InQuira 6 Analytics Guide

Configuring and Using InQuira 6 Analytics
Version 6.2

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Contents

Preface

About This Guide

This guide provides information about the InQuira 6 InQuira 6 Analytics application.

This guide is intended for application developers who want to configure, deploy and maintain InQuira 6 Analytics, and for business analysts who want to use InQuira 6 Analytics to report on an InQuira 6 application.

See ***InQuira 6 Documentation*** on page ix for a complete description of the InQuira 6 product documentation.

This preface includes information on:

- the general organization of this guide
- the support services available from InQuira Customer Support
- the available product documentation and its conventions

What This Guide Contains

The InQuira 6 Analytics Guide is divided into the following sections:

- ***Introduction to InQuira Analytics*** see "Introduction to InQuira 6 Analytics" on page 1 describes the InQuira 6 Analytics business intelligence application; its architecture, types of standard reports, and general report features
- ***Configuring Report Data*** on page 15 describes how to configure navigation to InQuira 6 Analytics detail data, how to create the detail report structures, how to load InQuira 6 log data into the InQuira 6 Analytics databases, and how to generate the reporting cubes and standard reports
- ***Dimensions and Measures*** on page 19 describes the pre-defined and application-specific categories of business items that you can report on and the measurements used to within the standard reports

- ***Configuring Application-Specific Dimensions*** on page 27 describes how to configure InQuira 6 Analytics to report on the objects and actions of interest to your business environment
- ***Standard Reports*** on page 31 describes the dimensions and measures of each of the InQuira 6 Analytics standard reports in detail, and provides examples of the formatted reports
- ***Using Analytics*** on page 59 provides information on using the InQuira 6 Analytics user interface to view and manipulate report data

Contacting InQuira

You can contact InQuira by mail, telephone, fax, and email.

Mail:	851 Traeger Ave Suite 125 San Bruno, CA 94066
Telephone:	(650) 246-5000
	InQuira Customer Support Hotline: (888) 947-8324
Fax:	(650) 246-5036
Email:	For sales information, send email to **sales@inquira.com**. For product support, send email to **support@inquira.com**.

You can find out more about InQuira on the web at: **www.inquira.com**.

Note: See ***InQuira Customer Support*** on page viii for more information on reporting incidents to InQuira Customer Support.

InQuira Customer Support

InQuira Customer Support is available from 6:30 am to 4:30 pm PST, excluding InQuira holidays.

You can contact InQuira Customer Support by email at: **support@inquira.com**. We recommend that you use email to report all Priority 2, 3, and 4 incidents.

For Priority 1 incidents, please use the support hotline: (888) 947-8324.

Important: We accept Priority 1 requests only by telephone. We recommend that you send a follow-up email for Priority 1 requests after contacting InQuira Customer Support using the support hotline.

Call response times are determined by the following priority definitions:

Priority Level	Response Time	Definition
1	1 business hour	A production system hangs or crashes, or continued use of the program is impossible.
2	8 business hours	The product is usable with major restrictions on functionality.
3	16 business hours	The product is usable with minor restrictions on functionality.
4	3 business days	You have a question or an enhancement request pertaining to the software or the documentation.

InQuira 6 Documentation

InQuira 6 is shipped with the following documentation set. Each document in the set contains a specific type of information to help you use the product.

Document	Number	Description
InQuira 6 Installation Guide	IQ62-IG-07	This guide is intended for technical staff who are responsible for installing InQuira 6. It provides detailed information on installing and configuring InQuira 6 products and components.
InQuira 6 Application Guide	IQ62-ADG-07	This guide is intended for application developers who need to develop and deploy an InQuira 6 application. It describes InQuira 6 integration, development, configuration, and maintenance.
InQuira 6 Language Guide	IQ62-LDG-07	This guide is intended for application developers and subject matter experts who need to create, implement, and maintain aspects of the InQuira 6 Dictionary. It provides an overview of the Dictionary components, and describes customization, maintenance, and administration tasks and the tools, processes, and procedures required to perform them.

InQuira 6 User Interface Guide	IQ62-UIG-07	This guide is intended for application developers who want to integrate and customize the InQuira 6 Dynamic Portal User Interface. It contains information about the elements and features of the User Interface, and provides guidelines for integrating it into your web architecture, customizing its appearance and functionality, and implementing various special features.
InQuira 6 Analytics Guide	IQ62-AG-07	This guide is intended for application developers who want to configure, deploy, and maintain InQuira 6 Analytics, and for business analysts who want to use InQuira 6 Analytics to report on InQuira 6 performance.

Documentation Delivery

InQuira 6 documentation is distributed with the software release as a set of Portable Document Format (PDF) files. InQuira documentation is available only to licensed users of our software products and may not be redistributed in any form without express permission from InQuira, Inc.

Note: You need the Adobe Acrobat reader to view PDF documents. The Adobe Acrobat reader is available from Adobe Systems at: **http://www.adobe.com**.

If you encounter a problem, need help using the documentation, or want to report an error in the content, please contact InQuira Customer Support, as described in ***InQuira Customer Support*** on page viii.

If you need help obtaining InQuira product documentation, or want to obtain permission to redistribute a portion of the contents, contact your InQuira account representative.

Documentation Conventions

We use the following typographical conventions in our documentation:

Convention	*Definition*
`monospace`	We use monospace font to denote code examples, path and file names, parameter values, and system messages and prompts.

italics	Italics indicate terms contained in the glossary and citations of other published sources. Strings of italicized text within file names or parameters indicate variable text that you must replace with an appropriate string, or that the system will replace with product- or installation-specific values. Product directories may use italicized *n* characters as variables to denote current product version numbers.
<value>	Indicates a symbolic for which you must specify an appropriate value. For example, `<section>` indicates a specified section of the answer display page.
%	Indicates the Unix command-shell prompt without root privilege.
C:	Indicates the Microsoft Windows command prompt or file system.
[item]	Indicates an optional item within a syntax description.
{item}	Indicates a required item within a syntax description, only when necessary for clarity. Otherwise, required items appear without braces.
|	Separates choices in lists of optional and required items within syntax descriptions. For example, `[item1|item2]` or `{item1|item2}`.
$TERM or **${TERM}**	Indicates a variable (within Unix-type environments) for which you specify an appropriate value. For example, $ROOT indicates the root directory of the installed product. Variables are sometimes enclosed in curved braces when necessary for clarity. In some instances, variables are set by and/or resolved by the system with no user intervention required.
%TERM%	Indicates a variable (within Microsoft Windows environments) for which you specify an appropriate value.

Screen and Text Representations

The depictions of product screens, screen text, and file contents in our documentation are representations. We attempt to accurately convey the product's appearance and functionality; however, actual product contents and displays may differ from the published examples.

World Wide Web Resources

We provide Uniform Resource Locators (URLs) for various relevant Web resources for your convenience. We attempt to provide accurate information; however, these resources are controlled by their respective owners, and are therefore subject to change at any time.

Chapter 1

Introduction to InQuira 6 Analytics

InQuira 6 Analytics is a business intelligence application designed specifically to provide insight into InQuira 6 application performance.

You can use InQuira 6 Analytics to:

- understand user behavior, such as why users visit your site, and what they try to achieve
- assess the quality of application responses and whether users are finding the information they need
- determine whether important information is missing from your application content
- assess application performance, such as system response time and accuracy

Important: InQuira 6 Analytics requires an installed and configured InQuira 6 application and installed and configured supplementary software as described in the *Installation Guide*.

InQuira 6 Analytics Overview

InQuira 6 Analytics processes InQuira 6 application data to populate reporting and analytics databases, and uses that data to generate a set of standard reports.

The standard reports include data dimensions, such as products, business units, and types of end-user questions, that are tailored to your specific business environment.

You define the dimensions, such as products and question types, that you want to report on using the InQuira 6 Analytics Administration tool, as described in ***Defining Analytics Hierarchies*** on page 28.

You view reports using the web-based InQuira 6 Analytics user interface. The user interface supports a complete range of options to display, manipulate, filter, print, and export reports, as described in ***Using Analytics*** on page 59.

Important: See the *InQuira 6 Installation Guide* for information on InQuira 6 Analytics pre-requisites, including supplementary software.

InQuira 6 Analytics Architecture

InQuira 6 Analytics imports data from InQuira 6 application log files. It then populates both the reporting and analytics databases and creates a set of standard reports using the following components:

Normalized reporting database

The reporting database stores data extracted from the InQuira 6 logs, and makes it available to the analytics database. Due to some of the huge volumes we are dealing with (at Yahoo in particular) it looks like we will have to treat the ODS database purely as a staging environment. We will be purging this data periodically, so we should talk about ODS in this manner as opposed to a transactional database that can be regularly accessed.

Star-schema analytics database

The analytics database uses a de-normalized star schema that is optimized for creating reports

OLAP engine

InQuira 6 Analytics employs an OLAP engine optimized for rapid information retrieval and fast, flexible data calculation and transformation.

Report Cubes and Standard Reports

Report cubes are the data structures that support the standard reports. The three-dimensional (cube) structure is optimized for historical analysis and provides rapid and flexible display of different views of the data within the standard report formats.

Web-based user interface

The InQuira 6 Analytics user interface is a powerful business intelligence tool that displays easily readible standard reports and provides a complete set of tools for slicing and dicing, sorting, formatting, and exporting and printing reports.

InQuira 6 Analytics Third-Party Components

InQuira 6 Analytics uses an underlying third-party product, Cognos Series 7, to aggregate and present InQuira 6 application data. The Cognos Series 7 components, as well as additional required supplemental software, are installed and configured as part of the recommended installation process described in *Installation Guide*.

Note: No special knowledge of the Cognos products is required to install or operate InQuira 6 Analytics.

Refer to the *Installation Guide* for more information on the Cognos Series 7 components used within InQuira 6 Analytics.

Report Types

InQuira 6 Analytics provides a full range of standard reports to support business intelligence activities. These reports are organized into the following categories:

Customer Insight

Customer Insight reports provide information about the content of user requests that helps you to determine:

- which products and services users are asking about
- what types of questions users are asking
- which concepts are occurring in user requests
- which questions are occurring most frequently

See ***Customer Insight Reports*** on page 31 for more information about the individual reports in this category.

Content Diagnostics

Content Diagnostic reports provide information about how well the application is responding to requests, and how well the application content is meeting user's needs. You can use this information to identify:

- important words (from questions and/or content) that the application does not recognize
- important concepts and questions that the application is not processing effectively
- which documents and managed responses are the most popular
- which locations on your site generate the most questions

See ***Content Diagnostic Reports*** on page 40 for more information about the individual reports in this category.

System Metrics

System Metrics reports provide detailed information on system usage, performance and overall accuracy.

See ***System Metrics*** on page 51 for more information about the individual reports in this category.

Report Features

The InQuira 6 Analytics user interface provides access to the standard set of customer insight, content diagnostics, system metrics, and user experieince reports. The standard reports are packaged with default display parameters designed to provide a generally useful level of information. Additional user interface functions provide the ability to:

- change the graphical format of the display, as described in ***Report Display Formats*** on page 4
- drill up, down, and through, nest columns, and filter reports based on all dimensional levels, including individual users, questions, and sessions, as described in ***Varying Dimensions within Reports*** on page 63
- sort column data, as described in ***Sorting Report Columns*** on page 65
- display automatic or custom highlighting exceptions (values above or below a defined range), as described in ***Highlighting Exception Data*** on page 66
- export report data to third-party reporting and analytics packages, and print reports, as described in ***Exporting Report Data*** on page 68

Report Display Formats

The InQuira 6 Analytics user interface displays each report in a default display format. You can use the display format icons to change the display format for any report. The available report formats are:

Tables

You can display tabular data in:

- standard (crosstab) format
- indented tabular format, which displays categories from different levels in the rows area, laid out vertically, with indentation

Bar Graphs

You can display bar graphs as:

- simple bars
- clustered bars, which group related information, compare summaries, and compare categories
- stacked bars, which show relative proportions of parts to the whole, and relationships between the parts

Pie Charts

You can display pie charts to show relationships between the whole and its constituent parts.

Line Graphs

You can display line graph data in:

- single line format, which shows change over a specific time period, contrasts two or more variables, or reveals trends and irregularities in a line format
- multiline format, which plots trends and cycles to show relationships and time series analysis between variables

Chapter 2

Configuring Navigation and Data Structures for Detail Reports

Removing the Cognos Banner from the InQuira 6 Analytics User Interface

You can remove the Cognos logo graphic from the web-based InQuira 6 Analytics interface.

To remove the Cognos logo:

- open the Cognos Server Administration

The Cognos Server Administration interface displays.

- select OLAP Cubes and Reports
- select the Properties Icon, indicated by the pointing finger located in the center of the toolbar
- select the Cube Settings tab
- expand the Dimension Area Tab
- disable the Report banner
- select the Options tab
- disable HTML Encode User Specified Title
- select the Display tab
- set "Type" to generic

You can use the Cognos Server Administration interface to enable navigation to detail information.

The Cognos Server Administration Interface

The Cognos Server Administration Interface is automatically installed with the InQuira 6 Analytics application as part of the underlying Cognos Series 7 product. You use the interface to configure some presentation, navigation, and data structures for the InQuira 6 Analytics application.

Starting the Cognos Server Administration Interface

You can start the Cognos Server Administration Interface from:

- the Start menu in Windows environments
- the ? in Solaris environments

To start the Cognos Server Administration Interface in Windows environments:

- select Start on the Windows task bar, and navigate to Programs / Cognos Series 7 /

Enabling Drill-Through Navigation

To enable navigation to detail information within the standard reports, you must configure the InQuira 6 Analytics application using the Cognos Server Administration Interface.

To enable drill-through navigation:

- start the Cognos Server Administration interface
- select the drill through folder from the Cubes Settings tab
- enable Impromptu Web Reports
- set Impromptu Web Reports drill through new to:

```
//Analytics 6.1 Cubes and Reports/Reports
```

- set Impromptu Web Reports server to:

```
http://<hostname>/inquira/cgi-bin/imrap.cgi
```

Updating the User Catalog for the Application

You must update the user catalog InQuira 6 Analytics using the Cognos Server Administration Interface.

Before configuring the user catalog, ensure that:

- the TNS entry is correct if you are using an Oracle database
- the ODBC connection is correct if you are using a Microsoft SQL Server database

Ensure the TNS Entry (Oracle)

If you are using an Oracle database for the InQuira 6 Analytics data source, ensure that there is a TNS entry in the tnsnames.ora file similar to:

```
IA61.INQUIRA.COM = (DESCRIPTION = (ADDRESS_LIST = (ADDRESS =
(PROTOCOL = TCP)(HOST = 10.0.10.237)(PORT = 1521))
)
(CONNECT_DATA = (SERVICE_NAME = qa9i))
```

Important: The highest level qualifier must be set to the value IA61. If this value is not configured, the web-based reports and the transformer (what is the transformer doing here?) will not be able to connect to the database.

Ensure the ODBC Connection (SQL Server)

If you are using an MSSQL Server 2000 database for the InQuira 6 Analytics data source, ensure that there is an ODBC connection specifying the following connection parameters:

```
IA61.INQUIRA.COM = (DESCRIPTION = (ADDRESS_LIST = (ADDRESS =
(PROTOCOL = TCP)(HOST = 10.0.10.237)(PORT = 1521))
)
(CONNECT_DATA = (SERVICE_NAME = qa9i))
```

Important: The highest level qualifier must be set to the value IA61. If this value is not configured, the web-based reports and the Transformer component (what is the transformer doing here?) will not be able to connect to the database.

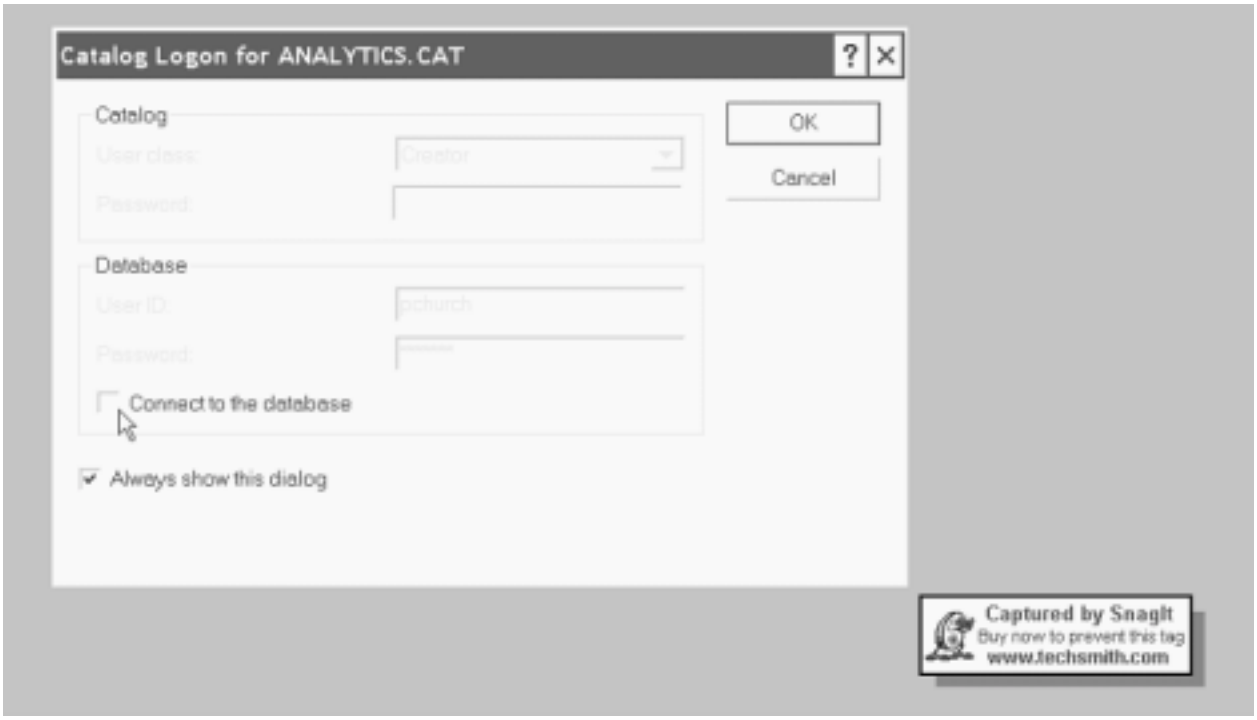
Open the User Catalog

To open the user catalog:

- open the Cognos Impromptu application
- open the catalog file (`analytics.cat`) in the Impromptu application. The default location is:

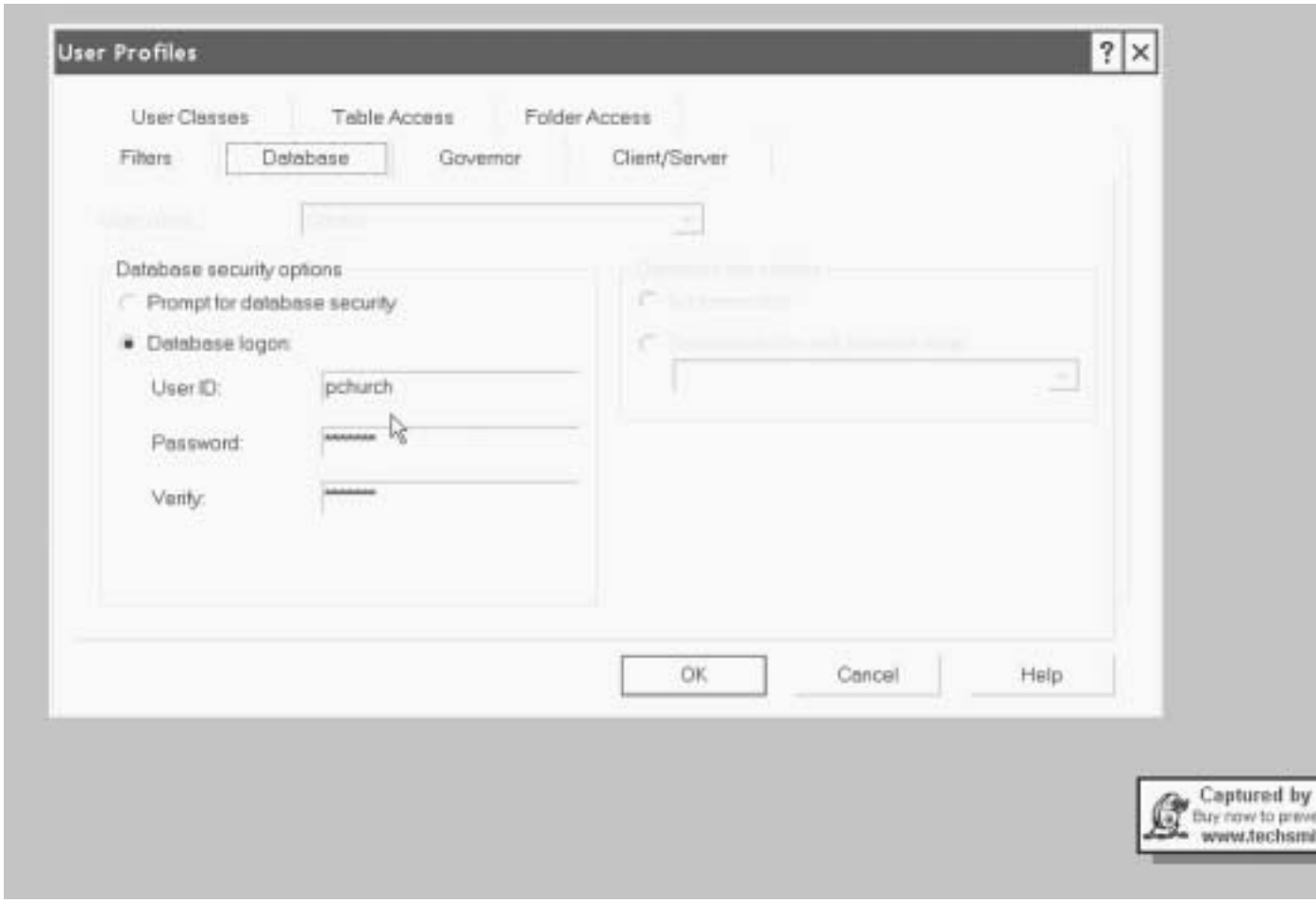
```
C:\Program Files\InQuira Analytics 6.1\Analytics61\Reports
```

When you open the catalog it will ask you to log into Impromptu. Don't log in but uncheck the connect to database checkbox. Then click OK.



Add the Database to the Catalog User Profile

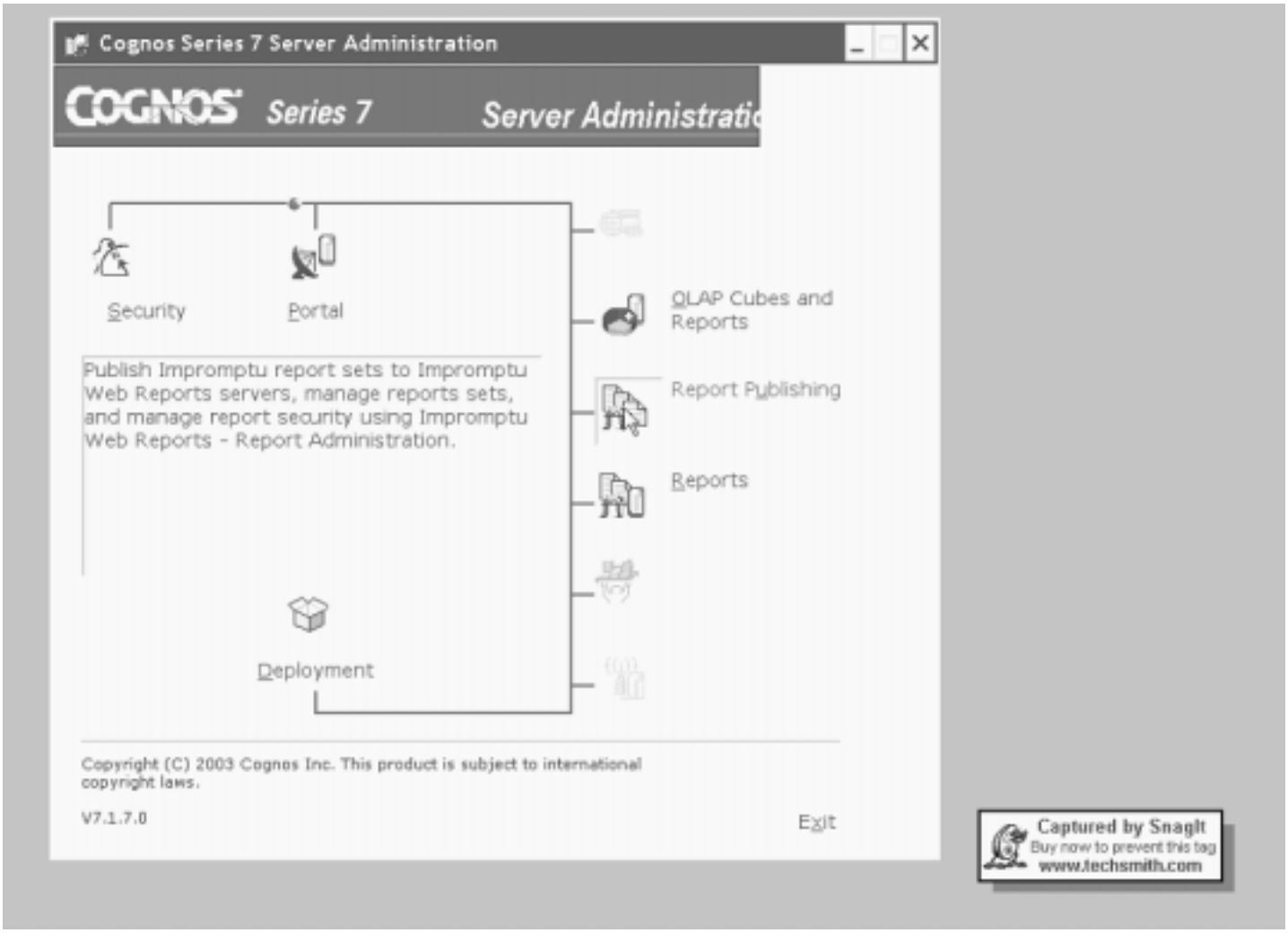
Once there click on the database tab and type in the database logon/password.



After typing in the username and password close the catalog. The catalog is now updated.

Publish Impromptu Reports

Open the Cognos server Administration and go to Report publishing

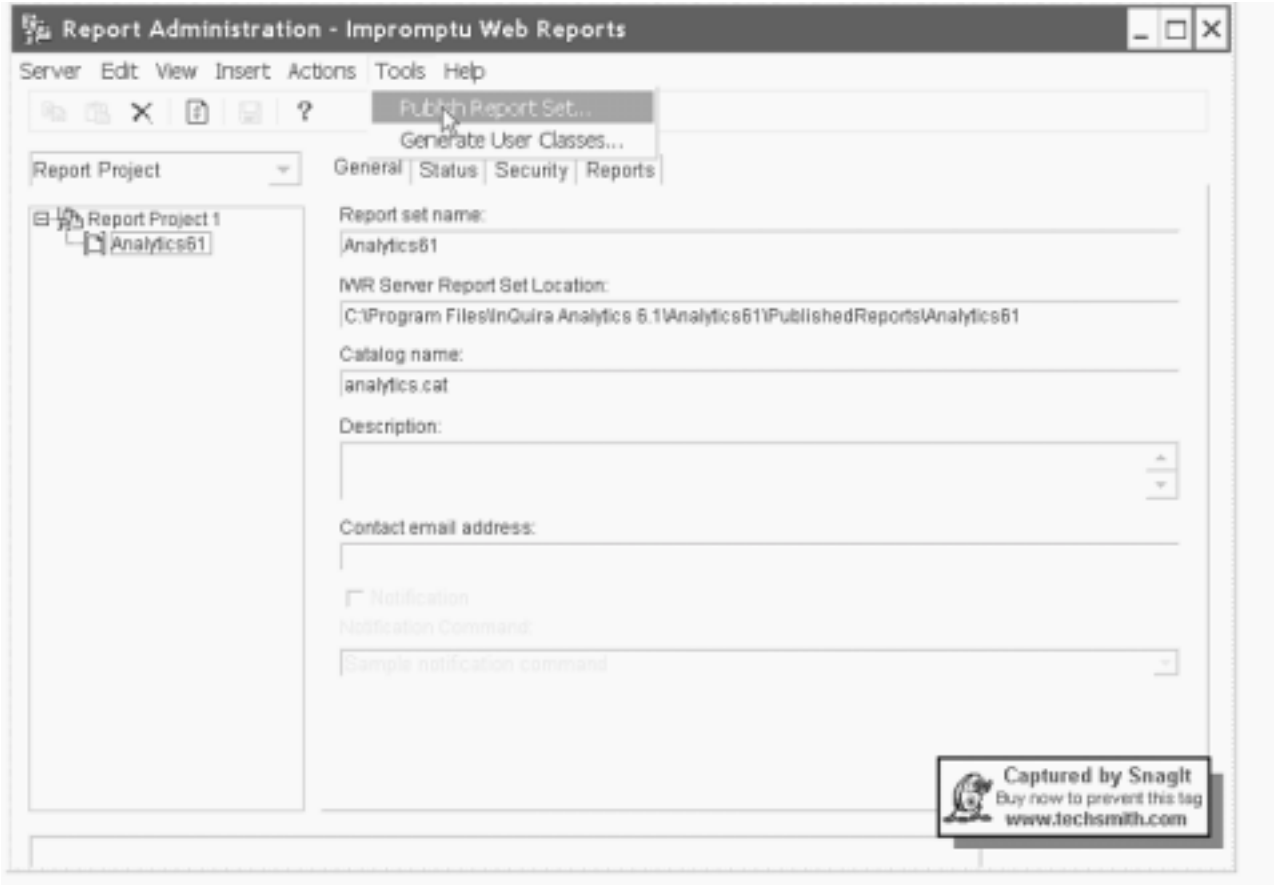


When prompted for username password enter administrator with no password.

If there is an existing report project called Analytics61 then delete that first.

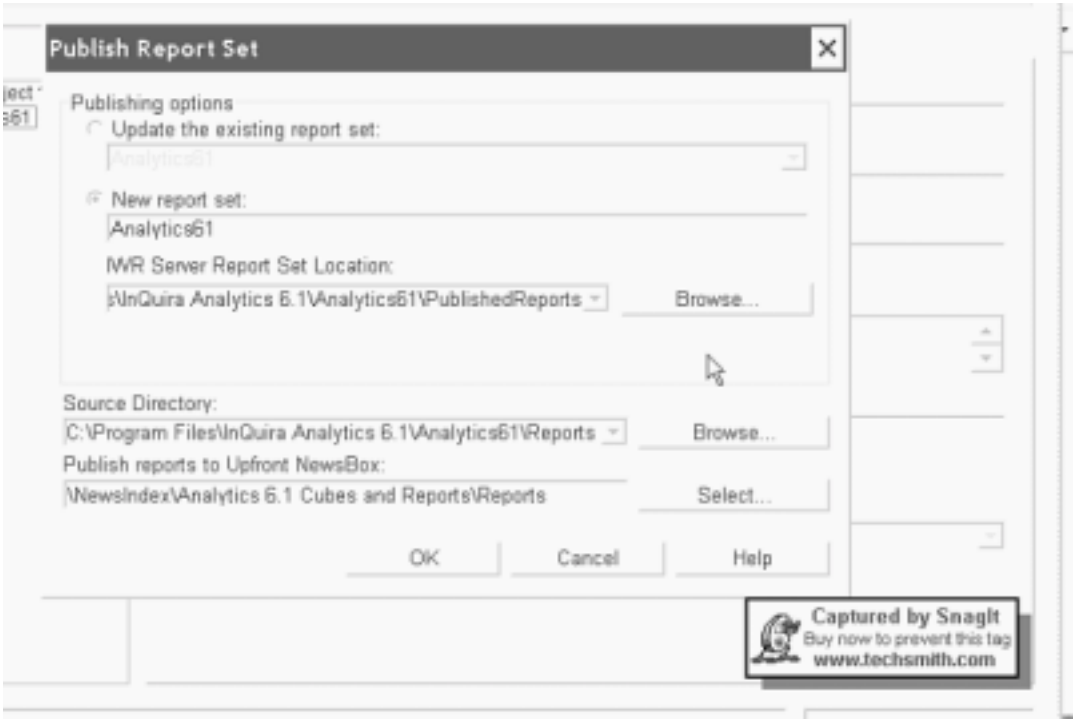
Specify Report Set for Publishing

Next go to tools publish report set


Report Administration - Impromptu Web Reports
Server Edit View Insert Actions Tools Help
Publish Report Set...
Generate User Classes...
Report Project
General Status Security Reports
Report Project 1
Analytics61
Report set name:
Analytics61
IWR Server Report Set Location:
C:\Program Files\InQuira Analytics 6.1\Analytics61\PublishedReports\Analytics61
Catalog name:
analytics.cat
Description:
Contact email address:
Notification
Notification Command:
Sample notification command
Captured by SnagIt
Buy now to prevent this tag
www.techsmith.com

Specify Report Set Publishing Options

If you installed using the default directories then enter the values as shown in the following screenshot otherwise enter the directory structure that you had chosen.



Then click OK and the reports will be published to upfront.

Chapter 3

Configuring Report Data

- configure navigation to InQuira 6 Analytics detail data,
- how to create the detail report data structures,
- populate the InQuira 6 Analytics databases
- generate the reporting cubes and standard reports

Overview

locate or generate log files

move the log files to the data/load directory of the analytics server

create the analytics data source, with bin/scheduler run DBInterface –c ods, and DBInterface –c analytics

load the questions into the ods execute bin/scheduler run Analytics –d

configure the object and action hierarchy

create the star schema. execute bin/scheduler run Analytics –a to use the hierarchy to

Extracting Log Data

Ensure that Binary Log Format is Enabled

Make sure runtime is configured to generate Binary Log Format for Analytics.

Create the Data Subdirectory

On Inquira runtime environment, create data/load subdir under where application data directory is pointed to. i.e. in install_override.xml, find out:

```
<instance name="default">
   <bootstrap>
      <dataDirectory>/home/inquira/application</dataDirectory>
   </bootstrap>
</instance>
```

Copy Application Log Files to the Data Directory

After successfully asked some questions and received some answers, cp <dataDirectory>/log/*/*.log to <dataDirectory>/data/load

Create the ODS Database

Make sure ODS DB is created, if not run:

$INQUIRA_ROOT/bin/scheduler.sh run DBInterface –c ods

Load Log Files into the Analytics Databases

Load all log files in data/load dir with:

$INQUIRA_ROOT/bin/scheduler.sh run Analytics -d (from data/load or full path)

Or to load just a specific file:

$INQUIRA_ROOT/bin/scheduler.sh run Analytics -f xyz.log (from load dir or full path)

Translating Log Data

Create the Object and Action Hierarchies

Create the Star Schema Database

Make sure Star Schema AKA Analytics DB is created, if not run:

$INQUIRA_ROOT/bin/scheduler.sh run DBInterface –c analytics

Build Reporting Cubes

A multidimensional database that holds data more like a 3-D spreadsheet rather than a relational database. The cube allows different views of the data to be quickly displayed.

Issue cube building command:

$INQUIRA_ROOT/bin/scheduler.sh run Analytics –a

When building cubes for subsequent runs i.e. incremental, just issue cube building command:

$INQUIRA_ROOT/bin/scheduler.sh run Analytics –a

Cube Prerequisities

When building cubes for the very first time:

Make sure that Analytics is configured correctly using Admin user interface e.g. via Tomcat.

Make sure Analytics Home = e.g. /home/inquira/Inquira_Analytics_6.1/Analytics

Make sure Cognos Home = e.g. /home/inquira/cognos/cer3/bin

Make sure iPlanet and Cognos processes are started and running successfully

Make sure Cognos process has write access to Analytics and Cognos Home (the best way to ensure this is to install all inquira and cognos components as the same user)

[Only for the First Run] Make sure Analytics Home Cubes directory is cleaned. Remove any out-of-box Cubes there as they are bundled only for post installation testing only.

[Only for the First Run] Make sure Analytics Home pyi directory contains only *.mdl files only, other files may be left over from previous installation or failed runs.

View Cubes

View created/updated cubes thru http://the_solaris_box/inquira

Chapter 4

Dimensions and Measures

InQuira 6 Analytics reports are based on a set of defined categories or *dimensions*, and associated indicators, or *measures*.

Dimensions

Dimensions are the general categories of business entities that you base reports on, such as products, markets, and dates. Each dimension includes one or more levels of subcategories that you specify to determine the scope of a report. The navigation path down succeeding levels within a dimension is called a *drill-down path*.

Measures

Measures are quantifiable indicators that apply to data dimensions. Measures can be simple sums, such as number of sessions, or calculated values, such as average score.

Data Dimensions

InQuira 6 Analytics analyzes and presents data associated with various categories called dimensions. Some InQuira 6 Analytics dimensions are pre-defined, because they are relevant to any InQuira 6 application; other dimensions are application-specific, so that you can tailor them to the requirements of your organization, as described in ***Defining Analytics Hierarchies*** on page 28.

Each dimension includes one or more levels of subcategories that form a hierarchy. For example, a product dimension might contain categories for various product types, and within each type, several models, each having multiple trim levels.

Pre-Defined Dimensions

InQuira 6 Analytics contains pre-defined dimensions that are relevant to all InQuira 6 applications. Pre-defined dimensions include:

- dimensions that are constant and external to the product or the application, such as time

- dimensions that are common elements of the InQuira 6 platform, such as concepts and question IDs

Pre-defined dimensions can have multiple levels; however, some pre-defined dimensions are single-level.

Multi-Level Dimensions

Many dimensions have multiple levels that you can drill down or aggregate (drill up) to report on the desired level of detail. InQuira 6 Analytics uses the following multi-level dimensions:

Dimension	*Definition*	*Standard Reports*
Answer Quality	The Answer Quality dimension groups application responses based on predefined answer quality levels. You can drill down to report on good, acceptable, and poor quality answers.	Answer Quality is a dimension of the following reports: • Product Breakdown • Intents Breakdown • Hot Concepts • Hot Questions • Concepts Scoring • Question Scoring • System Usage • System Performance • System Accuracy
Concept	The Concept dimension is based on Concepts defined in the Dictionary. You can report on All Concepts, and drill down to report on individual concepts.	Concept is a dimension of: • the Hot Concepts report • the Concepts Scoring report

Question	The Question dimension is based on concept groupings, or clusters, that occur within user requests. InQuira 6 Analytics groups user requests that contain three concepts in common into a question cluster. You can report on All Questions and drill down to report on question clusters and view the individual requests within each cluster.	Question is a dimension of: • the Hot Questions report • the Question Scoring report
Managed Answer	The Managed Answer dimension is based on the individually configured managed answers within the application Dictionary.	Managed Answer is a dimension of the Managed Response report.
Time	The Time dimension includes levels for years, months, weeks, dates, both as absolute and relative intervals. InQuira 6 Analytics also contains calculated dimensions, for example Month to Date. See ***Time Dimensions*** on page 22 for more information.	Time is a special dimension that is common to every report.

Single-Level Dimensions

Some dimensions have only one level; they cannot be drilled down within, or aggregated. InQuira 6 Analytics uses the following single-level dimensions:

Dimension	*Definition*	*Standard Reports*
Originating page	The originating page is the URL from which an end-user entered a question or request.	Originating Page is a dimension of the Query Source report.
Session ID	The session ID is an InQuira 6 Analytics-assigned string that identifies a particular user session. InQuira 6 Analytics assigns a unique identifier to every user session in the analytics database.	Session ID is a dimension of: • the Query Source report • the System Usage report
Token (word)	A token is a character string that represents a word, as defined by the Language Analyzer. See the *InQuira 6 Language Guide* for more information on the Language Analyzer.	Token is a dimension of the Unknown Words report.

Question ID	The question ID is an InQuira 6 Analytics-assigned string that identifies a particular user request. InQuira 6 Analytics assigns a unique identifier to every user request within the analytics database.	Question ID is a special dimension that occurs in most reports, but is used only for calculation purposes.

Time Dimensions

InQuira 6 Analytics supports absolute and relative time dimensions. Absolute dimensions use points on the calendar to define their start and end points. For example, the years 2002 and 2003, and the months April and July are defined by the calendar, and are independent of the time and date that the report is created.

Relative dimensions use one or more relative points in time to define their start and end points. For example, Month to Date uses the current date as the end point of the time range; thus the time range, and the data included in the report, varies with the date that the report is created.

Absolute Time Dimensions

Absolute time dimensions use points on the calendar to define their start and end points. InQuira 6 Analytics includes the following absolute time dimensions:

Dimension	*Definition*
Year	Displays data associated with the specified calendar year. For example: `2003`.
Year/Month	Displays data associated with the specified month of the year. For example: `2003/April`.
Year/Month/Week	Displays data associated with the specified week and month of the year. For example: `2003/041/01`, where `01` indicates the week beginning `04/01`, and ending `04/07`.

Relative Time Dimensions

Relative time dimensions use one or more relative points in time to define their start and end points:

Dimension	Definition
Year to Date	Displays data from the beginning of the current year, up to the current day.
Month to Date	Displays data from the beginning of the current month, up to the current day.
Prior Month to Date	Displays data from the beginning of the previous month, up to the current day.
Week to Date	Displays data from the beginning of the current week, up to the current day.
Prior Week to Date	Displays data from the beginning of the previous week, up to the current day.
Current Day	Displays data associated with the current system day.
Yesterday	Displays data associated with the day previous to the current system day.

Grouped Time Dimensions

Grouped time dimensions provide comparitive data for two time intervals. The intervals include the selected primary interval, and the interval preceding it. For example, the MTD Grouped dimension presents data for the current month to date, and compares it with data from the previous month.

The comparisons for the two intervals are:

Change

The Change column displays the difference of the two values.

Growth

The Growth column displays the difference as a percentage.

Dimension	Definition
Year to Date Grouped	Compares data for the current year to date with the previous year, and calculates Change and Growth values for each row.
Month to Date Grouped	Compares data for the current month to date with the previous month, and calculates Change and Growth values for each row.
Week to Date Grouped	Compares data for the current week to date with the previous week, and calculates Change and Growth values for each row.

Measures

Measures are indicators that apply to, or quantify data dimensions. InQuira 6 Analytics uses summary measures, as described in ***Summary Measures*** on page 24, and calculated measures, as described in ***Calculated Measures*** on page 25.

Summary Measures

Summary measures are a simple total, or sum, of items within a dimension category. InQuira 6 Analytics expresses summary measures by default in the form:

```
Count as values
```

or

```
# of <dimension> as values
```

where:

Count

and

of <dimension>

specify to total the number of dimension items.

<dimension>

specifies the relevant dimension, for example:

```
# of products
# of questions
# of sessions
# of unstructered answer
# of click-throughs
# of managed answers
```

as values

specifies to express the dimension items as a sum.

Varying Summary Measure Expression

InQuira 6 Analytics reports display summary measures as simple totals by default. You can vary the expression of summary measures within reports to display values as:

- a percentage of the row total

- a percentage of the row subtotal
- a percentage of the column total
- a percentage of the column sub total
- a percentage of the grand total

You vary the expression by selecting an item from the Measure drop-down window. The report display will automatically update to reflect your selection.

Calculated Measures

Calculated measures are values derived from an operation on the contributing data. InQuira 6 Analytics uses the following calculated values:

Measure	*Description*
queries per visitor	This measure displays the number of queries entered by unique visitors.
average MSR	This measure displays the average response time, in milliseconds, for the specified interval.
average score	This measure displays the average score.

Chapter 5

Configuring Application-Specific Dimensions

You must configure the InQuira 6 Analytics application in order to report on application-specific dimensions of interest. Application-specific dimensions include:

- objects, such as products, services, customer accounts and other items of interest within your business environment
- actions, such as finding information, reporting problems, and other user objectives within your business environment

Standard reports that require application-specific dimension configuration include:

- the Products Breakdown report
- the Intents Breakdown report
- the Queries by Visitor report

You configure product and intent dimensions by:

- defining the required hierarchies for your application
- mapping relevant concepts from the Dictionary to the items in the hierarchies

You configure data collection for the Products Breakdown and Intents Breakdown reports using the Analytics Hierarchy Mapping application, which is described in The Analytics Hierarchy Mapping Application.

You configure visitor query categories using the Analytics page of the Application Administration user interface, as described in Defining Visitor Query Categories.

Configuration Overview

ask some questions in the ui, using a binary log file listener. These questions should contain the objects and actions that are important

move the question logs to the data/load directory of the analytics server

create an analytics datasource, with bin/scheduler run DBInterface –c ods, and DBInterface –c analytics

execute bin/scheduler run Analytics –d to load the questions into the ods

Start the workbench on the analytics machine, and choose Analytics Hierarchy thingamagig from the initial dropdown

Create the hierarchy you want by making folders on the left hand side of the tool.

drag and drop the concepts into the right folders from the right hand side to the left hand side

close the tool

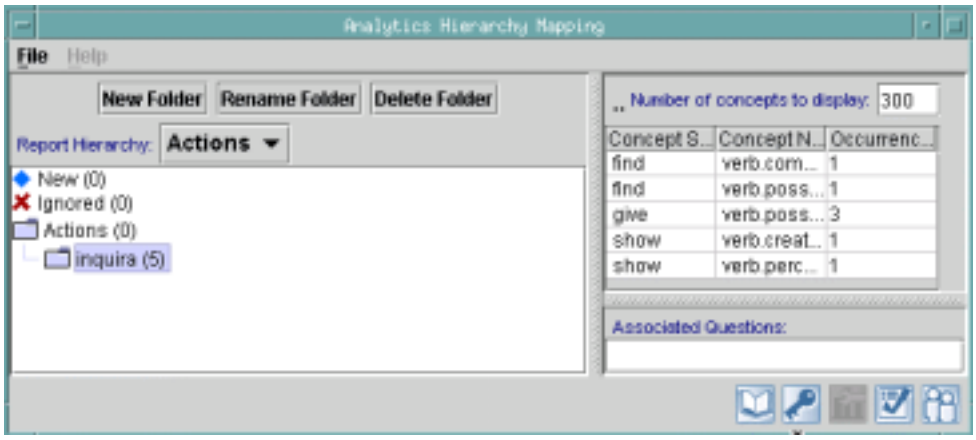
execute bin/scheduler run Analytics –a to use the hierarchy to make the star schema.

Defining Analytics Hierarchies

Analytics hierarchies are sets of related objects and actions that are defined for your application. Object hierarchies are designed to categorize the products, services, customer accounts, and similar dimensions of your application. Action hierarchies are designed to categorize application user objectives, such as find information, report problem, and similar dimensions of your application.

Create Action and Object Mappings for the Application

When load succeeded, run Workbench Analytics Administration to create/update mappings for Actions and Objects (hint: drag and drop from new into existing or newly created Actions/Objects folders)



Start the InQuira Analytics Administration Application

Chapter 6

Standard Reports

InQuira 6 Analytics provides a set of standard reports for analyzing InQuira 6 performance. The InQuira 6 Analytics user interface groups standard reports into the following categories:

- ***Customer Insight Reports*** on page 31
- ***Content Diagnostic Reports*** on page 40
- User Experience
- ***System Metrics*** on page 51

Customer Insight Reports

Customer Insight reports provide information about the content of user requests, and help you to determine:

- which products and services users are asking about, in ***The Product Breakdown Report*** on page 32
- what types of questions users are asking, in ***The Intents Breakdown Report*** on page 34
- which concepts are occurring in user requests, in ***The Hot Concepts Report*** on page 36
- which questions are occurring most frequently, in ***The Hot Questions Report*** on page 38

Objects Breakdown

Provides an overview of the number of questions broken down by object.

Actions Breakdown

Provides an overview of the number of questions asked by visitors broken down by action.

Actions by Object Trend

Shows a trend report of the number of questions asked about actions by object over time.

Hot Concepts

Shows the important words and concepts that have had the largest increase in inquiries over the previous period of time.

Hot Questions

Shows the groupings of questions that have had the largest increase in inquiries over the previous period of time.

The Product Breakdown Report

The Product Breakdown report displays the number of questions users asked about products (or other defined business entities, such as business units) within a specified period of time.

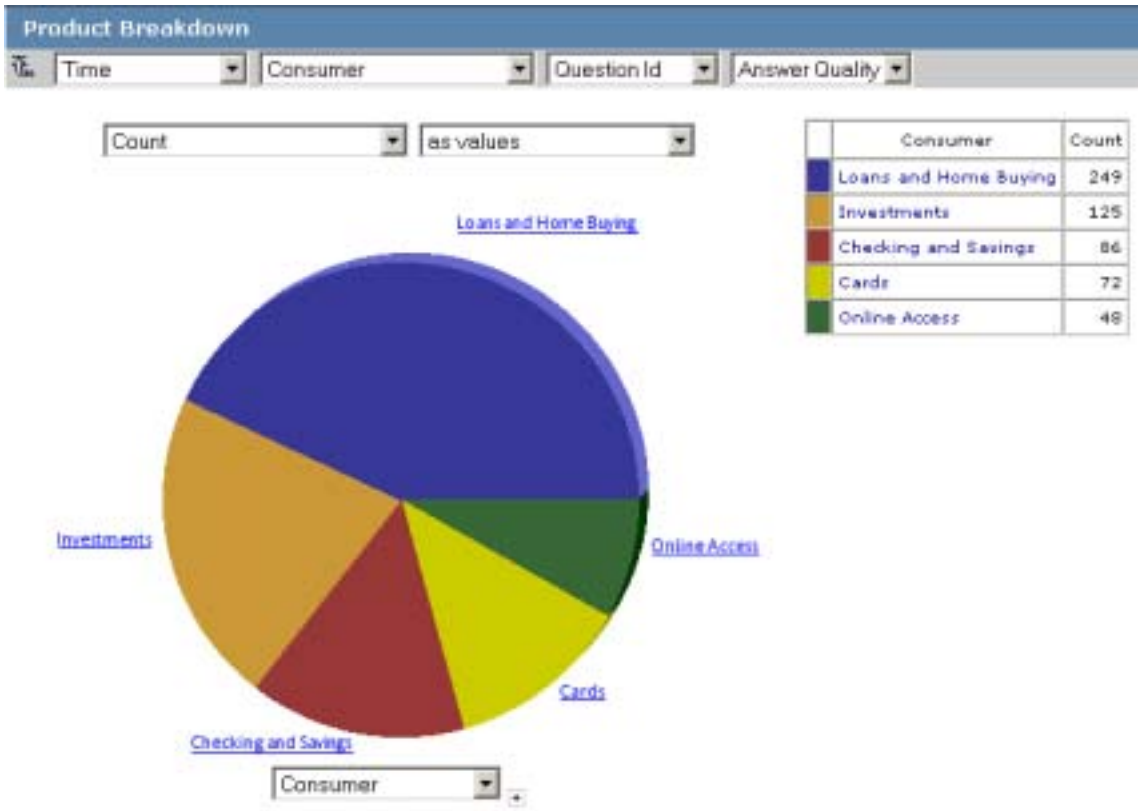
Products are application-specific dimensions. You configure the products or other business entities that you want to report on as part of InQuira 6 Analytics configuration, described in ***Configuring Application-Specific Dimensions*** on page 27.

The default Product Breakdown report displays:

Measures	***Dimensions***	***Display Format***
• the number of questions asked - see ***Measures*** on page 24	• the highest level product categories - see Application-Specific Dimensions • the highest level answer quality - see ***Multi-Level Dimensions*** on page 20 • for the entire available time period - see ***Time Dimensions*** on page 22	• as a pie chart - see ***Report Display Formats*** on page 4

You can vary the measures, dimensions, and display format to tailor the report to your requirements, as described in ***Using Analytics*** on page 59.

Example Product Breakdown Report



The example Product Breakdown report displays:

- the total number of questions
- having answers of any quality level
- for all products in the Consumer category
- within the total time period for which data exists

The legend area displays the products defined within the Consumer category for which data exists, and their associated colors used in the pie chart.

The Intents Breakdown Report

The Intents Breakdown report displays the number of various defined question types, or intents that users asked within a specified period of time.

Intents are application-specific dimensions. You configure the intents that you want to report on as part of InQuira 6 Analytics configuration, described in ***Configuring Application-Specific Dimensions*** on page 27.

The default Intents Breakdown report displays:

Measures	Dimensions	Display Format
the number of questions asked - see ***Measures*** on page 24	• the highest level intent categories - see Application-Specific Dimensions • the highest level answer quality - see ***Multi-Level Dimensions*** on page 20 • for the entire available time period - see ***Time Dimensions*** on page 22	• as a table - see ***Report Display Formats*** on page 4

You can vary the measures, dimensions, and display format to tailor the report to your requirements, as described in ***Using Analytics*** on page 59.

Example Intents Breakdown Report

The example Intents Breakdown report displays:

- the total number of questions
- having answers of any quality level
- for each defined intent
- within the total time period for which data exists

The legend area displays the defined intents for which data exists, and their associated colors used in the bar graph.

The Hot Concepts Report

The Hot Concepts report compares the relative popularity of concepts occurring in user requests within two specified time periods. In InQuira 6 applications, concepts are semantic objects stored in the Dictionary.

The report calculates values for *change* and *growth* between time periods, indicating *hot* and *cold* concepts (significantly increased or decreased frequency compared to the previous period).

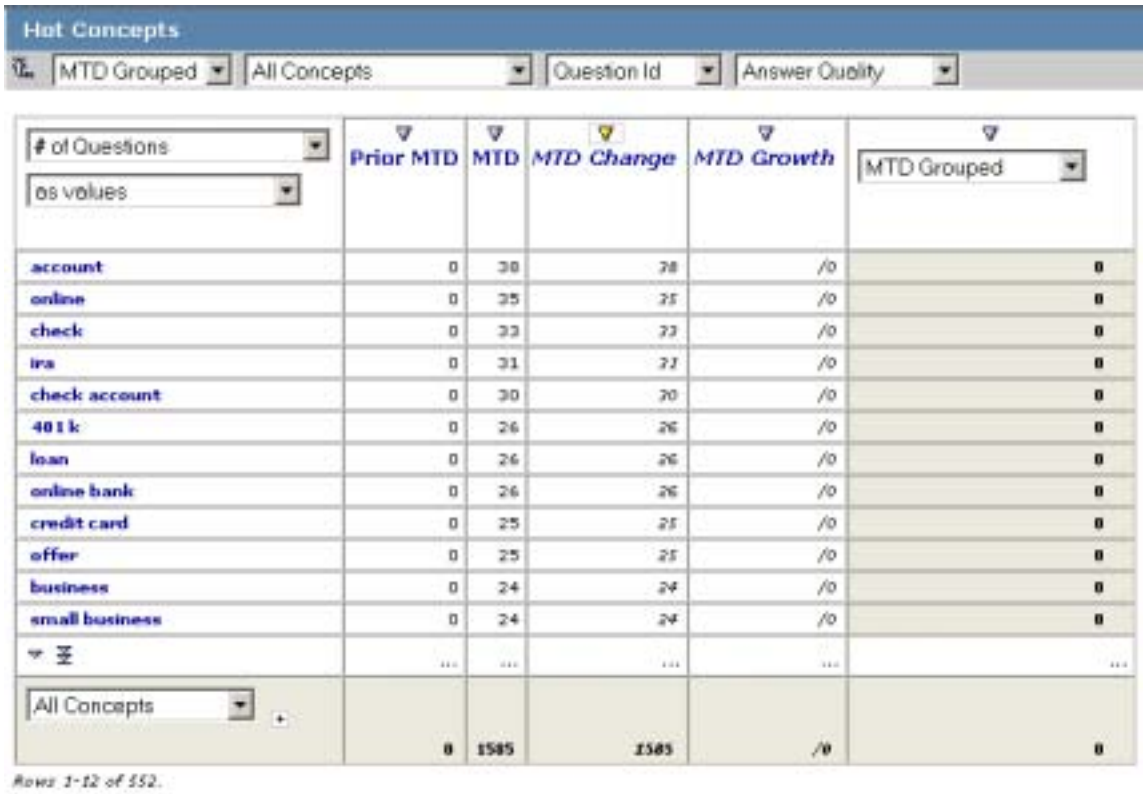
The Concept dimension is pre-defined, and contains two levels; All Concepts, and individual concepts.

The default Hot Concepts report displays:

Dimensions	Measure	Display Format
• all concepts - see ***Multi-Level Dimensions*** on page 20 • associated with responses of any answer quality - see ***Multi-Level Dimensions*** on page 20 • for the prior MTD and the current MTD • and their calculated MTD Change and MTD Growth values - see ***Relative Time Dimensions*** on page 22 and ***Grouped Time Dimensions*** on page 23	• sorted by number of occurrences - see ***Summary Measures*** on page 24	and displayed in a table - see ***Report Display Formats*** on page 4

You can vary the measures, dimensions, and display format to tailor the report to your requirements, as described in ***Using Analytics*** on page 59.

Example Hot Concepts Report



Hot Concepts

MTD Grouped | All Concepts | Question Id | Answer Quality

# of Questions / as values	Prior MTD	MTD	MTD Change	MTD Growth	MTD Grouped
account	0	38	38	/0	0
online	0	35	35	/0	0
check	0	33	33	/0	0
ira	0	31	31	/0	0
check account	0	30	30	/0	0
401k	0	26	26	/0	0
loan	0	26	26	/0	0
online bank	0	26	26	/0	0
credit card	0	25	25	/0	0
offer	0	25	25	/0	0
business	0	24	24	/0	0
small business	0	24	24	/0	0
...	...	...	...	...	...
All Concepts	0	1585	1585	/0	0

Rows 1-12 of 552.

The example Hot Concepts report displays:

- a list of concepts
- sorted by the number of occurrences within the month to date
- and for each concept:
  - the number of occurrences in the prior month
  - the difference between the prior and current month values, expressed as a value (MTD Change)
  - and as a percentage (MTD Growth)

The Hot Questions Report

The Hot Questions report compares the relative popularity of various user requests within two specified time periods.

The report calculates values for *change* and *growth* between time periods, indicating *hot* and *cold* questions (significantly increased or decreased frequency compared to the previous period).

The Question dimension is pre-defined, and contains three levels:

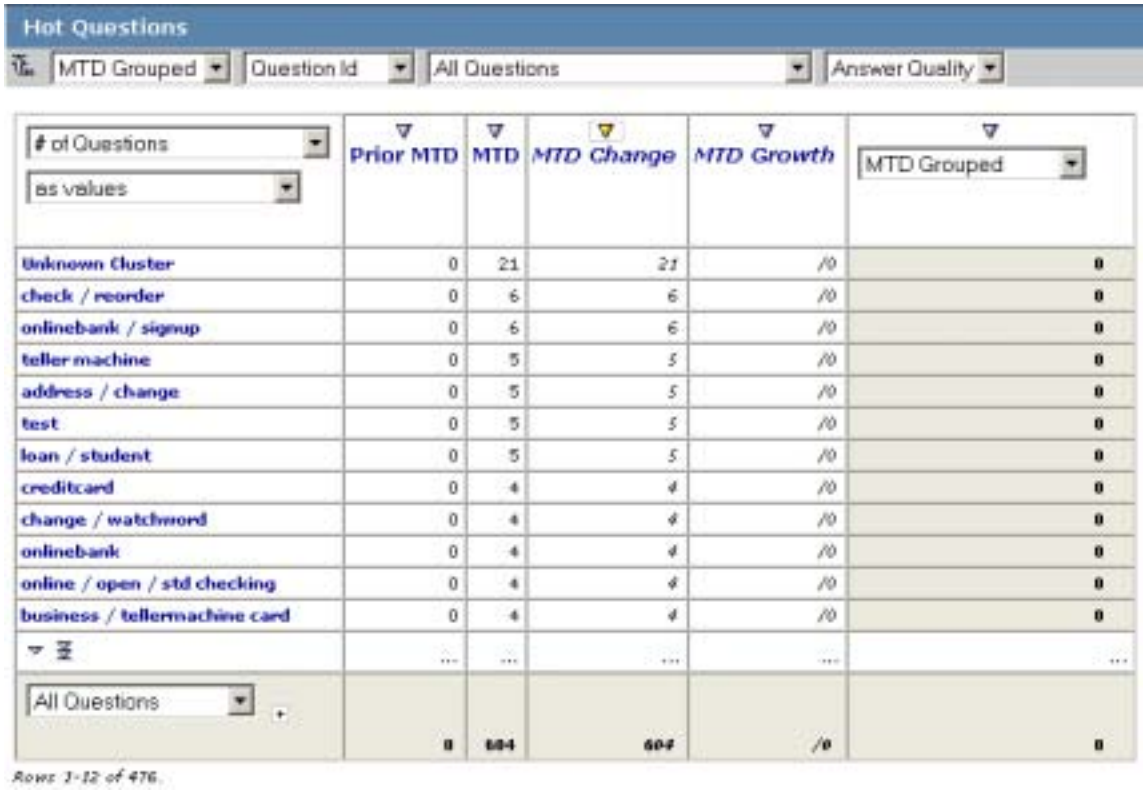
- All Questions
- Question Clusters, which InQuira 6 Analytics creates dynamically by grouping together user requests that contain the same concepts
- individual questions

The default Hot Questions report displays:

Dimensions	Measure	Display Format
• all question clusters - see ***Multi-Level Dimensions*** on page 20 • associated with responses of any answer quality - see ***Multi-Level Dimensions*** on page 20 • for the prior MTD and the current MTD • and their calculated MTD Change and MTD Growth values - see ***Relative Time Dimensions*** on page 22 and ***Grouped Time Dimensions*** on page 23	sorted by number of occurrences - see ***Summary Measures*** on page 24	and displayed in a table - see ***Report Display Formats*** on page 4

You can vary the measures, dimensions, and display format to tailor the report to your requirements, as described in ***Using Analytics*** on page 59.

Example Hot Questions Report



Hot Questions

MTD Grouped | Question Id | All Questions | Answer Quality

# of Questions / as values	Prior MTD	MTD	MTD Change	MTD Growth	MTD Grouped
Unknown Cluster	0	21	21	/0	0
check / reorder	0	6	6	/0	0
onlinebank / signup	0	6	6	/0	0
teller machine	0	5	5	/0	0
address / change	0	5	5	/0	0
test	0	5	5	/0	0
loan / student	0	5	5	/0	0
creditcard	0	4	4	/0	0
change / watchword	0	4	4	/0	0
onlinebank	0	4	4	/0	0
online / open / std checking	0	4	4	/0	0
business / tellermachine card	0	4	4	/0	0
...	...	...	...	...	...
All Questions	0	604	604	/0	0

Rows 1-12 of 476

The example Hot Questions report displays:

- a list of question clusters
- sorted by the number of occurrences within the month to date
- and for each cluster:
  - the number of occurrences in the prior month
  - the difference between the prior and current month values, expressed as a value (MTD Change)
  - and as a percentage (MTD Growth)

Content Diagnostic Reports

Content Diagnostic reports provide information about how well the application is responding to requests, and how well the application, and the site content, is meeting user's needs. You can use this information to identify:

- important words (from questions and/or content) that the application does not recognize, in ***The Unknown Words Report*** on page 40
- important concepts and questions that the application is not processing effectively, in the ***Concepts Scoring Report*** and the ***Question Scoring Report*** on page 44
- which documents and managed responses are the most popular, in the ***Document Usage Report*** on page 47 and the ***Managed Responses Report*** on page 50
- which locations on your site generate the most questions, in ***The Query Source Report*** on page 48

Content Diagnostics

Problem Words

Helps an analyst identify the most frequent words that are causing problems within the InQuira application.

Concepts Scoring

Shows the concepts within visitor queries which are causing poor or no answers to appear in responses.

Question Scoring

Enables an analyst to view which groups of questions are not being answered very well by the InQuira application.

Document Usage

Enables an analyst to understand the popularity (or lack of popularity) of each indexed unstructured document.

Questions Powercube

Allows a "power user" to explore and find information not readily available in other standard reports.

The Unknown Words Report

The Unknown Words report provides information on words that occur in user requests but are not matched in the Dictionary or directly in the content.

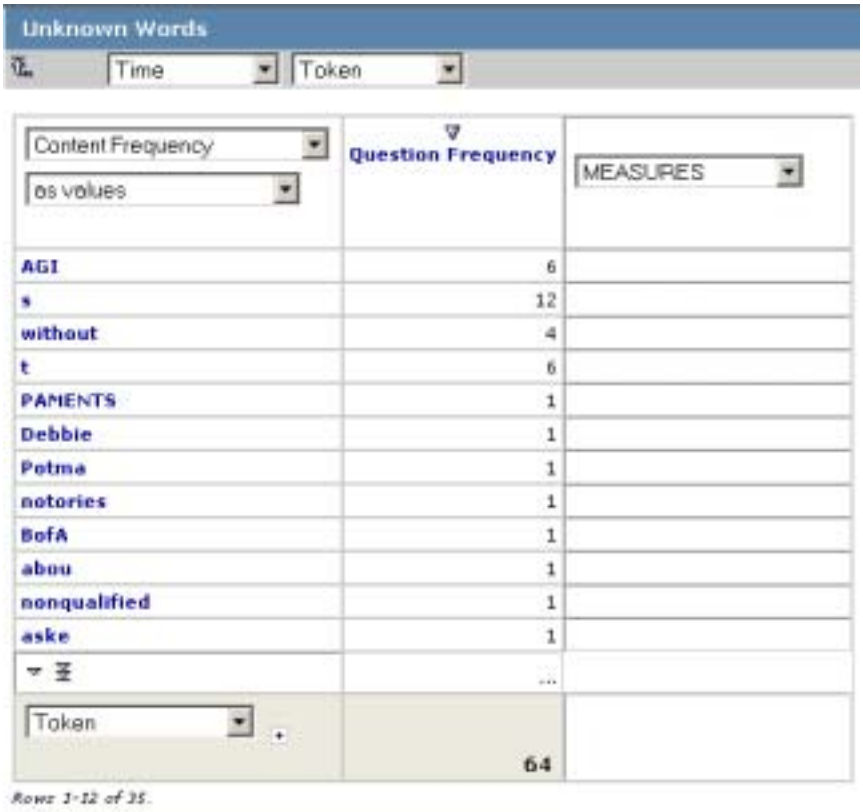
Question frequncy is a summary measure of occurrences of tokens within user requests. Content frequency is is a summary measure of occurrences of tokens within the application content.

The default Unknown Words report displays:

Dimensions	Measure	Display Format
• all tokens representing unknown words - see ***Single-Level Dimensions*** on page 21 • for the entire available time period - see ***Time Dimensions*** on page 22	• sorted by the number of occurrences - see ***Summary Measures*** on page 24 **Note:** The number of occurrences may be different than the number of unique questions in which the token occurred.	• and displayed in a table - see ***Report Display Formats*** on page 4

You can vary the measures, dimensions, and display format to tailor the report to your requirements, as described in ***Using Analytics*** on page 59.

Example Unknown Words Report



Unknown Words

Time | Token

Content Frequency / as values	Question Frequency	MEASURES
AGI	6	
s	12	
without	4	
t	6	
PAMENTS	1	
Debbie	1	
Potma	1	
notories	1	
BofA	1	
abou	1	
nonqualified	1	
aske	1	
...	...	
Token	64	

Rows 1-12 of 35.

The example Unknown Words report displays:

- a list of character strings, or tokens, representing unknown words
- sorted by the number of occurrences within user requests or questions

Concepts Scoring Report

The Concept Scoring report displays concepts within requests that are resulting in poor quality responses.

The Concept dimension is pre-defined, and contains two levels; All Concepts, and individual concepts.

For the concept scoring report, we use the best response score for the question associated with that concept, averaged over the number of occurrences. For example, a concept minivan might occur in two questions:

```
Do you have any minivans? (Response score = .9)
What's the largest minivan? (Response score = .7)
```

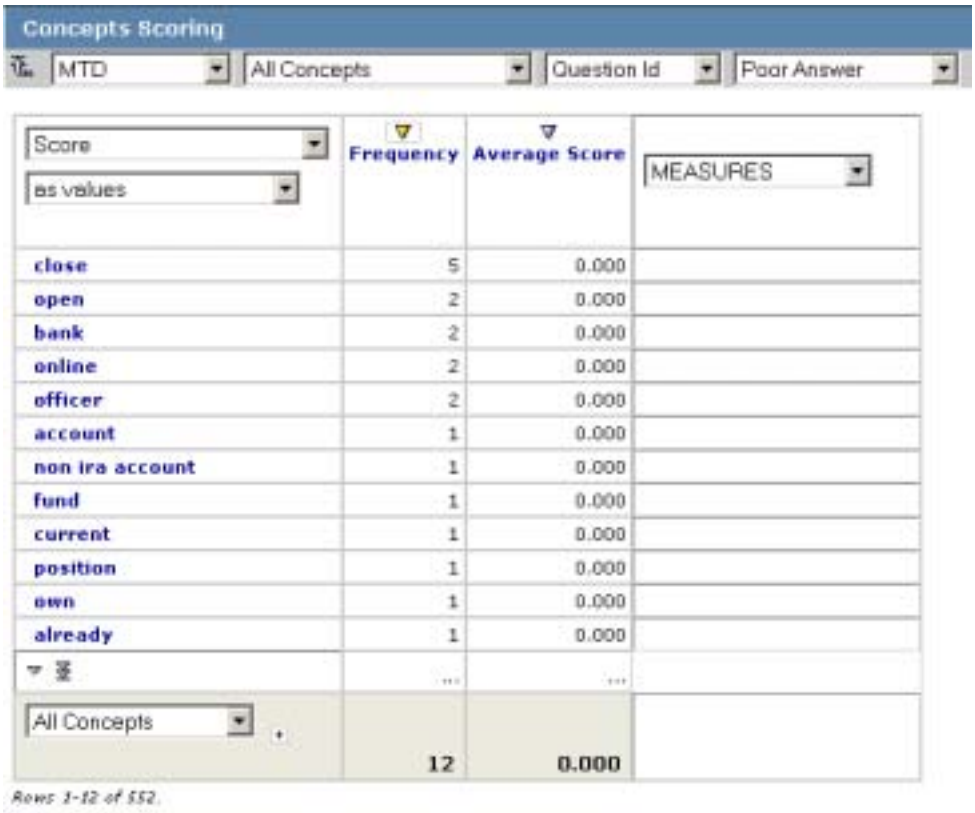
The concept scoring report would display the concept minivan, with the frequency 2 and an average score .8

The default Concepts Scoring report displays:

Dimensions	Measure	Display Format
• all concepts - see ***Multi-Level Dimensions*** on page 20 • associated with responses of any answer quality - see ***Multi-Level Dimensions*** on page 20 • for the entire available time period - see ***Time Dimensions*** on page 22	• sorted by frequency - see ***Summary Measures*** on page 24 • and displaying the average score for each concept - see ***Calculated Measures*** on page 25	• in a table - see ***Report Display Formats*** on page 4

You can vary the measures, dimensions, and display format to tailor the report to your requirements, as described in ***Using Analytics*** on page 59.

Example Concepts Scoring Report



Concepts Scoring

MTD | All Concepts | Question Id | Poor Answer

Score (as values)	Frequency	Average Score	MEASURES
close	5	0.000	
open	2	0.000	
bank	2	0.000	
online	2	0.000	
officer	2	0.000	
account	1	0.000	
non ira account	1	0.000	
fund	1	0.000	
current	1	0.000	
position	1	0.000	
own	1	0.000	
already	1	0.000	
...	...	...	
All Concepts	12	0.000	

Rows 1-12 of 552.

The example Concepts Scoring report displays:

- a list of low-scoring concepts that occurred in user requests
- from the beginning of the current month, up to the current day
- sorted by the number of occurrences
- and displaying the average score for all responses associated with each concept

Question Scoring Report

The Question Scoring report displays concepts within requests that are resulting in poor quality responses.

The Question dimension is pre-defined, and contains three levels:

- All Questions
- Question Clusters, which InQuira 6 Analytics creates dynamically by grouping together user requests that contain the same concepts
- individual questions

The question scoring report uses the same type of scoring and averaging, but performs an additional grouping of concepts into question clusters. The average score for a question cluster is the average of all the best response scores associated with the concept occurrences that are grouped within the cluster.

For example, a question cluster:

```
financing/approval period
```

might contain the following 3 questions, two of which have occurred more than once:

```
how long does it take to approve financing? (2 occurrences) (Score = .7)
what's your loan approval time? (1 occurrence) (Score= .5)
when will i know if my loan is approved? (3 occurrences) (Score = .8)
```

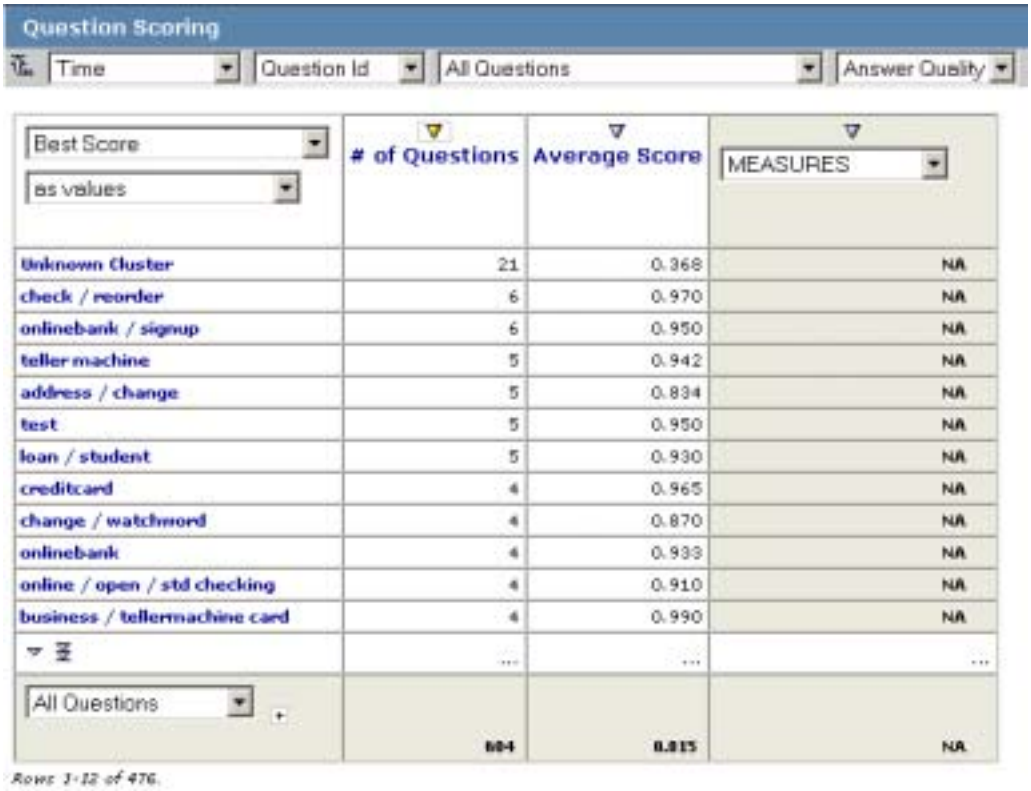
The question scoring report would display the cluster financing/approval period, with the frequency 6 (2+1+3) and an average score .72

The default Question Scoring Report displays:

Dimensions	Measure	Display Format
• all question clusters - see ***Multi-Level Dimensions*** on page 20 • associated with responses of any answer quality - see ***Multi-Level Dimensions*** on page 20 • for the entire available time period - see ***Time Dimensions*** on page 22	• sorted by the number of unique questions contributing to the question cluster - see ***Summary Measures*** on page 24 • and displaying the average score for concepts within the cluster - see ***Calculated Measures*** on page 25	• in a table - see ***Report Display Formats*** on page 4

You can vary the measures, dimensions, and display format to tailor the report to your requirements, as described in ***Using Analytics*** on page 59.

Example Question Scoring Report



Question Scoring

Time | Question Id | All Questions | Answer Quality

Best Score / as values	# of Questions	Average Score	MEASURES
Unknown Cluster	21	0.368	NA
check / reorder	6	0.970	NA
onlinebank / signup	6	0.950	NA
tellermachine	5	0.942	NA
address / change	5	0.834	NA
test	5	0.950	NA
loan / student	5	0.930	NA
creditcard	4	0.965	NA
change / watchword	4	0.870	NA
onlinebank	4	0.933	NA
online / open / std checking	4	0.910	NA
business / tellermachine card	4	0.990	NA
...	...	...	...
All Questions	684	0.815	NA

Rows 1-12 of 476.

The example Question Scoring Report displays:

- a list of question clusters derived from concepts in user requests
- for the entire time period for which data exists
- sorted by the number of member questions grouped into the cluster
- and displaying the average score for responses associated with each cluster

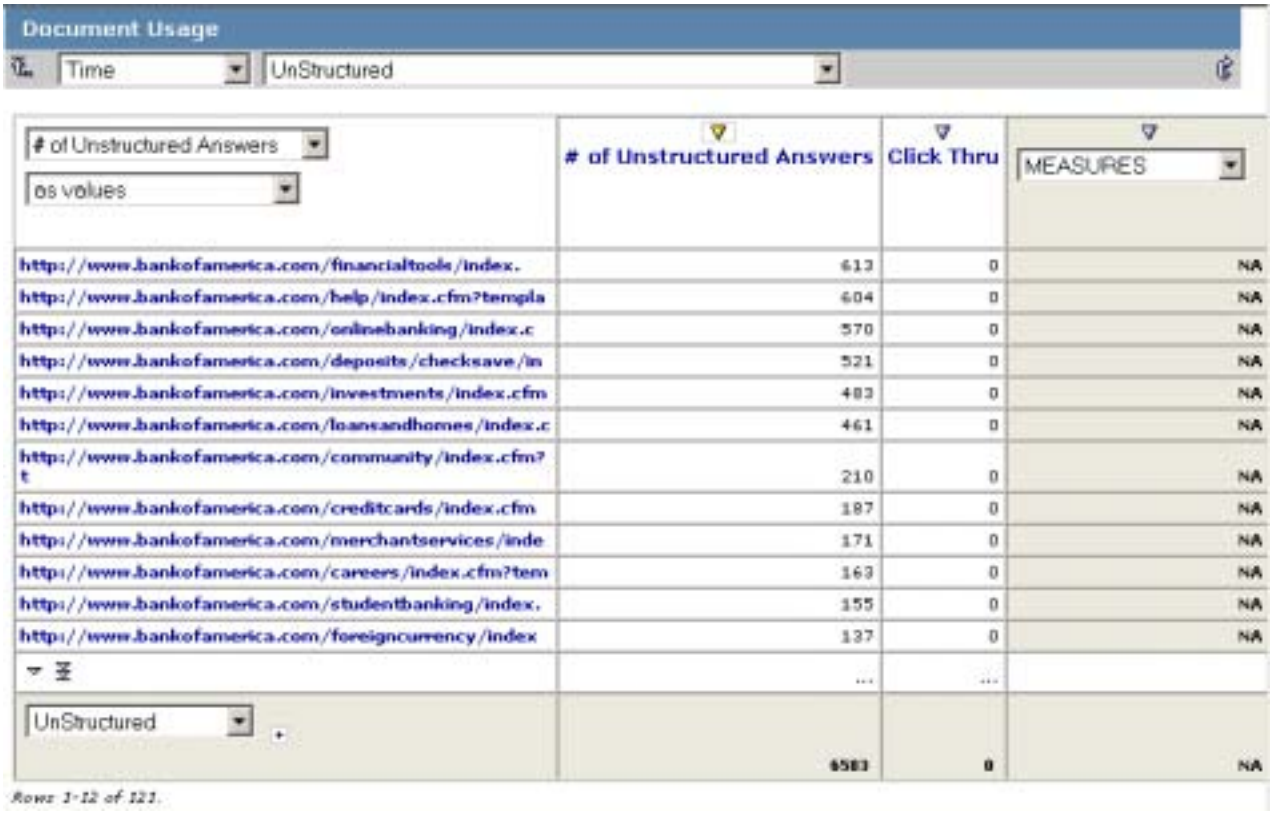
Document Usage Report

The Document Usage report displays the number of answers retrieved by the unstructured response module for each indexed document within the specified time period.

The default Document Usage report displays:

Dimensions	Measures	Display Format
• the URLs of indexed unstructured documents • for the entire available time period - see ***Time Dimensions*** on page 22 • and displaying the number of click-thrus associated with the document - see ***Single-Level Dimensions*** on page 21	• sorted by the number of answers associated with the document - see ***Summary Measures*** on page 24	• in a table - see ***Report Display Formats*** on page 4

Example Document Usage Report



Document Usage

Time | UnStructured

# of Unstructured Answers | as values

	# of Unstructured Answers	Click Thru	MEASURES
http://www.bankofamerica.com/financialtools/index.	613	0	NA
http://www.bankofamerica.com/help/index.cfm?templa	604	0	NA
http://www.bankofamerica.com/onlinebanking/index.c	570	0	NA
http://www.bankofamerica.com/deposits/checksave/in	521	0	NA
http://www.bankofamerica.com/investments/index.cfm	483	0	NA
http://www.bankofamerica.com/loansandhomes/index.c	461	0	NA
http://www.bankofamerica.com/community/index.cfm?t	210	0	NA
http://www.bankofamerica.com/creditcards/index.cfm	187	0	NA
http://www.bankofamerica.com/merchantservices/inde	171	0	NA
http://www.bankofamerica.com/careers/index.cfm?tem	163	0	NA
http://www.bankofamerica.com/studentbanking/index.	155	0	NA
http://www.bankofamerica.com/foreigncurrency/index	137	0	NA
	...	...	
UnStructured	6583	0	NA

Rows 1-12 of 121.

The example Document Usage Report displays:

- the list of unstructured document URLs that were referenced as responses to user requests
- for the entire time period for which data exists
- sorted by the number of responses that referenced them
- and displaying the number of times users clicked through to view the source document

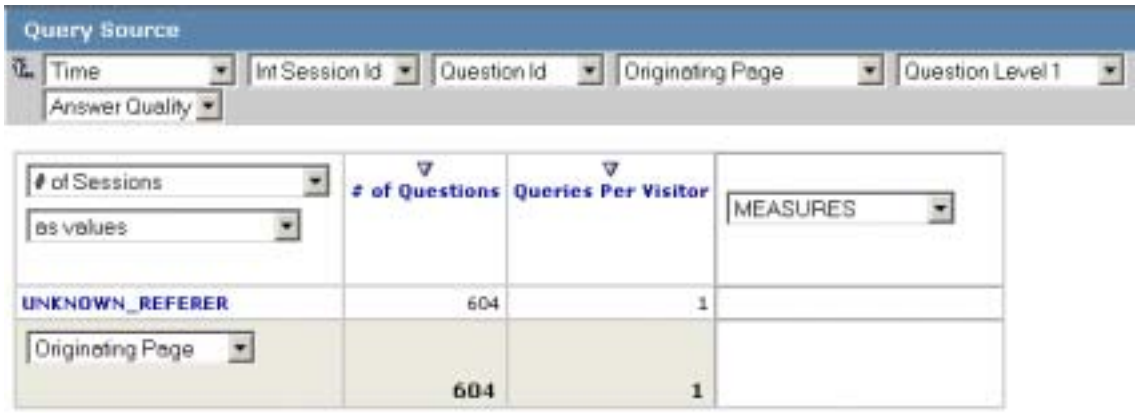
The Query Source Report

The Query Source report provides information on the site locations from which users asked questions.

The default Query Source report displays:

Dimensions	Measures	Display Format
• the URLs from which questions were asked - see ***Single-Level Dimensions*** on page 21 • for the entire available time period - see ***Time Dimensions*** on page 22	• sorted by the number of questions associated with the page - see ***Summary Measures*** on page 24 • and displaying the number of queries per vistor - see ***Calculated Measures*** on page 25	• in a table - ***Report Display Formats*** on page 4

Example Query Source Report



The example Query Source report displays:

- a list of site URLs from which user questions were asked
- within the entire time period for which data exists
- sorted by the number of questions asked from each page
- and the average number of questions per visitor for each URL

Managed Responses Report

The Managed Response report provides information about the popularity of managed reponses. Managed responses are pre-defined dimensions that contain:

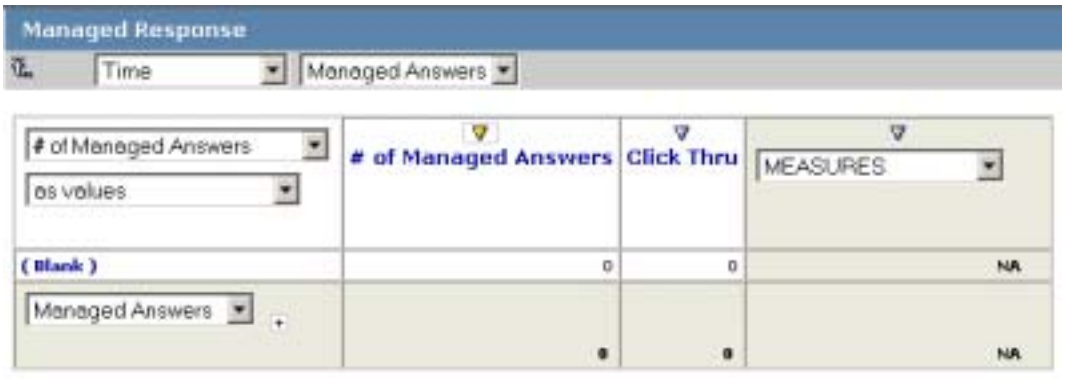
- All managed responses
- purpose categories that correspond to the configured answer purposes within the application
- individual managed responses

The default Managed Response report displays:

Dimensions	Measures	Display Format
• the number of managed answers • for the entire available time period - see ***Time Dimensions*** on page 22	• sorted by frequency • and displaying the number of click-thrus associated with the managed answer - see ***Single-Level Dimensions*** on page 21	• in a table - see ***Report Display Formats*** on page 4

You can vary the measures, dimensions, and display format to tailor the report to your requirements, as described in ***Using Analytics*** on page 59.

Example Managed Responses Report



System Metrics

System Metrics reports provide detailed information on system usage, performance and overall accuracy:

- the ***System Usage Report*** on page 51
- the ***System Performance Report*** on page 53
- the ***System Accuracy Report*** on page 54
- the ***Queries By Visitor Report*** on page 56

System Usage

Provides a high level trend of usage rates and adoption levels of the InQuira application.

System Performance

Provides a high level view of response time performance of the InQuira application.

System Accuracy

Provides an analysis of how well the InQuira application is responding to visitor questions over time.

Queries by Visitors

Shows the number of internal vs. external visitors over time.

System Usage Report

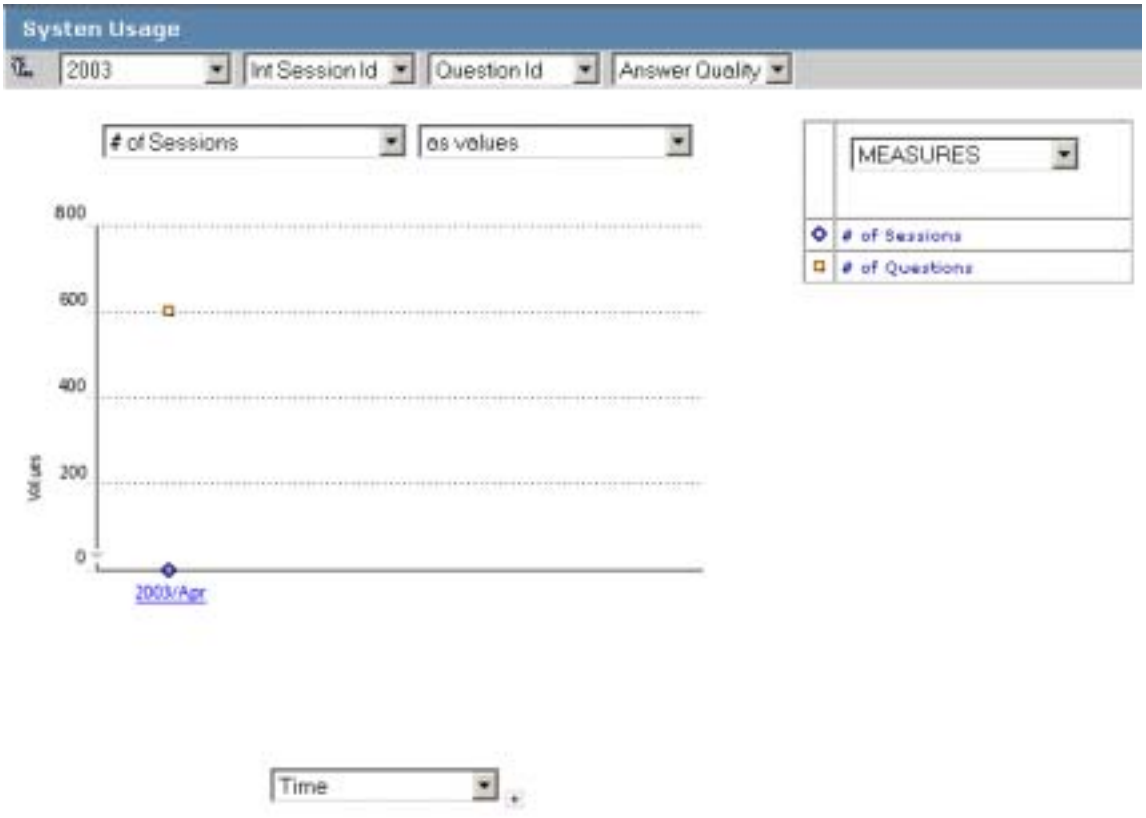
The System Usage report displays the number of sessions and the number of questions within the specified time period. Sessions and questions are single-level dimensions.

The default Sytem Usage report displays:

Measure	Dimensions	Display Format
• the number of - see ***Summary Measures*** on page 24	• session IDs and question IDs - see ***Single-Level Dimensions*** on page 21 • associated with any answer quality - see ***Multi-Level Dimensions*** on page 20 • within the entire available time period - see ***Time Dimensions*** on page 22	• in a multi-line graph - see ***Report Display Formats*** on page 4

You can vary the measures, dimensions, and display format to tailor the report to your requirements, as described in ***Using Analytics*** on page 59.

Example System Usage Report



The example System Usage report displays:

- the number of sessions
- and the number of questions
- for month of April 2003

System Performance Report

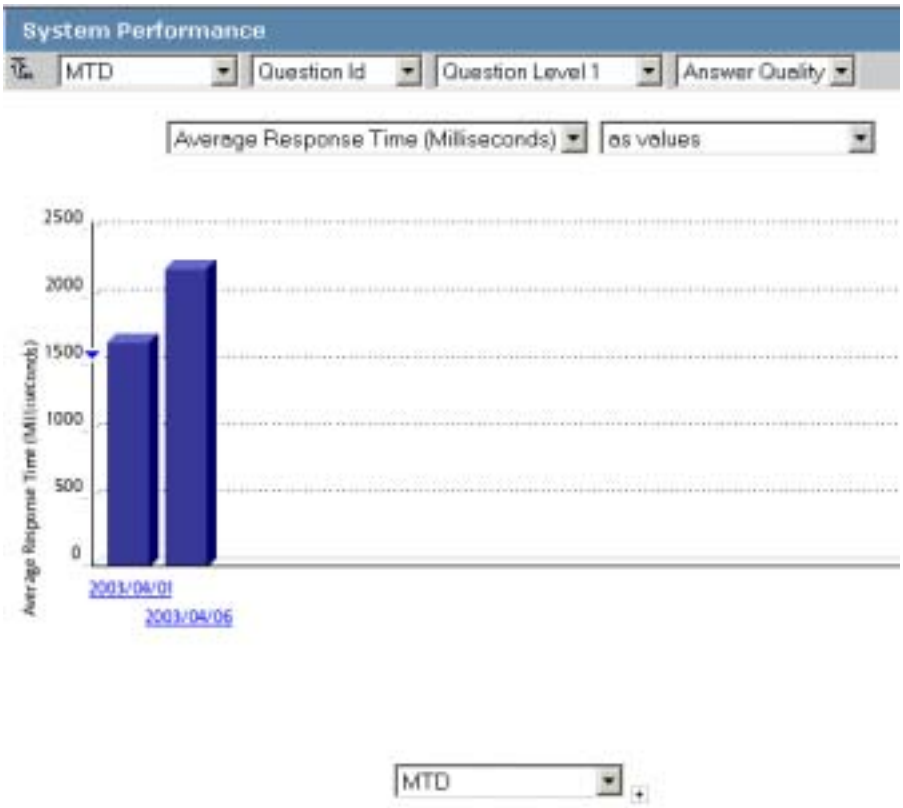
The System Performance report displays average response time (in milliseconds) for queries within the specified time period. Average response time is a calculated measure based on millisecond response times for individual request/response transactions.

The default System Performance report displays:

Measure	Dimensions	Display Format
• average response time in milliseconds - see ***Calculated Measures*** on page 25	• per query • associated with any answer quality - see ***Multi-Level Dimensions*** on page 20 • for the month to data - see ***Report Display Formats*** on page 4	• in a bar graph - see ***Report Display Formats*** on page 4

You can vary the measures, dimensions, and display format to tailor the report to your requirements, as described in ***Using Analytics*** on page 59.

Example System Performance Report



The example System Performance report displays:

- the average request response time
- for the month to date, which includes the weeks of 4/01 and 4/06

System Accuracy Report

The System Accuracy report displays information about application response quality. Response quality is a pre-defined dimension that contains two levels, All quality levels, and good, acceptable, and poor quality levels.

The System Accuracy report shows the total number of questions asked within a time period, divided into good, acceptable, poor, and NULL categories. Since the application typically returns multiple unstructured responses per question, we measure accuracy using the best (highest,

closest to 1.0) scoring response associated with each question as report data, and discard the lower scores.

We then apply the report categories to the best response score for each question: Good = > 70% | Acceptable = 50 - 70% | Poor = < 50%. So a question with a best response score of .83 is represented as 83% , or Good in the Accuracy report.

For the concept scoring report, we use the best response score for the question associated with that concept, averaged over the number of occurrences. For example, a concept minivan might occur in 2 questions:

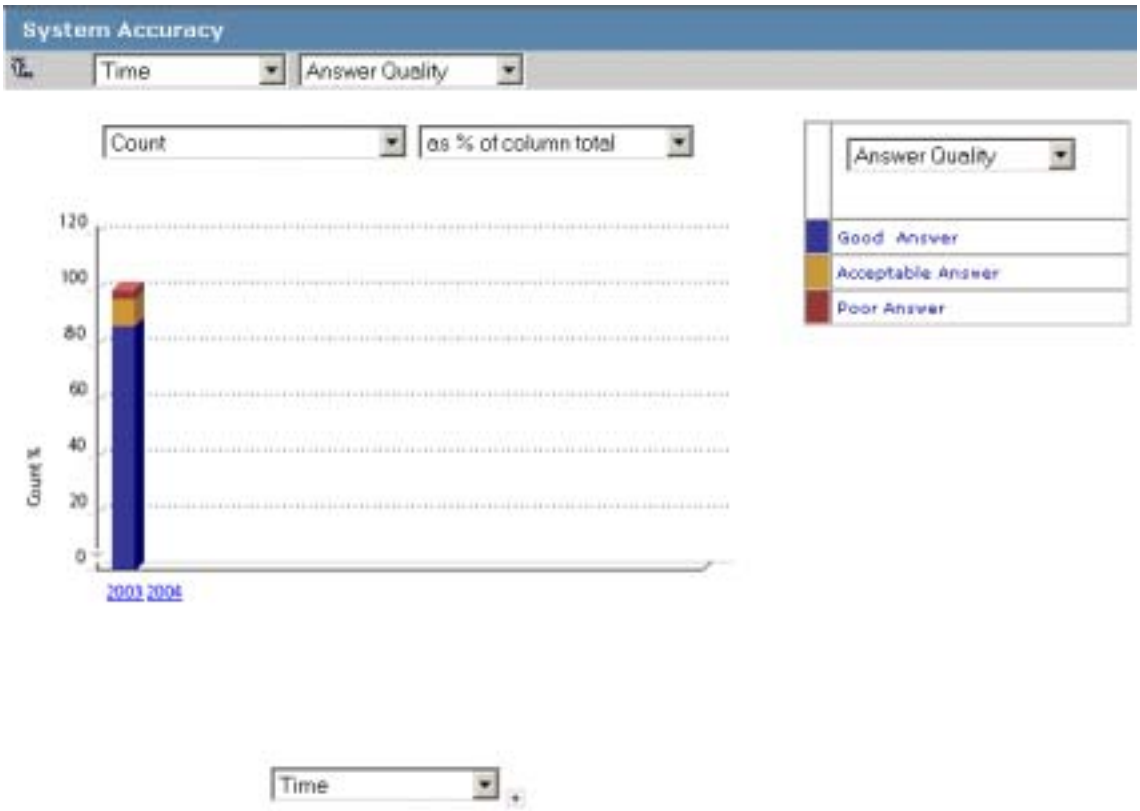
```
Do you have any minivans? (Response score = .9)
What's the largest minivan? (Response score = .7)
```

The default System Accuracy Report displays:

Measure	Dimensions	Display Format
the number of - see ***Summary Measures*** on page 24	good, acceptable, and poor answers - see ***Multi-Level Dimensions*** on page 20 within the entire available time period - see ***Time Dimensions*** on page 22	in a stacked bar graph - see ***Report Display Formats*** on page 4

You can vary the measures, dimensions, and display format to tailor the report to your requirements, as described in ***Using Analytics*** on page 59.

Example System Accuracy Report



The example System Accuracy report shows:

- a single bar, divided into colored sections representing good, acceptable, and poor answer quality, as indicated in the report legend
- for the years 2003 and 2004

Queries By Visitor Report

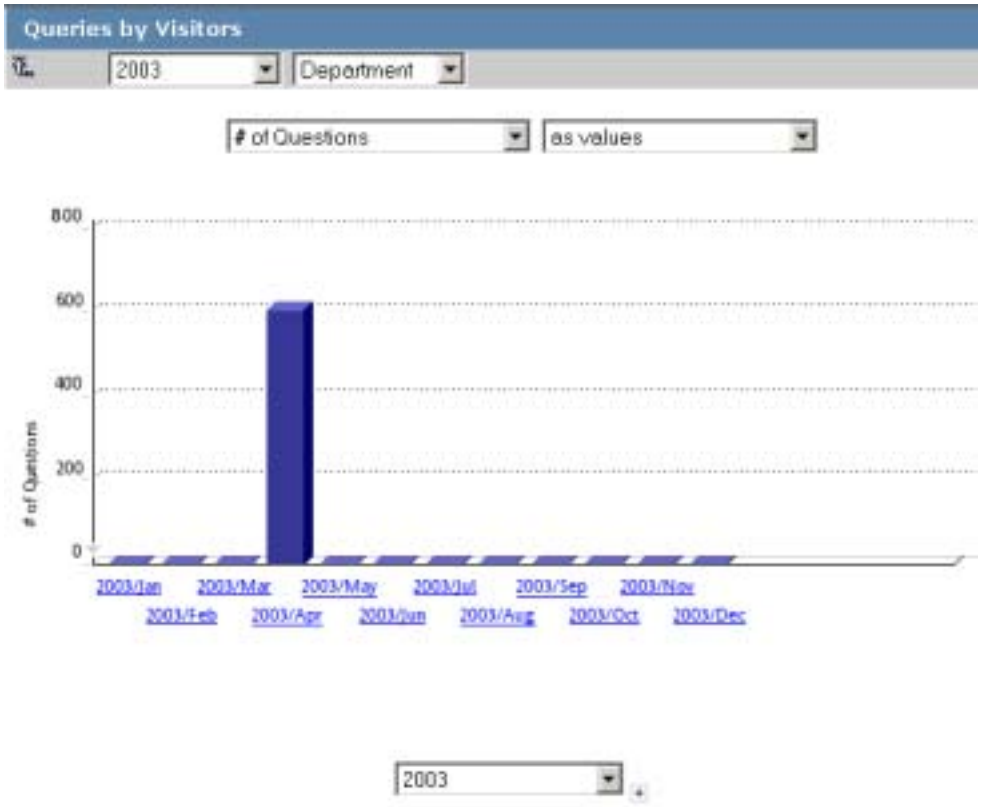
The Queries by Visitors report displays the number of internal and external visitors over time.

The default Queries by Visitor report displays:

Measure	Dimensions	Display Format
• the number of questions	• each high level user category • within the entire available time period	• in a bar graph

You can vary the measures, dimensions, and display format to tailor the report to your requirements, as described in ***Using Analytics*** on page 59.

Example Queries by Visitor Report



Chapter 7

Using Analytics

A configured InQuira 6 Analytics application extracts, transforms, and loads report data at the specified intervals. You can use InQuira 6 Analytics to generate and view standard reports at any time that the required data is available.

You generate reports for viewing by:

- logging onto the InQuira 6 Analytics user interface, as described in ***Accessing the Analytics User Interface*** on page 59
- selecting the desired report
- tailoring the report to the desired format and level of detail, as described in ***Viewing Reports*** on page 62
- optionally saving, printing, or exporting reports, as described in ***Exporting Report Data*** on page 68

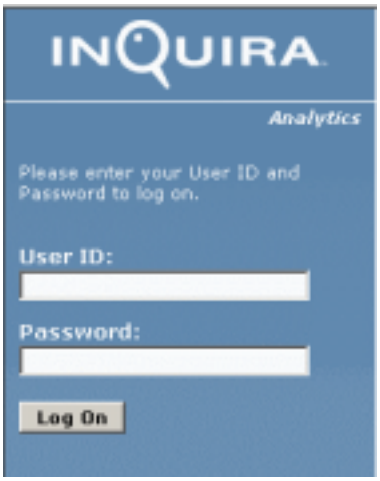
Accessing the Analytics User Interface

You access the InQuira 6 Analytics application to view reports by logging onto the InQuira 6 Analytics user interface. The InQuira 6 Analytics user interface is a web-based application that operates on supported browsers, as described in InQuira 6 Installation Guide.

The InQuira 6 Analytics application URL is specific to your environment. Consult your system administrator for specific URL information if necessary.

Logging Onto InQuira 6 Analytics

When you open InQuira 6 Analytics in your browser window, the InQuira 6 Analytics home page displays. The home page is divided into two columns. The left column prompts you for login information:



The right column, or display area, displays a summary of the standard reports, as described in ***Example Analytics Home Page Display Area*** see "Example Analytics Home Page Display" on page 62.

To log onto InQuira 6 Analytics:

- enter your User ID and Password

Your User ID and initial Password are created by your system administrator. Contact your system administrator if you need help determining the correct User ID and Password.

The InQuira 6 Analytics Page

The InQuira 6 Analytics page is divided into the following areas:

Report menu

The report menu bar lists the standard reports, segregated into the following categories:

- ***Customer Insight Reports*** on page 31
- ***Content Diagnostic Reports*** on page 40
- ***System Metrics*** on page 51

Display area

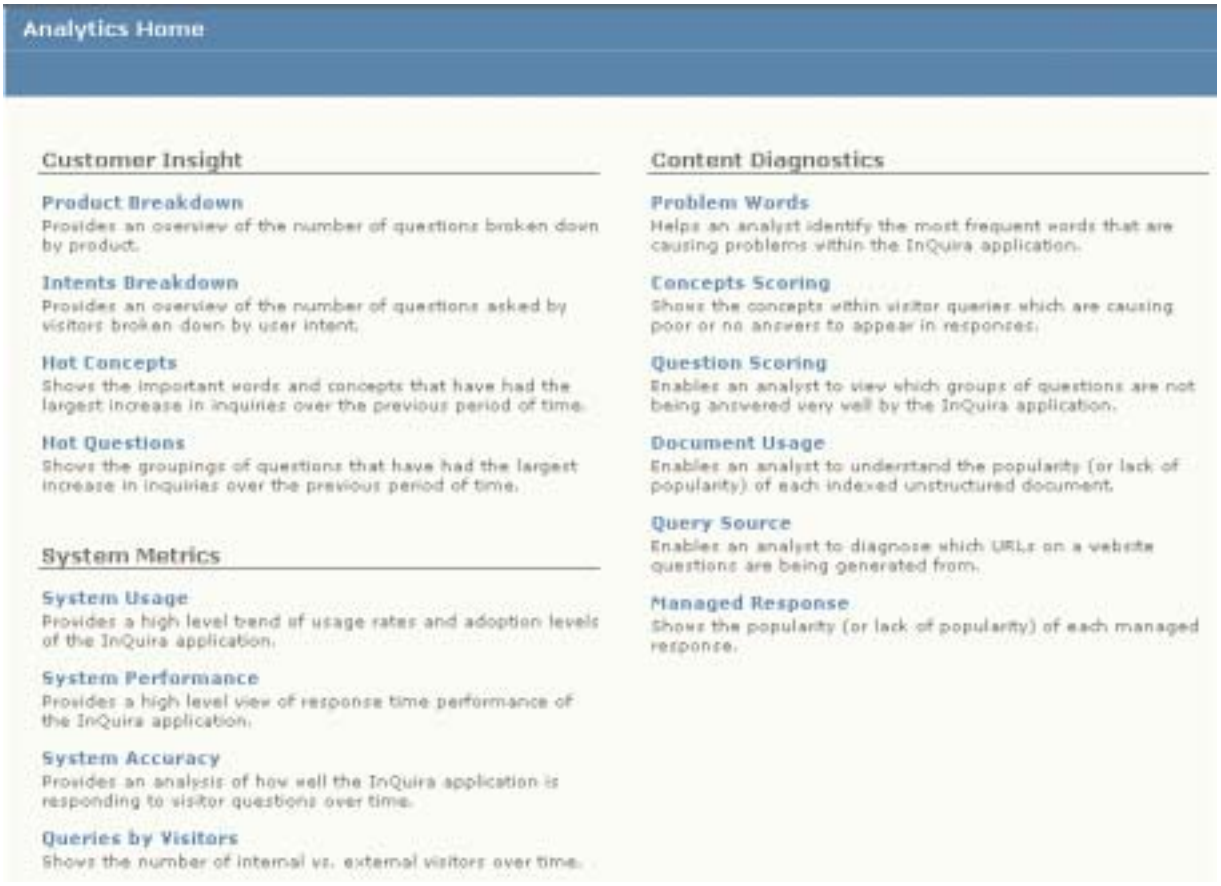
The display area presents the data associated with the selected report and display parameters. The report display area also contains the tool bar that provides access to the data manipulation and display formatting functions described in ***Viewing Reports*** on page 62.

Example Analytics Report Menu

The InQuira 6 Analytics report menu lists the standard reports. Report names are hypertext links. You can navigate to any of the standard reports by selecting a link from the report menu.

Example Analytics Home Page Display

The InQuira 6 Analytics home page display area contains descriptions of all the standard reports. Each report title is a hypertext link that you can select to navigate to that report.



Viewing Reports

You can view InQuira 6 Analytics standard reports by clicking on any of the report titles listed in the navigation column or in the display area of the main window.

InQuira 6 Analytics displays the default report configuration for the selected report.

Varying Display Formats

You can vary the graphical display formats of standard reports using the display formatting icons on the tool bar. ***Report Display Formats*** on page 4 lists the supported report types.

Varying Measures within Reports

The InQuira 6 Analytics user interface presents the measures used in each report in a set of drop-down menus within the display. You can vary measures to tailor the report data to your requirements.

You can select items within the Measure drop-down menus to:

- apply available alternate measures to report dimensions, as described in ***Measures*** on page 24
- vary the expression of summary measures, as described in ***Varying Summary Measure Expression*** on page 24

Varying Dimensions within Reports

The InQuira 6 Analytics user interface presents the dimensions used in each report in a series of drop-down menus arrayed at the top of the display. You can vary dimensions within reports to tailor the report data display to your requirements. You can select items within the drop-down menus to:

- drill down within a primary dimension to more detailed data, as described in ***Drilling Up and Down Dimensions*** on page 64
- aggregate (drill up) from a primary to more general categories, as described in ***Drilling Up and Down Dimensions*** on page 64
- drill through to to view detailed information about a group of items within a single dimension level, as described in ***Drilling Through to Reports*** on page 64
- filter report data based on secondary dimensions, as described in ***Filtering Report Data*** on page 64
- nest dimensions within reports, as described in ***Nesting Dimensions within Reports*** on page 64

Drilling Up and Down Dimensions

You can drill up and down dimension categories by selecting primary dimensions from the dimension drop-down menus. See ***Data Dimensions*** on page 19 for descriptions of the available pre-defined and application-specific dimensions.

Primary dimensions define the axes of the report. For example, the Hot Concepts report displays the number of questions over time; questions and time are its primary dimensions.

You drill up or down by selecting more general or more detailed categories of primary dimensions. For example, you can drill down to specific questions, or to more detailed time intervals.

Note: Some display formats, such as pie charts and bar graphs, provide drill-down shortcuts in the form of hypertext links associated with dimensional categories.

Drilling Through to Reports

You can drill through from one report to another to view detailed information about a group of items within a dimension level, where available. When you drill through a report, InQuira 6 Analytics applies the current measure and dimension to the new report.

To drill through to a report:

- click the Drill Through button on the tool bar

Filtering Report Data

You can filter reports by selecting secondary dimensions from the dimension drop-down menus.

Secondary dimensions are additional report parameters that support the primary dimensions. For example, the Hot Concepts report displays answers of all quality levels by default; Answer Quality is a secondary dimension.

You filter reports by selecting more general or more detailed categories of secondary dimensions. For example, in the Hot Concepts report, you can filter on good, acceptable, and poor answer quality, while preserving the same primary (question and time) dimensions.

Nesting Dimensions within Reports

You can display the child categories for a selected dimension as nested columns in the report display. For example, for a yearly summary report, you can nest the Year dimension to display the contributing monthly data as nested subcolumns.

To nest child categories for a dimension:

- select the expand icon beside the desired dimension drop-down within the display

or

- select the appropriate action (Nest Rows or Nest Columns) from the dimension drop-down menus at the top of the display

InQuira 6 Analytics refreshes the report and displays the nested columns or rows.

To remove nested categories:

- select the collapse icon beside the desired dimension drop-down within the display

InQuira 6 Analytics refreshes the report and removes the nested columns or rows from the display.

Sorting Report Columns

You can use the Sort icons to sort data within selected columns. Sorting arranges values according to value, or in alphabetical order. You can sort data in ascending or descending order.

Suppressing Report Data

You can exclude categories containing low values or no data from reports. InQuira 6 Analytics provides the following supression modes:

Zero Suppression

Zero Suppression removes rows or columns containing all zeros.

80/20 Suppression

80/20 suppression removes rows or columns whose absolute values do not contribute to the top 80% of results, and summarizes the removed data in a single row or column called "Other."

To apply Zero suppression to a report:

- select the Zero Suppression icon on the toolbar

InQuira 6 Analytics removes any rows and columns that contain values of zero. The Zero Suppression message displays at the bottom of the report.

To apply 80/20 suppression to a report:

- select the 80/20 Suppression icon on the toolbar

InQuira 6 Analytics removes rows and columns whose values do not contribute to the top 80% of the results, and summarizes the removed data in a single row or column called Other. The 80/20 Suppression message displays at the bottom of the report.

Highlighting Exception Data

You can also use the automatic exception feature, or define custom exceptions within reports to apply specific formatting to values above or below the set value range.

You can highlight exceptional values, values above or below the expected ranges, within reports. InQuira 6 Analytics uses automatic highlighting by default. You can also specify custom exceptions within reports.

You can define custom exceptions in any display format; however, InQuira 6 Analytics will only display exceptions within tables.

InQuira 6 Analytics determines automatic highlighting by comparing a cell's value with its row and column totals. Cells that have exceptionally low or high values compared with the totals are highlighted. The default highlighting for low values is bold red, and the default highlighting for high values is bold green.

Defining Custom Exceptions

You can specify custom values, or thresholds, for exception highlighting within reports. You define custom exceptions as properties of specific reports. You can define up to 20 exceptions for a single report.

You define a custom exception by specifying up to five value ranges. Each range definition has specific formatting associated with it.

You specify the following parameters for each value range:

- minimum value
- maximum value
- font color
- background color

InQuira 6 Analytics applies the exception highlighting to all data that falls within a value range.

You use custom exceptions by:

- defining exception criteria, as described in ***Defining Exception Criteria*** on page 66
- applying the exception to the report, as described in ***Applying Exception Criteria to a Report*** on page 67

Defining Exception Criteria

You define a custom exception by specifying up to five value ranges. Each range definition has specific formatting associated with it.

You specify the following parameters for each value range:

- minimum value
- maximum value
- font color
- background color

To define a custom exception:

- select the Custom Exception Highlighting button in the toolbar

The Custom Exception frame displays.

- select Add

The Exceptions panel opens.

- specify a name for the exception
- specify minimum and maximum values for up to four ranges in the From and To boxes. You can specify minimum and maximum to define ranges with no lower or upper boundaries.
- select text and background colors from the drop-down menus
- select OK

The new definition appears in the Defined Exceptions list.

You can edit a custom exception by selecting it from the Defined Exceptions list, and selecting Edit.

You can delete a custom exception by selecting it from the Defined Exceptions list, and selecting Delete. InQuira 6 Analytics automatically deletes the exception and updates the report display.

Applying Exception Criteria to a Report

To apply a custom exception to a report:

- select the Custom Exception Highlighting button on the toolbar

The Custom Exceptions frame displays.

- select the columns or rows to apply the exception to by selecting the corresponding exception icons in the display area. Select the icon in the upper left column of the display to apply the exception to the entire report

InQuira 6 Analytics displays the selected rows and columns in the Custom Exceptions frame.

- select a defined exception from the list
- select Apply

InQuira 6 Analytics applies the exception to the selected rows and columns.

Exporting Report Data

You can export InQuira 6 Analytics report data to:

- save formatted reports as Adobe Portable Document Format (PDF) documents for circulation, presentation, and printing
- save reports in Comma Separated Value format for use in other applications

Exporting Reports in Comma Separated Value Format

You can export InQuira 6 Analytics report data in comma separated value (CSV) file format, and import this data to any application that supports comma separated value files.

You can use the comma separated value export process to:

- save a formatted report instance to a CSV file
- open a formatted report instance in CSV format directly within Microsoft Excel 97 or Excel 2000

Note: To view CSV data in Microsoft Excel, ensure that:

- you have MIcrosoft Excel 97 or Excel 2000 installed
- your browser is configured to display the .csv file format

To export report data in CSV format:

- select the Export CSV button on the InQuira 6 Analytics toolbar

A dialog box prompts you to open the file or save it to your computer.

- select Open to open the data in .csv format within Microsoft Excel

or

- select Save to save the data as as a CSV file

The CSV file is saved in the specified location, with the suffix .csv. The CSV file contains only the data associated with the formatted report as displayed.

Exporting Reports in Portable Document Format

You can export InQuira 6 Analytics reports in Adobe Portable Document Format (PDF). InQuira 6 Analytics creates and displays the PDF file by opening Adobe Acrobat within the display area. You can use the Adobe Acrobat functions to render, paginate, size the output, print, and save the PDF version of the report.

To export a report in PDF format:

- select the Export PDF button on the InQuira 6 Analytics toolbar

InQuira 6 Analytics creates a PDF file, opens the Adobe Acrobat viewer within the InQuira 6 Analytics display area, and displays the PDF file.

Printing Reports

You can print InQuira 6 Analytics reports by:

- creating a PDF version of the report
- using the Adobe Acrobat functions to render, paginate, size, and print the output

as described in ***Exporting Reports in Portable Document Format*** on page 69.

Chapter 8

Analytics Administration

InQuira 6 Analytics Administration Tasks

The following are pre-defined tasks that you can use to administer the InQuira 6 Analytics application:

ODS Schema Re-Create

STAR Schema Re-Create

Analytics Load

Analytics Cube Creation

Analytics Complete Processing

Analytics Error Reloading

Analytics Task Scenario

An example set of automated scheduled tasks that make sense if you want to re-create the ODS tables constants:
1) Log Extraction task

2) ODS Schema Re-Create

3) Analytics Load

4) Analytics Cube Creation

The Analytics Complete Processing Task

This just merges the Analytics Load and Anlytics Cube Creation into one step if they want. Just two tasks in one.

The Analytics Cube Creation Task

After the Analytics Load, task is run, there are two things the customer may want to do, one is to just go ahead and build the Cognos "cubes", the other is to run the analytics admin screens found in the workbench. The analytics admin is the gui screen that defines the actions/objects heierarchy that you may have played with a while ago. After performing the analytics admin stuff, the customer will ultimately need to run this task.

Not sure if you know what the cubes are, but they are the set of files used by cognos to show the reports.

The Analytics Error Reloading Task

Use this task to ? in the event of a failed process.

This really isn't relevant anymore, as the call to Analytics Load first checks to see if there were errors generated from a previous load. It will try to reload the portions of the log file that couldn't load (db might have died or some other error condition). If it can't fix these error conditions, the Analytics Load process stops before it tries to load new log files. Basically, to ensure all data is processed, I have added this error-reloading task implicitly into the code of the Analytics Load. However, they can schedule this task to re-load an of these error files if they want to explicitly do that.

The Analytics Load Task

Use this task to transfer data from ? to ?.

This is an automated task that downloads the log files from the production servers to the analytics server and stores two copies of the file. One copy of the file is stored in a directory where the files can be picked up by the Analytics Load task. This directory is by default the "data/load" directory, but is defined in the analytics configuration.

The second copy of the file is stored in the "data/archive" directory (also under analytics configuration). Here a compressed version of the file is archived so that the customer can start a tape backup of all logs if they choose. This mechanism ensures a copy of the log files are saved, the Analyltics Load task will cleanup the data/load version upon successful processing leaving only the data/archive version.

The ODS Schema Re-Create Task

Use The ODS Schema Re-Create Task to re-create the InQuira 6 Analytics ODS tables. The ? will delete the existing ODS data and create a new ODS containing no data.

The analytics database table set is divided into two parts, the tables used to store the data directly from the logs and the STAR schema which is a standard analytics schema type used for reporting. The STARs are summaries of the log data. The ODS tables refer to the first set of tables, those used to store the direct representation of the logs.

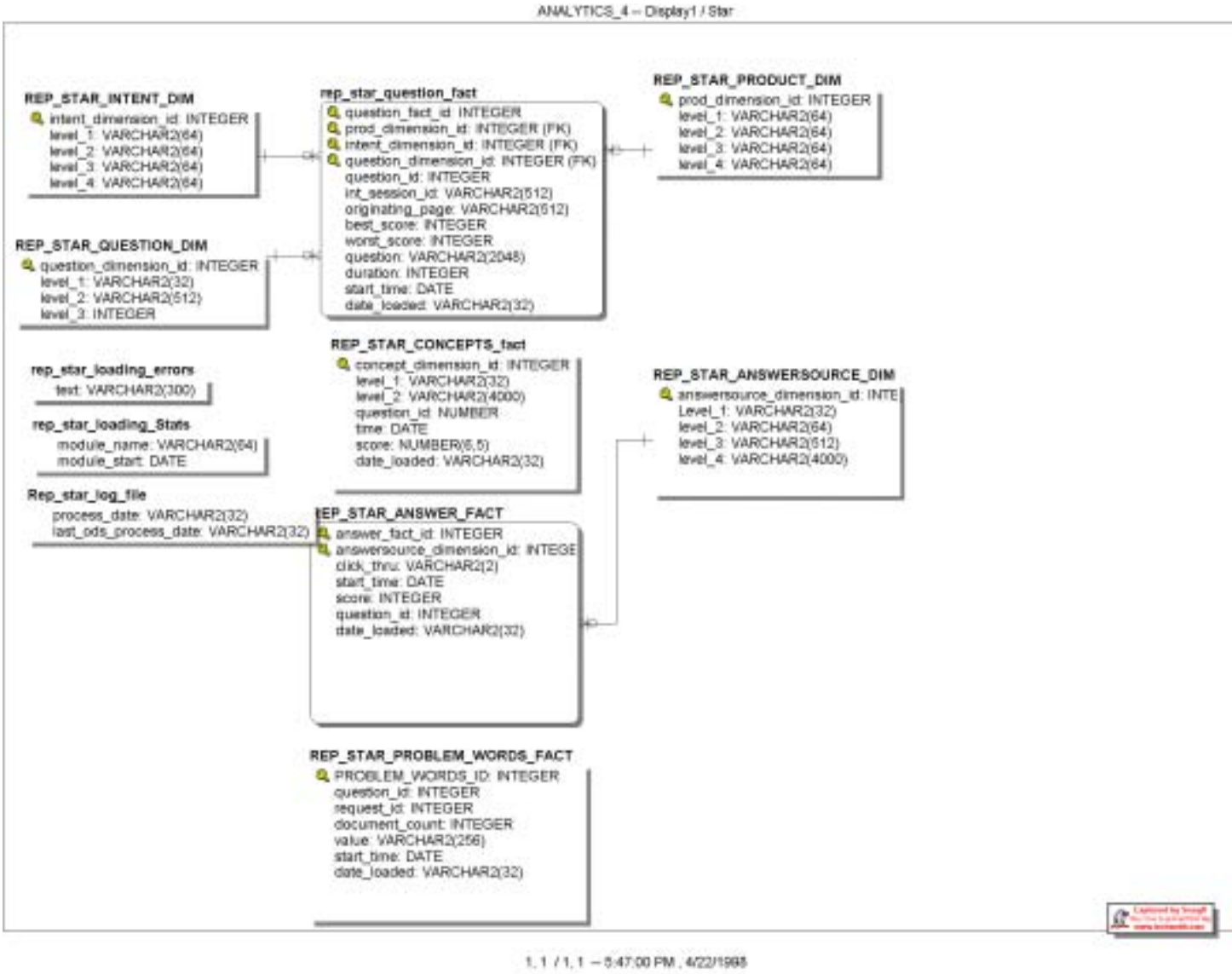
It is safe, for any number of reasons, to re-create these tables as long as the Analytics Cube Creation task has run. Yahoo does this for example because of the high volume of data and their lack of desire to buy harddrive space.

The STAR Schema Re-Create Task

Use this task to re-create the InQuira 6 Analytics reporting database tables. The ? will delete the existing reporting data and create a new reporting database containing no data.

This is the second set of tables in analytics, the STAR schema tables. We should warn customers that this is VERY dangerous to run more than ONCE. If this table gets dropped once there is data in them, the existing reports will stop working.

InQuira 6 Log Files
Star Schema Diagram



Normalized Schema Diagram