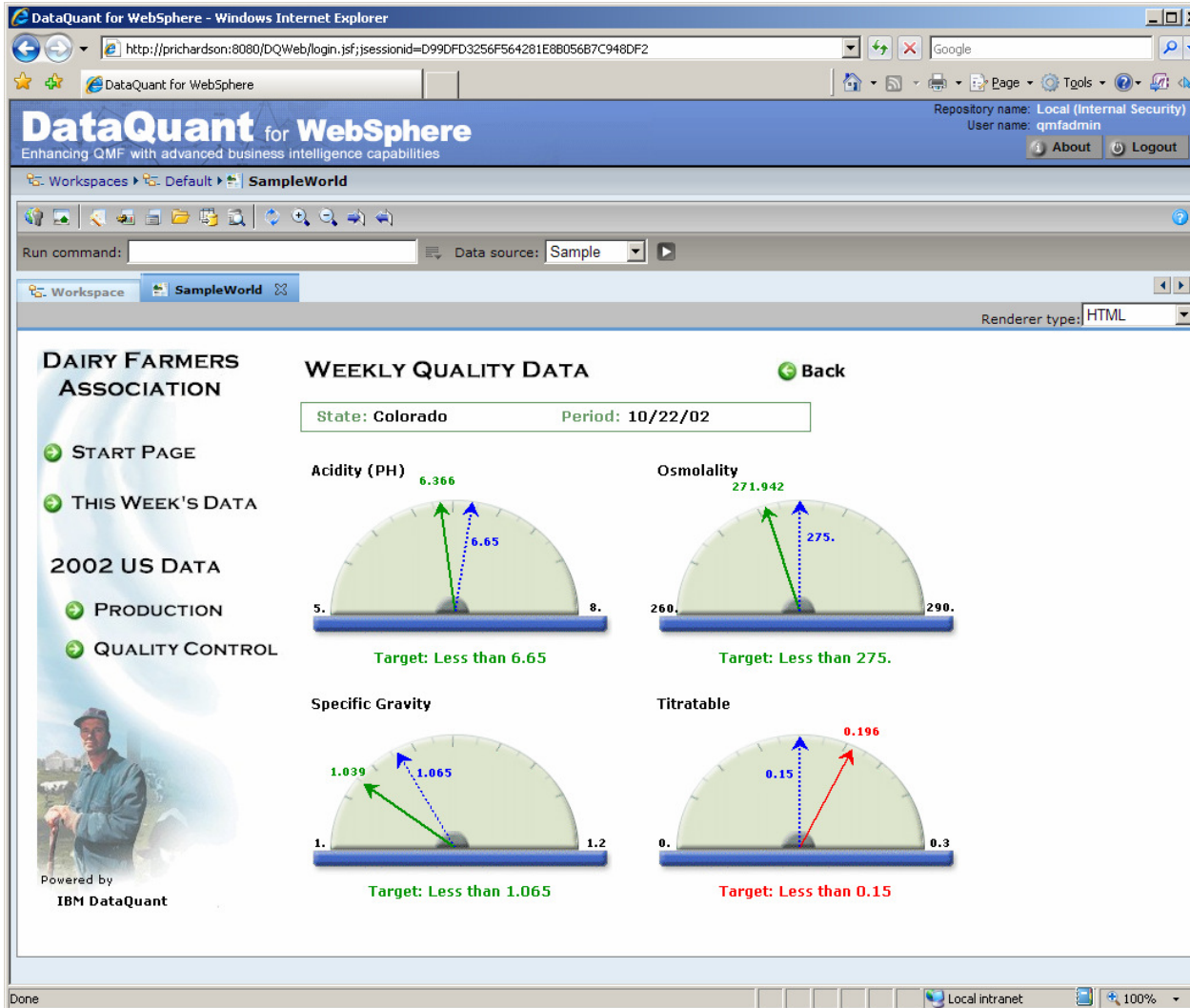
Visual dashboards - DataQuant for WebSphere



Visual Dashboards - DataQuant for WebSphere



Visual Dashboards - DataQuant for WebSphere



Query Development – DataQuant for Workstation

The screenshot displays the DataQuant for Workstation interface. The main window shows a query diagram with three tables: Q.APPLICANT (A), Q.INTERVIEW (B), and Q.STAFF (C). Arrows indicate relationships between these tables. Below the diagram is a table configuration grid.

Field:	Q.APPLICANT (A)	Q.INTERVIEW (B)	Q.INTERVIEW (B)	Q.INTERVIEW (B)	Q.INTERVIEW (B)
Table:	Q.APPLICANT (A)	Q.INTERVIEW (B)	Q.INTERVIEW (B)	Q.INTERVIEW (B)	Q.INTERVIEW (B)
Display name:	NAME	STARTTIME	ENDTIME	MANAGER	
Include:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Aggregation:	(None)	(None)	(None)	(None)	(None)
Sort order:	ascending	(not sorted)	ascending	ascending	(not sorted)
Key sequence:	3		1	2	
Row conditions:					
or:					

Additional row conditions:

Include duplicate rows

Buttons: SQL, Prompted, Diagram, Layout *, Results *, Preview

Output window is visible at the bottom.



Grouping & Aggregation - DataQuant for Workstation

The screenshot displays the DataQuant for Workstation interface. The main window shows a table with columns: DEPT, JOB, NAME, YEARS, SALARY, and Total. The data is grouped by DEPT (10, 15, 20, 38, 42) and aggregated by JOB. The 'Total' column shows the sum of salaries for each group.

1	2	3	4	5	6
DEPT	JOB	NAME	YEARS	SALARY	Total
1		MOLINARE	7	22959.20	22959.20
2		LU	10	20010.00	20010.00
3	10	MGR	5	19260.25	19260.25
4		JONES	12	21234.00	21234.00
5			4	20865.86	
6		All values for 10	4	20865.86	
7		NGAN	5	12508.20	12714.80
8		CLERK	4	12258.50	12368.60
9			2	12383.35	
10	15	MGR	1	10	20659.80
11		SALES	1	7	16502.83
12		All values for 15	4	26	15482.33
13		JAMES	6	13504.60	13632.80
14		CLERK	8	14252.75	14379.25
15		SNEIDER	2	14	13878.68
16	20	MGR	7	18357.50	18357.50
17			1	7	18357.50
18		SALES	8	18171.25	18783.70
19			1	8	18171.25
20		All values for 20	4	29	16071.53
21		NAUGHTON	12	12954.75	13134.75
22		CLERK	3	12009.75	12246.25
23			2	15	12482.25
24	38	MGR	5	17506.75	17506.75
25			1	5	17506.75
26		O'BRIEN	6	18006.00	18852.55
27		SALES	5	16808.30	17458.55
28		QUITGLEY	2	11	17407.15
29		All values for 38	5	31	15457.11
30		YAMAGUCHI	6	10505.90	10581.50
31	42	CLERK	11	11508.60	11592.80
32		SCOUTTEN	2	17	11007.25
33		MGR	7	18352.80	18352.80

The interface also includes a Repository Explorer on the left, a Users and Groups panel on the right, and a status bar at the bottom indicating "All 35 rows were fetched."



Report Development – DataQuant for Workstation

The screenshot displays the DataQuant for Workstation interface. The main window is titled "Administrator - REGION_F2 - DataQuant for Workstation". It features a menu bar (File, Edit, Form, View, Window, Help) and a toolbar. The interface is divided into several panes:

- Repository Explorer:** Shows a tree view of data sources and workspaces. The "Data Sources" section includes "Connection to TestSecurity" with various databases like BankDemo, CVSample, DairyFarmers, etc. The "Workspaces" section includes "Data Analyst Resources" and "Default" workspace with "Database" and "QMF Catalog" sub-items.
- Form structure:** A tree view showing the report's structure, including "Report", "Main", "Breaks", "Calculations", "Columns", "Conditions", "Details", "Final", "Options", and "Page".
- Main:** The central design area. It shows a table with columns: Num, Heading, Usage, Indent, Width, Edit, and Seq. The table contains 6 rows of data. Below the table, there are configuration options for page and break settings.

Num	Heading	Usage	Indent	Width	Edit	Seq
1	ORDERYEAR	BREAK1X	2	11	L	1
2	REGION	BREAK2X	2	20	C	2
3	STATE	BREAK3X	2	20	C	3
4	DIVISION	BREAK4X	2	22	C	4
5	ORDERMONTH		2	15	L	5
6	AMTK	SUM	2	13	D	6

Configuration options for the report:

 - Page: Heading text: Regional Report; Footing text: Confidential
 - Break1: New page for break; Footing text: &1 Total
 - Break2: New page for break; Footing text: &2 Total
 - Options: Outlining for break columns; Default break text (*)
- Users and Groups:** A pane on the right showing a list of users and groups, including "analyst", "marketing", "admin", "sales", "administrators", "Analysts", "Marketing", and "Sales".
- Report Design:** A tab at the bottom for editing the report's layout.
- Output:** A pane at the bottom for viewing the generated report output.



Dashboard Authoring – DataQuant for Workstation

The screenshot displays the DataQuant for Workstation software interface. The main window is titled "Administrator - Scene: VisualDashboard1.Scene1.Level1 - DataQuant for Workstation". The interface includes a menu bar (File, Edit, Draw, Insert, Navigate, View, Window, Help), a toolbar, and several panels:

- Workspaces:** Contains "Data Analyst Resources" with categories like Default, Marketing Reports, and Sales Solutions.
- Project Explorer:** Shows a tree view of "Visual Dashboards" including "GS1 Sales" and "Visual Reports".
- Tool Palettes:** Includes "Primitives", "Controls", "Data Symbols", "Layouts", "Portals", "Connectors", and "Custom".
- Main Canvas:** Displays a chart titled "MultiVariateChart - MultiVariateChart Tool". The chart has a grid and a red crosshair. A text label "{ ">>> GS1 Sales Summary" is visible on the chart.
- Properties Panel:** Located on the right, it shows a table with "Property" and "Value" columns. The "Info" section includes fields like "created", "id", "key", "linked", "name", "owner", "read on", "type", and "Last upc".



Summary

- DataQuant was primarily created to modernize the customer's QMF environment and extend their investment in QMF
- A one-time charge, server-based, thin and rich client deployment option all shipped as an integrated package
- It is not intended to conflict with Cognos 8 or vice versa
- A comprehensive package taking the best of QMF and its workstation components
- Operate as a standalone BI tool but the ideal environment is in conjunction with QMF

