QUERYING IMIS DATA FOR THE BEGINNER
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PRESENTER

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  – CEO, Lane Services, LLC (since 2003)
  – Certified IMIS Professional
  – PhD in Information Systems (dissertation on fundraising software)
  – Presented sessions at NiUG AP since 2013
• What are IQA and Business Objects?
• Where is IQA Used in iMIS?
• Why use IQA?
• How to write IQA Queries
• Working with Business Objects
• Use queries to create SSRS reports
• Use queries to create dynamic groups

WHAT IS IQA

• IQA = Intelligent Query Architect
• Provides the ability to leverage your iMIS data in a multitude of ways by...
• Driving searches
• Generating lists for export
• Creating SSRS reports
WHAT ARE BUSINESS OBJECTS?

• IQA uses business objects
• Business objects provide a way to represent data in a user friendly manner. The objects are used by queries and windows in iMIS.
  – Standard business objects
  – Custom business objects (more on these later…)

STANDARD BUSINESS OBJECTS

• iMIS supplies many standard business objects in anticipation of your needs
• 2 types of standard objects
  – CsXXX objects representing iMIS data from the legacy modules (Customer, Billing, Events, Orders, etc.)
  – NetXXX or Standard Objects
### KEY STANDARD BUSINESS OBJECTS

<table>
<thead>
<tr>
<th>Customers</th>
<th>Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>- CsContact (NetContact)</td>
<td>- CsEvents</td>
</tr>
<tr>
<td>- CsActivity</td>
<td>- CsFunction</td>
</tr>
<tr>
<td>- CsCommittee</td>
<td>- CsRegistration</td>
</tr>
<tr>
<td>- CsAddress</td>
<td></td>
</tr>
<tr>
<td>- CsMemberType</td>
<td></td>
</tr>
<tr>
<td>- CsRelationships</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Billing</th>
<th>Orders</th>
</tr>
</thead>
<tbody>
<tr>
<td>- CsDuesHistory</td>
<td>- CsOrders</td>
</tr>
<tr>
<td>- CsSubscriptions</td>
<td>- CsProduct</td>
</tr>
</tbody>
</table>

### CUSTOM BUSINESS OBJECTS

- Provide a dataset not addressed by iMIS standard business objects
- Utilize your custom views within IQA queries
- Add virtual columns that involve a calculation
### ADVANTAGES OF USING IQA

- Design a query once for multiple uses
- More flexible search options
- Multiple parameters in one query
- Flexible results display
- Seamlessly use results to drive an Informz email campaign
  - Huge time saver
  - Data efficiency and accuracy
  - This target group (the IQA results) is updated in real time when it is used in a mailing. So, create it once and it will populate with the latest and greatest data.

### IQA TERMS

- **Alias** - An alternate name for a column (property). For example, you could define **Postal Code** as the alias for the **Zip** column name.
- **Comparison Method** - Specifies the method by which data is restricted for a column. For example, to return payments for more than $1000.00, create a filter set that uses the “Greater” **Comparison** operator and enter “1000” in the **Value** field.
Display Order - Refers to the columns that display in the results for a query. Note: The default column sort order is derived from the first query source. You can override the sort order, if necessary by clicking on the column header when the results are displayed.

Filter - One or more column-specific search conditions. For example, if you wanted all contacts who live in Sydney (CsContact.CITY = 'Sydney') or are suspended (CsContact.STATUS = 'S'), you could define a filter set using the OR connector, so that only those contacts either from Sydney or who are suspended will return.

Function - Summarizes some characteristic of the current set of rows. The functions that are available depends on the data type of the column you selected. Note: You must select only one column when using a function. For example, if you want the maximum ID, ID must be the only column listed on the Display tab.

- **Avg** - Returns the average of the values in the specified column (Numeric data type only)
- **Count** - Returns the number of rows that are in the table or that meet certain conditions (Any data type)
- **Max** - Returns the maximum value found in the specified column (Character and numeric data types)
- **Min** - Returns the minimum value found in the specified column (Character and numeric data types)
- **Sum** - Returns the sum of all values found in the specified column (Numeric data type only)
IQA TERMS

- **Object** - Self-contained element that consists of instructions to manipulate data; *for example*, a business object or query object

- **Parameterized Query** - A query that requires a value from the user at runtime. *For example*, a query to obtain the members from Brisbane would ask the user to enter ‘Brisbane’ when prompted

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IQA TERMS

- **Relation** - The part of a query definition that specifies a relationship between two or more sources, which effectively creates a new temporary table against which the query is run. Because the relationship pre-filters the data in the two sources, the query can run faster and with less impact on the system. If you specify multiple sources for a query but forget to define relationships among the sources, *iMIS* reminds you that one or more sources have not been related (and by default defines a CROSS JOIN (EQUALS) relationship between the two sources).
<table>
<thead>
<tr>
<th>IQA TERMS</th>
</tr>
</thead>
</table>

- **Relationship (Join) Operator** - The specific type of relationship between two sources. The following relationship operators are available in IQA. Each operator builds a different temporary source against which the query is run:
  - **Equals** - Defines an INNER JOIN between the two sources in the SELECT statement that builds the query table.
  - **Left Join** - Defines a LEFT OUTER JOIN between the two sources in the SELECT statement that builds the query table.
  - **Exists** - Defines an EXISTS subquery.
  - **Not Exist** - Defines a NOT EXISTS subquery
  - **Or Exists** - Defines an OR EXISTS subquery
  - **Or Not Exist** - Defines an OR NOT EXISTS subquery

- **Source** - Object that is available for building query definitions. Sources include both business objects and query objects. Query definitions can be created based on one or more sources and you can use the results of one query as input for another. This is particularly helpful if you want to exclude records.
TO BEGIN: IN CONTINUUM, SELECT MODULE, THEN NEW-QUERY

ENTER NAME (REQUIRED 1ST STEP)
ON SOURCES TAB, CLICK ADD SOURCE & SELECT 1ST BUSINESS OBJECT

SELECT ANOTHER BUSINESS OBJECT IF DESIRED (REPEAT AS NEEDED)
YOU CAN CHANGE THE JOIN METHOD IF NECESSARY

<table>
<thead>
<tr>
<th>Source</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NetContact</td>
<td>Business Object</td>
<td>PK_Name_Name_Address_Bill (When NetContact.Bill Address Num = CSAddress Address Number)</td>
</tr>
<tr>
<td>CSAddress</td>
<td>Business Object</td>
<td></td>
</tr>
</tbody>
</table>

FILTERS - CHOOSE THE RECORDS TO SELECT, PROMPTING OPTIONS & LABELS

<table>
<thead>
<tr>
<th>NiUG Query</th>
<th>Define</th>
<th>Run</th>
<th>Report</th>
<th>Group</th>
<th>Security</th>
</tr>
</thead>
</table>

Query Filters

<table>
<thead>
<tr>
<th>Property</th>
<th>Function</th>
<th>Comparison</th>
<th>Multiple</th>
<th>Value</th>
<th>Prompt</th>
<th>Postal Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>NetContact.Status</td>
<td>Name</td>
<td>Equal</td>
<td>Active</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSAddress.Zip</td>
<td>Name</td>
<td>Starts With</td>
<td></td>
<td>Optional</td>
<td>Postal Code</td>
<td></td>
</tr>
</tbody>
</table>
### NiUG Query

**Postal Code Starts With**

<table>
<thead>
<tr>
<th>Postal Code Starts With</th>
<th>15</th>
</tr>
</thead>
</table>

Please enter your search criteria to view results.

### NiUG Query

**Postal Code Starts With**

<table>
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<tr>
<th>Postal Code Starts With</th>
<th>15</th>
</tr>
</thead>
</table>

Please enter your search criteria to view results.

### NiUG Query

**Postal Code Starts With**

<table>
<thead>
<tr>
<th>Postal Code Starts With</th>
<th>15</th>
</tr>
</thead>
</table>

Please enter your search criteria to view results.
### EXPORT RESULTS (EXCEL)

<table>
<thead>
<tr>
<th>Name</th>
<th>Company</th>
<th>Address</th>
<th>City</th>
<th>State</th>
<th>Zip</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Doe</td>
<td>Acme Corporation</td>
<td>123 Business Street</td>
<td>Chicago</td>
<td>IL</td>
<td>60601</td>
</tr>
<tr>
<td>Jane Smith</td>
<td>Beta Industries</td>
<td>456 Corporate Avenue</td>
<td>New York</td>
<td>NY</td>
<td>10007</td>
</tr>
<tr>
<td>Michael Jones</td>
<td>Gamma Corporation</td>
<td>789 Industrial Lane</td>
<td>Los Angeles</td>
<td>CA</td>
<td>90001</td>
</tr>
<tr>
<td>Sarah Wilson</td>
<td>Delta Corporation</td>
<td>101 Innovation Drive</td>
<td>Houston</td>
<td>TX</td>
<td>77002</td>
</tr>
</tbody>
</table>

### EXPORT RESULTS (PDF)

![PDF Export Results](image-url)
EXPORT RESULTS (CSV)

EXPORT RESULTS (WORD TABLE)
### REPORT FUNCTION

- Customize the generated reports: totals, subtotals, parameters (associated in the query)
- This creates an actual SSRS report. You may export the report definition as an .rdl file that may be modified outside of iMIS.

### SUB-TOTALS & ORDERING

- You can apply one or more subtotals in your query definition. In Reporting Services terms, subtotals are “groups”. When you enable **Subtotal** for a **Display** enabled field, a group is added. The groups nest in the **Order** you specify after **Subtotal**.
HIERARCHICAL REPORTING

- Allows:
  - Group Results
  - Drill Down Reporting
### Member Summary

<table>
<thead>
<tr>
<th>Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accredited Member</td>
<td>4</td>
</tr>
<tr>
<td>Associate Member</td>
<td>9</td>
</tr>
<tr>
<td>Company Member</td>
<td>13</td>
</tr>
<tr>
<td>CPA Member</td>
<td>4</td>
</tr>
<tr>
<td>Individual Member</td>
<td>86</td>
</tr>
<tr>
<td>Student Member</td>
<td>2</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Name</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td></td>
</tr>
</tbody>
</table>

- Mr. Darrin Whitsell
- Ms. Mary J. Miller
- Mr. Carl Melcher
- Mr. John G. Tice, Jr.
- Ms. Linda G. Dene
- Mr. Charles J. Dene, LLM
- Mr. Ted L. Moore
- Mr. Earl L. Jones
- Michael R. Ooering
- Company Member
- CPA Member
- Individual Member
- Student Member
CHARTING iPART

- Produce simple charts for use on desktop (15.2.15 or higher), staff site (iMIS 20) or public iPart site (15.2.15 or higher) - this does NOT apply to the standard (old) iMIS Public Views
- Simple Dashboards
QUESTIONS??

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