

Blackbaud CRM™ DEVELOPERS' CONFERENCE

Blackbaud Data Warehouse: Reporting and Analytics

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- University of Illinois Foundation



Topics

- ❖ Legacy System
 - Environment and Architecture
- ❖ Blackbaud CRM and Blackbaud Data Warehouse Implementation
 - BBDW Architecture - Extending the out of box BBDW data structures
- ❖ Reporting and Analytical customizations
 - Deploying Reports and Ad hoc query marts in CRM.
 - Tableau Implementation in CRM.



Legacy System

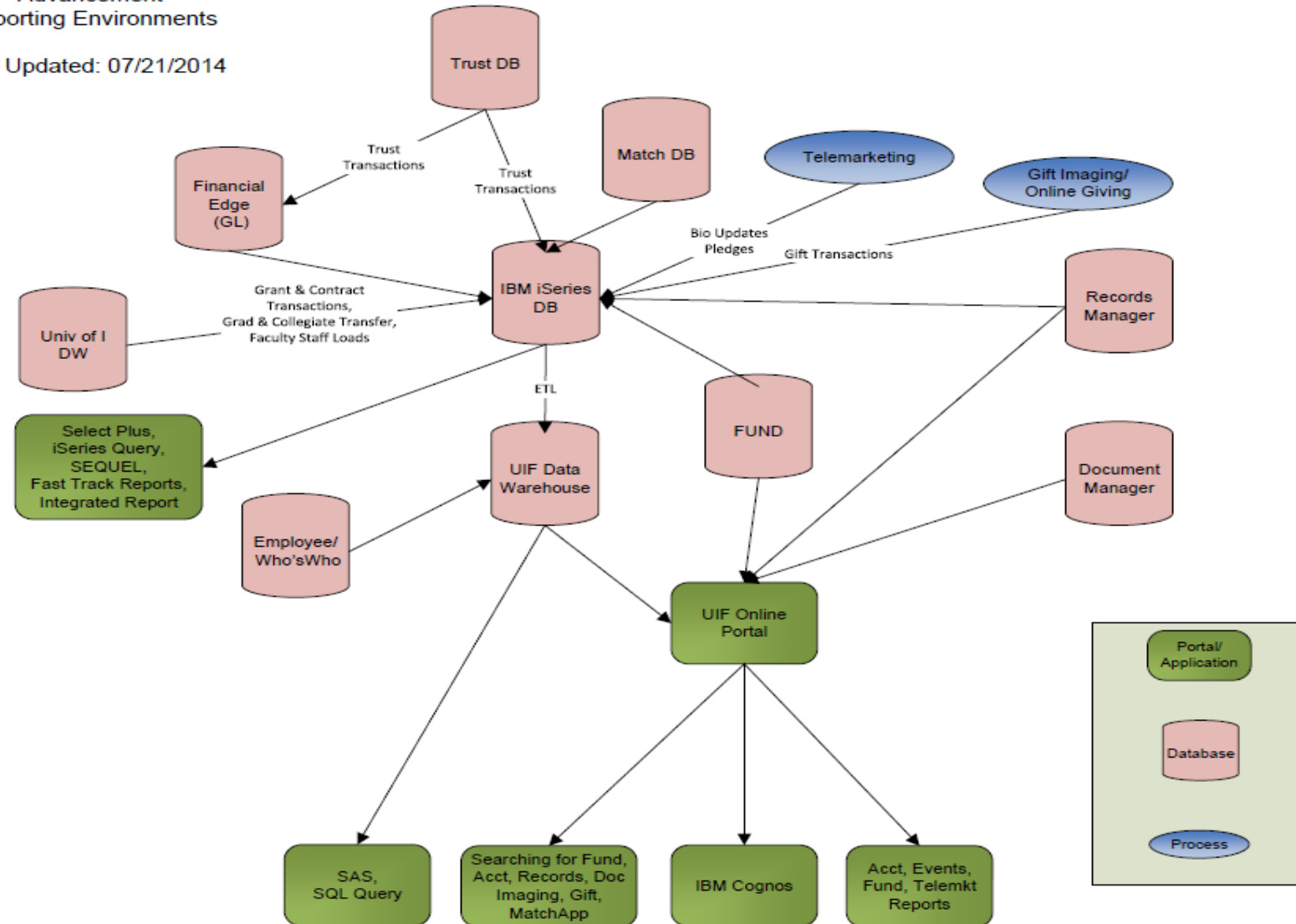
Environment and Architecture

Environment

- ❖ Several Data sources for Transactional Database and Data warehouse
- ❖ Multiple Data Transformation and Loading layers
 - Data loaded into Transactional Database
 - ETL for Data warehouse
- ❖ Reporting environments (*Over 200 Production Reports*)
 - IBM Cognos Reporting
 - IBM iSeries Reporting
 - Reporting from Legacy Databases
- ❖ Multiple Query Tools
 - Transactional Database Query Application
 - IBM Cognos Query Application
 - Custom Query Applications

Architecture

Advancement
Reporting Environments
Last Updated: 07/21/2014





Blackbaud CRM and Data Warehouse

Implementation and Customization

Implementation

❖ Phase 1 Plan

- ❖ CRM and BBDW Implementation completed Nov 2015 (*CRM 4.0*).
- ❖ BBDW initial Customization and Extensions deployed by the Blackbaud BI Professional Services consultant.
- ❖ Implementation of Custom CRM Functional Area for Reporting
- ❖ SSRS reports using BBDW OOB and Extension data structures

❖ Phase 2 BBDW Extension and Customizations:

- Customization of ETL and Base Table extensions
- OOB BBDW Query View Ext

❖ Phase 3 BBDW Customizations

- Custom Data Structures combining different Functional Areas
- Custom SSRS reports deployed in CRM sourcing BBDW
- Custom Query Views deployed in CRM Ad Hoc Query
- Tableau Implementation



Customizations


New Functional Area Reporting Tab

Blackbaud CRM™




Constituents ▾ Name or lookup ID 🔍

Welcome, **Alam, Tanweer** ▾











Home ▾ | Constituents ▾ | Marketing and Communications ▾ | Revenue ▾ | Events ▾ | Memberships ▾ | Prospects ▾ | Volunteers ▾ | UI Reporting ▾ | Foundations ▾ | Sponsorship ▾ | Fundraising ▾ | Treasury ▾ | Analysis ▾ | Administration ▾ | Workflow ▾ | Goals And Metrics ▾ | UIF Links ▾

 **UI Reporting**




Annual Giving

-  Alumni Friends Contact Channel Report
-  Annual Giving Comprehensive Report
-  Annual Giving Comprehensive Report Suite









Revenue and Recognition

-  EGAD Dashboard
-  Fund Analysis Report
-  Grainger Match Dashboard
-  Pledge Reports
-  Renewal Report Suite
-  Revenue Report Suite
-  Revenue Report Suite YTD
-  Top Donors Report
-  Weekly Gift Report
-  Revenue and Recognition to a Designation






Campaign

-  Campaign Pyramid Reports Dashboard
-  Campaign Revenue Report
-  New Business, Cash and Campaign Progress Report




Planned Gift

-  Estimated Maturity Dates for Planned Gifts
-  Planned Gift Annuity and Life Income Report
-  Planned Gift Commitments
-  Planned Gift Commitments by Campaign
-  Planned Gift Commitments by Responsible Parties
-  Planned Gift Data Sheet
-  Planned Gift Quarterly Detail Report
-  Planned Gift Quarterly Summary Report

Development Performance

-  Development Activities Profile Report
-  Interaction Detail Report
-  Opportunity Expectation Report
-  Progress to Goals Report
-  Active Pipeline Report Suite

Events

-  Event List Report Dashboard
-  Event Statistics Summary Report
-  RSVP Name Tags



Customizations

UI Reports group added to the OOB Functional Area tabs

Blackbaud CRM™

Constituents Name or lookup ID

Home Constituents Marketing and Communications Revenue Events Memberships Prospects Volunteers UI Reporting Foundations Sponsorship Fundraising

Prospects

Research Lists View all lists

Favorite lists

Records

You have not yet marked any lists as your favorites. Click this link to view all lists that you have access to, where you will be able to mark a list as one of your favorites.

Recently accessed lists

Records

You have not yet viewed any research lists. Click this link to view all lists that you have access to.

Prospect research

- Search constituents
- My prospect research page
- Add a Research Request

Research tools

- Mapping
- Prospect analysis
- Target Analytics model scores and ratings results

Prospect management

- My fundraiser page
- Major giving management
- Search fundraisers
- Fundraiser on the Go

Configuration

- Engagement interest categories and subcategories

Reports

- Opportunity pipeline
- Planned gift detail
- Prospect plan analysis
- Prospect plan follow-up

UI Reports

- DAG Profile Report
- DAG by Officer - Ask Detail Report
- DAG by Officer - Activity Detail Report



Customizations

OOB SSRS Parameter Selections

- ❖ Multiple Levels of reports imbedded in one Report Suite

Blackbaud CRM™

Constituents | Name or lookup ID

Welcome, Alam, Tanweer

Home | Constituents | Marketing and Communications | Revenue | Events | Memberships | Prospects | Volunteers | UI Reporting | Foundations | Sponsorship | Fundraising

Revenue Report Suite

Report Level	<Select a Value> System University College Department	Revenue Type	<Select a Value>	View Report
University		College		
Department		Revenue Transaction Type		
Revenue Payment Method		Commitment Type		
Constituency		Search Designation (Optional)	<input checked="" type="checkbox"/> NULL	
Select Designation (Optional)		Fund Type	UIF Internal, Other, Endowmen	
Start Date (MM/DD/YYYY)		End Date (MM/DD/YYYY)		



Customizations

Customizing SSRS Report Functionality

❖ Reports Dashboard

Blackbaud CRM™

Constituents Name or lookup ID

Welcome, **Alam, Tanweer**

Home Constituents Marketing and Communications Revenue Events Memberships Prospects Volunteers UI Reporting Foundations

Campaign Pyramid Reports Dashboard

University: 1-University of Illinois at Urban Advancement Unit: 1-Agricultural, Consumer, and I

Display C MED Rollup: ☐ True ☒ False

View Report

1 of 1 Find | Next

Click on the Report that you need to run

1. University Executive Summary Report
2. Campaign Projection Report Without Page Breaks
3. Campaign Projection Report With Page Breaks
4. Campaign Pyramid Report



Customizations

Custom SSRS Household Giving Report Tab on Revenue

Contact	Organization Info	Corporate Info	Relationships	Affiliations	Revenue	Memberships	Prospect	Documentation and Interactions	Commur
Revenue Summary	Revenue History	Recognition	Recognition History	Gifts	Tributes	Grants and Contracts	UI Household Giving	Help	
1 of 1 Find Next									
Household Giving Summary by Individual									
<input type="checkbox"/> University	<input type="checkbox"/> 1-University of Illinois at Urbana-Champaign	<input type="checkbox"/> Applied Health Sciences	<input type="checkbox"/> 1KY-Applied Health Sciences	<input checked="" type="checkbox"/> 1KY581-Kinesiology & Community Health	\$297,341.00				
				<input checked="" type="checkbox"/> 1KY943-Disability Res & Educ Svcs	\$920,897.00				
Total					\$1,218,238.00				

Contact	Organization Info	Corporate Info	Relationships	Affiliations	Revenue	Memberships	Prospect	Documentation and Interactions	Communication
Revenue Summary	Revenue History	Recognition	Recognition History	Gifts	Tributes	Grants and Contracts	UI Household Giving	Help	
CONTEXTID 9bf3986d-514b-4530-a6db-389a1									
1 of 1 Find Next									

Household Giving Summary by Individual

<input type="checkbox"/> University	<input type="checkbox"/> 1-University of Illinois at Urbana-Champaign	<input type="checkbox"/> Applied Health Sciences	<input type="checkbox"/> 1KY-Applied Health Sciences	<input checked="" type="checkbox"/> 1KY581-Kinesiology & Community Health	\$297,341.00				
				<input checked="" type="checkbox"/> 1KY943-Disability Res & Educ Svcs	\$920,897.00				
Total					\$1,218,238.00				



Customizations

Ad Hoc Query View extensions

New Ad-hoc Query

Select filter and output fields | Set sort and group options | Preview results | Set save options

Find field:

Browse for fields in:

- Constituents (from the Blackbaud Data Warehouse)
 - AffiliationRatings-AdvUnit
 - AffiliationRatings-BySite
 - All Addresses
 - All Email Addresses
 - All Phones
 - Appeals
 - CAP Selection
 - CAP Transactions
 - Constituencies
 - Corporate Household
 - Date Details
 - Donor History**
 - Donor History by Advancement Unit
 - Donor History by Campus
 - Donor History by Site
 - Education
 - Educational Involvement
 - Event Registrations
 - Financial Transaction Line Item Split UI
 - Financial Transaction Line Item UI
 - Group Members
 - Groups Belonging To
 - Household Giving By Household Detail
 - Household Giving By Household Summary
 - Household Giving By Individual Detail
 - Household Giving By Individual Summary
 - Household Members

Select Donor History fields:

Fields

- Entity Constituent Lookup ID
- Entity Cumulative Lifetime Giving Amount
- Entity Full Name
- Entity Is Individual
- Entity Prior Year Recognition Amount
- Entity Prior Year Revenue Amount
- Entity This Year Recognition Amount
- Entity This Year Revenue Amount
- Fiscal Year
- Household Consecutive Years of Giving
- Household Cumulative Lifetime Giving Amount
- Household Cumulative Lifetime Giving Year
- Household First Giving Year
- Household Lapse Years
- Household New Donor Indicator
- Household Prior Giving Year
- Household This Year Gift Amount

System Fields

- Donor History FactID
- Entity Constituent DimID

Include records where:

Results fields to display:

- Name



Customizations

Custom Ad Hoc Query Views

New Ad-hoc Query

Select filter and output fields Set sort and group options Preview results Set save options

Find field:

Browse for fields in:

- Constituent UI
 - Affiliation Rating by Advancement Unit UI
 - All Education Pivoted UI
 - All Education UI
 - Committee UI
 - Constituent Address UI
 - Corporate Household UI
 - Donor History by Advancement Unit UI
 - Donor History by Campus UI
 - Donor History by Site UI
 - Donor History UI
 - Educational Involvement
 - Employee UI
 - Financial Transaction Line Item Split UI
 - Household Giving By Individual Detail UI
 - Household Giving By Individual Summary UI
 - Household Member UI
 - Interactions UI
 - List Generator UI
 - Mail Preference Codes
 - Opportunity UI
 - Prospect Plan UI
 - UI Education
 - UI Education Pivoted
 - University Appointment UI

Select All Education Pivoted UI fields:

Fields

- ETL ControlID
- Is Included
- Non UI Alumni Status1
- Non UI Alumni Status2
- Non UI Alumni Status3
- Non UI Alumni Status4
- Non UI Alumni Status5
- Non UI Alumni Status6
- Non UI Alumni Status7
- Non UI Alumni Status8
- Non UI Class of 1
- Non UI Class of 2
- Non UI Class of 3
- Non UI Class of 4
- Non UI Class of 5
- Non UI Class of 6
- Non UI Class of 7
- Non UI Class of 8
- Non UI Degree Code1
- Non UI Degree Code2
- Non UI Degree Code3
- Non UI Degree Code4
- Non UI Degree Code5
- Non UI Degree Code6
- Non UI Degree Code7

and or

Include records where:

abz

Results fields to display:



Customizations

Sample XML for Constituent UI Query View

```
<?xml version="1.0"?>
<QueryViewSpec xmlns="bb:appfx:q:view" MartKey="BBDW" IsRoot="true"
RecordType="Constituent EXT view" Author="BBDW-UserName" Description="A view
defined for querying on Constituent records" Name="Constituent UI" ID="bf24eded-c461-
4e76-9b12-e582d53dbe58" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">

  <ViewImplementation ViewName="V_QUERY_DIM_CONSTITUENT">

    <ViewSQL> SELECT [CONSTITUENTDIMID] ,[CONSTITUENTSYSTEMID]
,[CONSTITUENTLOOKUPID] ,[FULLNAME] ,[TITLE] ,[FIRSTNAME] ,[MIDDLENAME]
.....
FROM [BBDW].[DIM_CONSTITUENT] </ViewSQL></ViewImplementation>

    <Output><OutputFields>

      <OutputField Name="CONSTITUENTDIMID" DataType="Integer" Category="System
Fields" Caption="Constituent Dim ID"/><OutputField Name="CONSTITUENTSYSTEMID"
Category="System Fields" Caption="Constituent System ID"/><OutputField
Name="CONSTITUENTLOOKUPID" Caption="Constituent Lookup ID"/><OutputField
Name="FULLNAME" Caption="Full Name"/><OutputField Name="TITLE"
Caption="Title"/><OutputField Name="FIRSTNAME" Caption="First Name"/><OutputField
Name="MIDDLENAME" Caption="Middle Name"/> .....

    </OutputFields></Output><RelationshipOperations><AddToParentView
Cardinality="OneToOptionalOne" PathAlias="Spouse UI"
Field="SPOUSECONSTITUENTDIMID"
ParentViewRelatedField="CONSTITUENTDIMID"
ParentView="V_QUERY_BBDW_CONSTITUENT"/></RelationshipOperations></QueryViewSpec>
```




Customizations

Sample XML for Custom Campaign Query.

```
<?xml version="1.0"?>
<QueryViewSpec xmlns="bb_appfx_queryview" MartKey="BBDW" IsRoot="true"
RecordType="CPN UI" Author="BBUserName" Description="A view defined for querying
on CPN Revenue records" Name="CPN UI" ID="48a7-9850-28ede84aa180-caa0ae85-a379"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"><ViewImplementation
ViewName="USR_V_FACT_CPNREVENUE_EXT"><ViewSQL> SELECT
F_TRANS_LINE_SPLIT_FACTID, FINANCIALTRANSACTIONSPLITAMOUNT,
CPNNEXT_CPNDIMID, CPNNEXT_SITEDIMID, CPNNEXT_SPLITSITEDIMID,
CPNNEXT_SPLITADVANCEMENTUNITNAME,
CPNNEXT_SPLITADVANCEMENTUNITDESCRIPTION FROM
BBDW.FACT_CPNREVENUE_EXT CR WHERE COUNT(CPN)=1
</ViewSQL></ViewImplementation><Output><OutputFields><OutputField
Name="FINANCIALTRANSACTIONLINEFACTID" DataType="Integer"
Category="System Fields" Caption="Financial Transaction Line Item Fact
ID"/><OutputField Name="FINANCIALTRANSACTIONSPLITAMOUNT"
DataType="Money" Caption="Financial Transaction Split Amount"/><OutputField
Name="CPNNEXT_CPNDIMID" DataType="Integer" Category="System Fields"
Caption="CPN Next CPN Dim ID"/><OutputField Name="CPNNEXT_SITEDIMID"
DataType="Integer" Category="System Fields" Caption="CPN Next Site Dim
ID"/><OutputField Name="CPNNEXT_SPLITSITEDIMID" DataType="Integer"
Category="System Fields" Caption="CPN Next Split Site Dim ID"/><OutputField
Name="CPNNEXT_SPLITADVANCEMENTUNITNAME" Caption="CPN Next Split
Advancement Unit Name"/><OutputField
Name="CPNNEXT_SPLITADVANCEMENTUNITDESCRIPTION" Caption="CPN Next
Split Advancement Unit
Description"/></OutputFields></Output><RelationshipOperations><AddToParentView
Cardinality="OneToOptionalOne" PathAlias="CPN Revenue UI"
Field="F_TRANS_LINE_SPLIT_FACTID"
ParentViewRelatedField="F_TRANS_LINE_SPLIT_FACTID"
ParentView="V_FACT_FINANCIALTRANSACTIONSPLIT_EXT"/></RelationshipOperati
ons></QueryViewSpec>
```




Tableau Implementation

CRM Customization - Tableau Dashboard

❖ Phase 1 – Architecture Setup

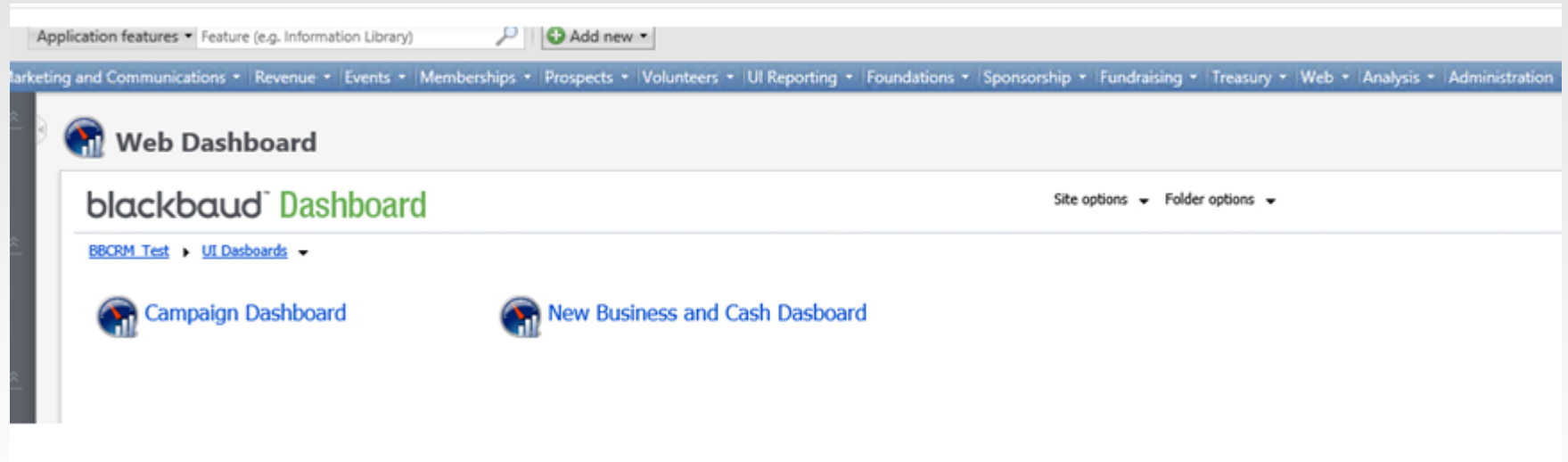
- Tableau Server Configuration – Workspace exclusive for CRM
- Security Configuration

❖ Phase 2 Configuring CRM to surface Tableau Dashboards

- Configuring Web Dashboard functionality
- Creating Tableau Dashboard Functional Area
- Configuring Dashboards with multiple pages and tabs.

CRM Customization - Tableau Dashboard

Configuring Web dashboard Interface to embed Tableau Dashboards



Creating Dashboard Functional Area Tab to surface Tableau Dashboards

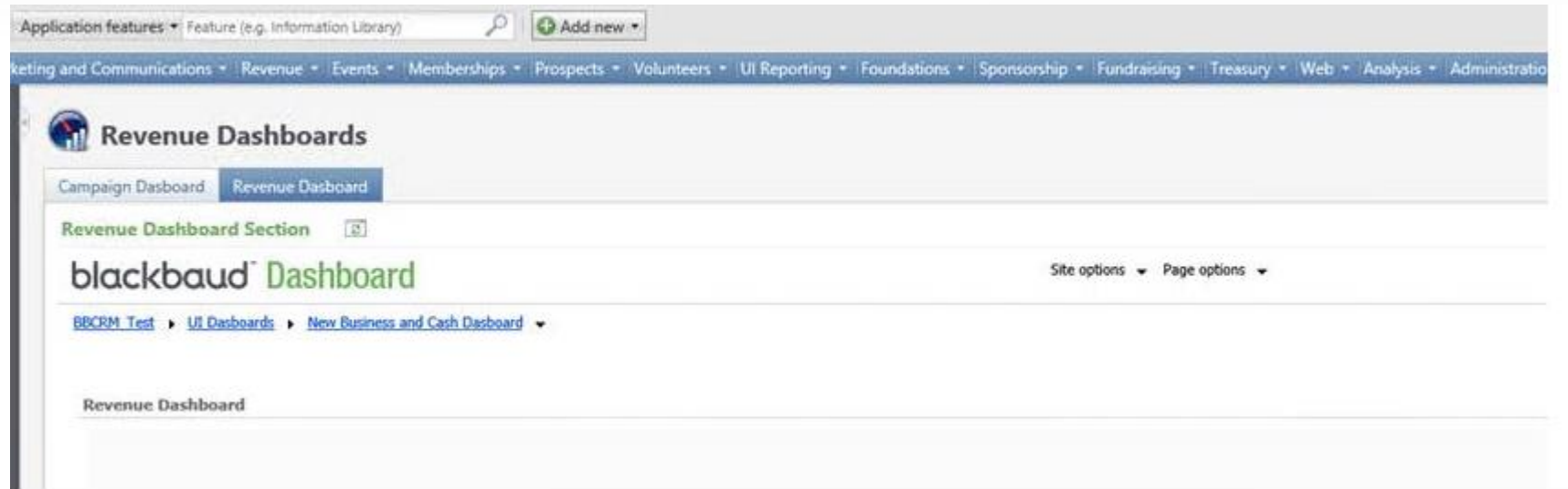


Tableau Dashboard – Editing Page Display Properties

The screenshot shows a Tableau dashboard titled "Revenue Dashboard" with a table and a horizontal bar chart. The table lists "Fiscal Yr." and "University" with data for 2017 and 2018. The bar chart shows "Revenue Amount" by "Commitment Type". A modal window titled "Revenue Dashboard" is open, allowing editing of properties, HTML content, appearance, and layout.

Revenue Dashboard
Modify the properties of the Web Part, then click OK or Apply to apply your changes.

☒ Properties

HTML Content:

```
<script type='text/javascript'  
src='https://tableau-test.admin.uillinois.edu/javascripts/api/viz_v1.js'> </script> <div  
class='tableauPlaceholder'  
style='width: 1304px; height: 636px;'> <object class='tableauViz'  
width='1304' height='636'  
style='display:none;'> <param
```

☒ Appearance

Title:
Revenue Dashboard

Chrome type:
Default

☐ Hidden

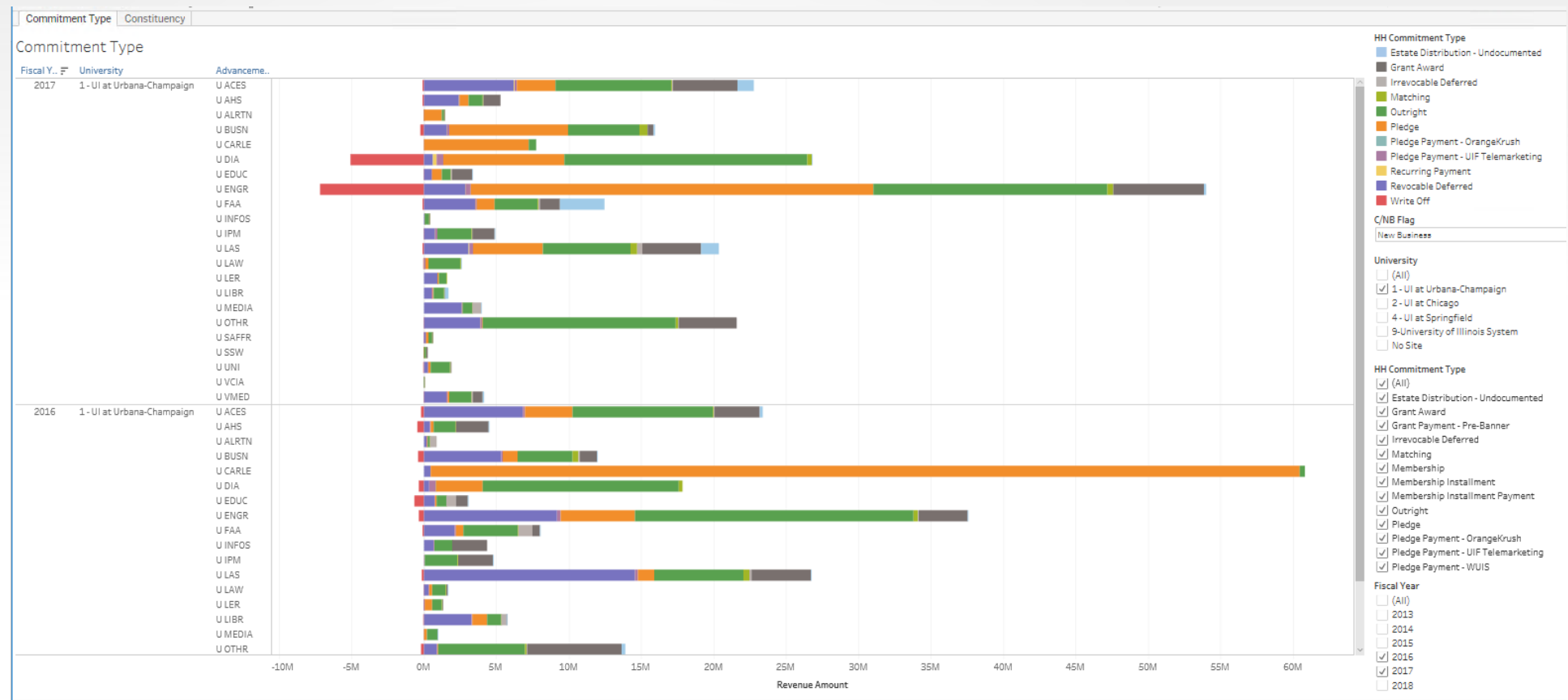
☒ Layout

OK Cancel Apply

Tableau Dashboard - CRM Interface Customization

❖ Phase 3 CRM Dashboard Functional Area Interface enhancements

- Deploying Custom HTML pages to build dynamic and robust dashboard features.
- Web Dashboard/Tableau configurations for tablets and smart phones.





Thank you!

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