



ACTUATE®

*The **BIRT** Company™*

Creating Data Driven Web Apps with BIRT

*Michael Williams*

*March 18, 2014*

# Today's Agenda and Goals

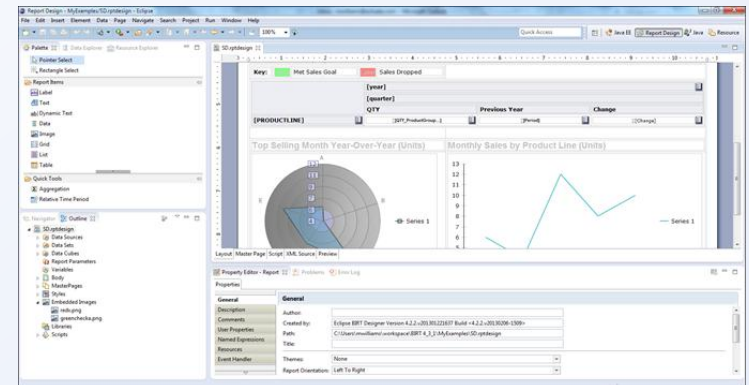
- Introduction to BIRT
- Designing BIRT Reports
  - Designer
  - APIs
- Deploying BIRT
  - BIRT Viewer
  - Report Engine (Java)
  - BIRT Viewer Toolkit
  - JavaScript API
- Questions



# What is BIRT?

## *A New Generation of Data Visualization Technology*

- Makes all data-driven content development easy
- Modern, web-page design metaphor
- Open and standards-based
- Flexible with rich programmatic control
- Full support for libraries and reuse
- Foundation for a range of solutions



***Simplicity**  
that makes  
simple  
layouts easy*

**BIRT**

***Power**  
to create  
very complex  
layouts*

# BIRT Release History

September 2004		BIRT Project proposal accepted, and <b>project launched</b>
June 2005	1.0	Eclipse Report Designer, Report Engine, Chart Engine
December 2005	2.0	Support for a wide variety of common layouts
June 2006	2.1	Advanced parameters, <b>ability to join data sets</b> , ...
June 2007	2.2	Dynamic crosstab support, web services data source, ...
June 2008	2.3	JavaScript Debugger, BiDi Support, Charts in Crosstabs, ...
June 2009	2.5	Page aggregates, Multiple drill-downs in Charts, ...
June 2010	2.6	New charts, more chart control, developer productivity, ...
June 2011	3.7	<b>POJO Runtime, Hive/Hadoop</b> , Open Office emitters...
June 2012	4.2	Maven Support, Excel Data Source, Relative Time Periods...
June 2013	4.3	<b>MongoDB</b> & POJO ODAs, PPT & Word 2010 Support, XLSX Support...

# Designing BIRT Reports

- BIRT Offers many ways to get data
  - Standard Data Sources
    - *Flat File (CSV, TSV, SSV, PSV)*
    - *Hive Data Source (Hadoop)*
    - *Cassandra Scripted Data Source*
    - *MongoDB Data Source*
    - *JDBC Textual or Graphical*
    - *Web Service - XPath syntax*
    - *XML - XPath syntax*
    - *XLS/XLSX*
  - Scripted Data Source Written in Java or JavaScript
  - Open Data Access (ODA) DTP Project
  - Extensible JDBC Driver Framework

## Community Contributions

GoogleDocs

XML/A

Cassandra

REST

MongoDB

Multi-Flat File

GitHub

Twitter JSON Search

Dropbox usage

YQL

Google Analytics

LinkedIn

Facebook FQL

# BIRT Formatting Capabilities

- Listings, cross-tab, dashboard, pixel-perfect, charts
- Grouping, advanced aggregations, sub-totals,
- Multi-section and sub-reports
- Conditional sections and logic
- Full programmatic control and scripting
- Embedded images
- Dynamic hyperlinking
- And much more!



CLASSIC MODELS

Classic Models, Inc.  
2207 Bridgepointe Parkway  
San Mateo, CA 94404

Sales by Customer

Customer: Atelier graphique - 103

Payment: \$22,314.36

Order Number: 10123

Order Date: May 20, 2003 12:00 AM

Shipped Date: May 22, 2003 12:00 AM

Product Code	Product Name	Orders	Price Each	Price
S18_1589	1965 Aston Martin DB5	26	\$120.71	\$3,138.46
S18_2870	1999 Indy 500 Monte Carlo SS	46	\$114.84	\$5,282.64
S18_3685	1948 Porsche Type 356 Roadster	34	\$117.26	\$3,986.84
S24_1628	1966 Shelby Cobra 427 S/C	50	\$43.27	\$2,163.50

Order Number: 10298

Order Date: Sep 27, 2004 12:00 AM

Shipped Date: Oct 1, 2004 12:00 AM

Product Code	Product Name	Orders	Price Each	Price
S10_2016	1996 Moto Guzzi 1100i	39	\$105.86	\$4,128.54
S18_2625	1936 Harley Davidson El Knucklehead	32	\$60.57	\$1,938.24

Order Number: 10345

Order Date: Nov 25, 2004 12:00 AM

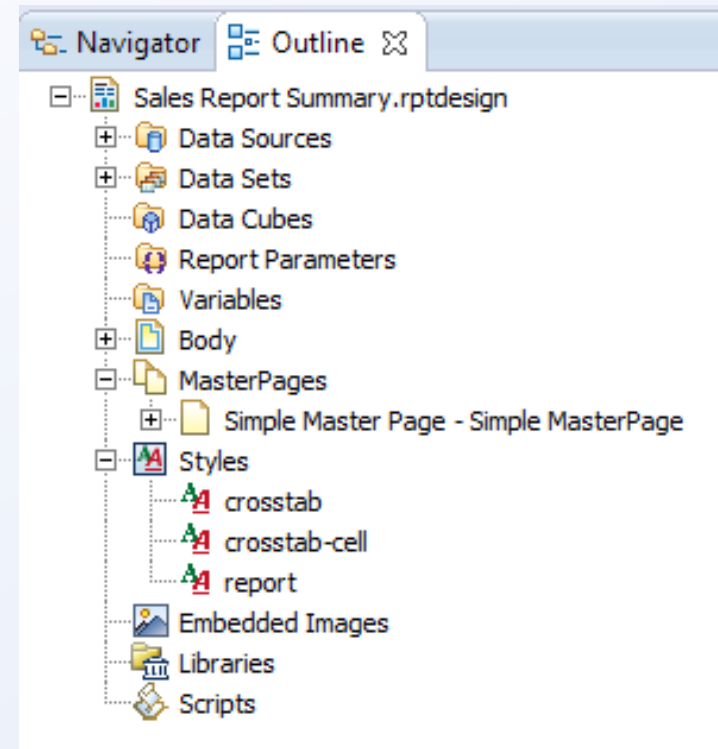
Shipped Date: Nov 26, 2004 12:00 AM

Product Code	Product Name	Orders	Price Each	Price
S24_2022	1938 Cadillac V-16 Presidential Limousine	43	\$38.98	\$1,676.14

Total Price:

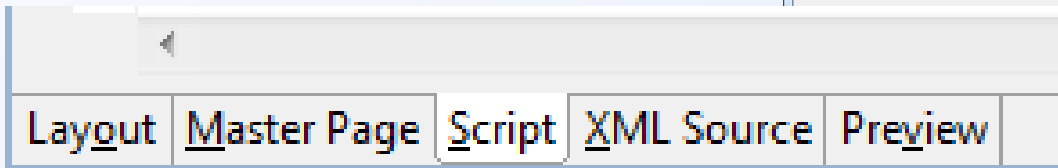
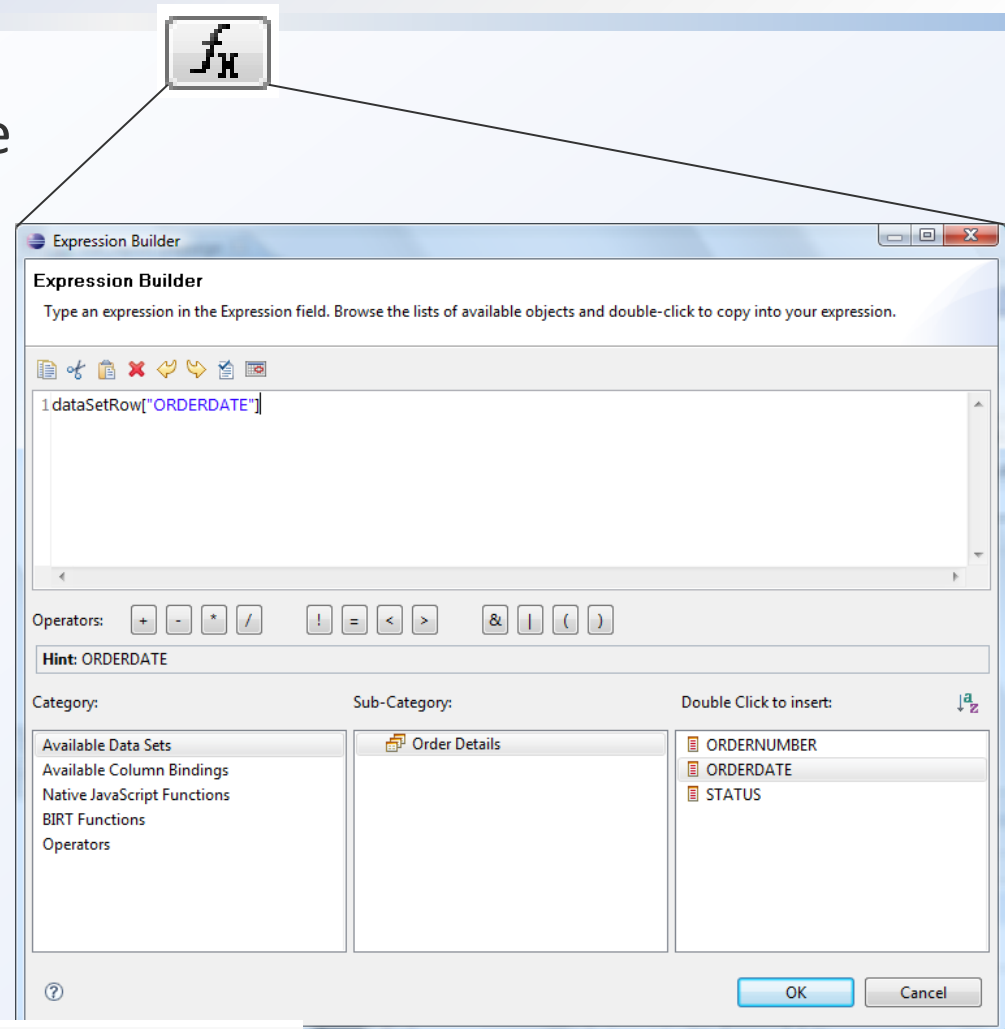
\$22,314.36

- Library support for publishing and sharing components
- Leverages common standards
  - SQL
  - Java
  - JavaScript
  - XML
- Cascading Style Sheets
- Integrated debugger





- Expressions are everywhere
  - Data Source\Set, Parameters
  - Report Items
    - *Data, Crosstab, Images*
  - Chart Elements
  - Visibility, TOC, Bookmarks
  - Events
- Helper Object References
  - Data Sets\Table Bindings
  - Native JavaScript Func's
  - BIRT Functions
  - Operators



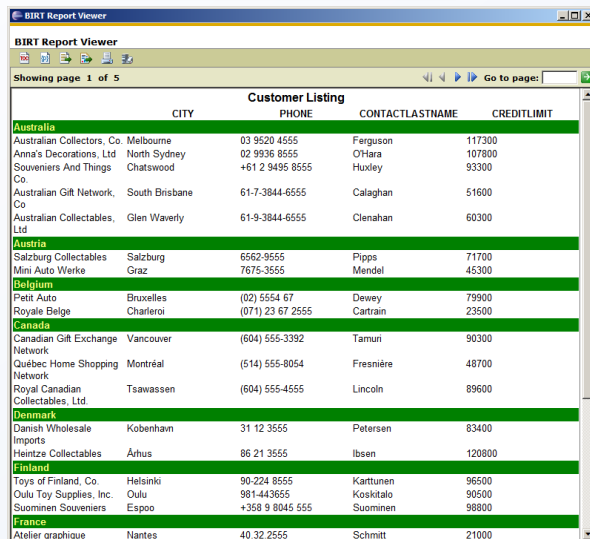
# BIRT Output Formats

- HTML, PDF, MS Office, Open Office
- Custom emitters : CSV, Text, ...
- Internationalization of labels and text
- Localization of date and numeric fields
- Support for Asian character sets and right-to-left display

Web Viewer

PDF

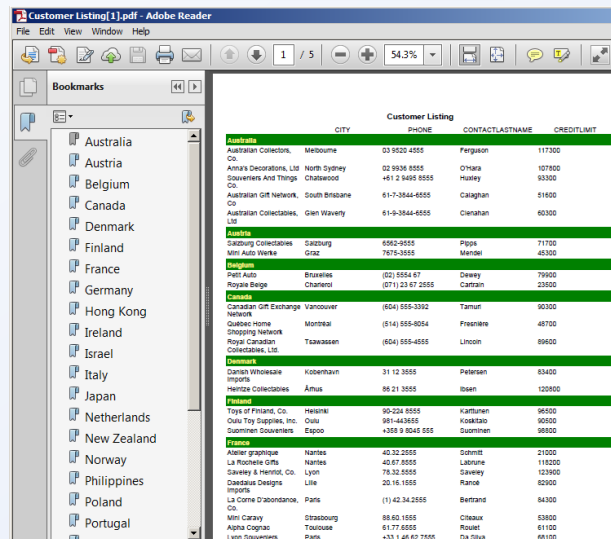
Excel



BIRT Report Viewer

showing page 1 of 5

	CITY	PHONE	CONTACTLASTNAME	CREDITLIMIT
<b>Australia</b>				
Australian Collectors, Co.	Melbourne	03 9520 4555	Ferguson	117300
Anna's Decorations, Ltd	North Sydney	02 9936 8555	O'Hara	107800
Souvenirs And Things Co.	Chatswood	+61 2 9495 8555	Huxley	93300
Australian Gift Network, Co	South Brisbane	61-7-3844-6555	Calaghan	51600
Australian Collectables, Ltd	Glen Waverly	61-9-3844-6555	Clenahan	60300
<b>Austria</b>				
Salzburg Collectables	Salzburg	6562-9555	Pipps	71700
Mini Auto Werke	Graz	7675-3555	Mendel	45300
<b>Belgium</b>				
Petit Auto	Bruxelles	(02) 5554 67	Dewey	79900
Royale Belge	Charleroi	(071) 23 67 2555	Cartrain	23500
<b>Canada</b>				
Canadian Gift Exchange Network	Vancouver	(604) 555-3392	Tamuri	90300
Québec Home Shopping Network	Montréal	(514) 555-8054	Fresnière	48700
Royal Canadian Collectables, Ltd.	Tsawassen	(604) 555-4555	Lincoln	89600
<b>Denmark</b>				
Danish Wholesale Imports	Kobenhavn	31 12 3555	Petersen	83400
Heintze Collectables	Aarhus	86 21 3555	Ibsen	120800
<b>Finland</b>				
Toys of Finland, Co	Helsinki	90-224 8555	Karttunen	96500
Oulu Toy Supplies, Inc.	Oulu	981-443655	Koskitalo	90500
Suomen Souvenirs	Espoo	+358 9 8045 555	Suominen	98800
<b>France</b>				
Atelier graphique	Nantes	40 32 2555	Schmitt	21000



Customer Listing[1].pdf - Adobe Reader

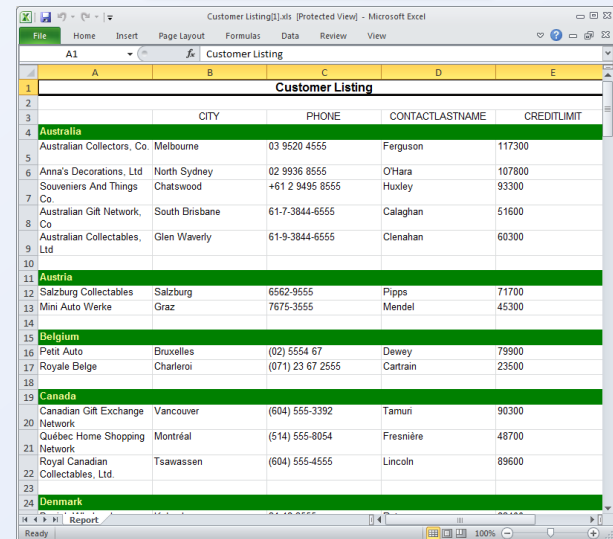
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Bookmarks

- Australia
- Austria
- Belgium
- Canada
- Denmark
- Finland
- France
- Germany
- Hong Kong
- Ireland
- Israel
- Italy
- Japan
- Netherlands
- New Zealand
- Norway
- Philippines
- Poland
- Portugal

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<b>France</b>				
Atelier graphique	Nantes	40 32 2555	Schmitt	21000
Savely & Henriot, Co.	Nantes	40 67 3555	Lacroix	118200
Savely & Henriot, Co.	Lyon	78 32 5555	Savely	129600
Daedalus Designs Imports	Lille	20 16 1555	Rance	82600
La Corne D'abondance, Co.	Paris	(1) 42 34 2555	Bertrand	84300
Mini Caray	Strasbourg	88 60 1555	Chaux	63800
Napa Cognac	Toulouse	61 77 5555	Roulet	61100
Lyon Souvenirs	Paris	+33 1 46 62 7555	Da Silva	68100



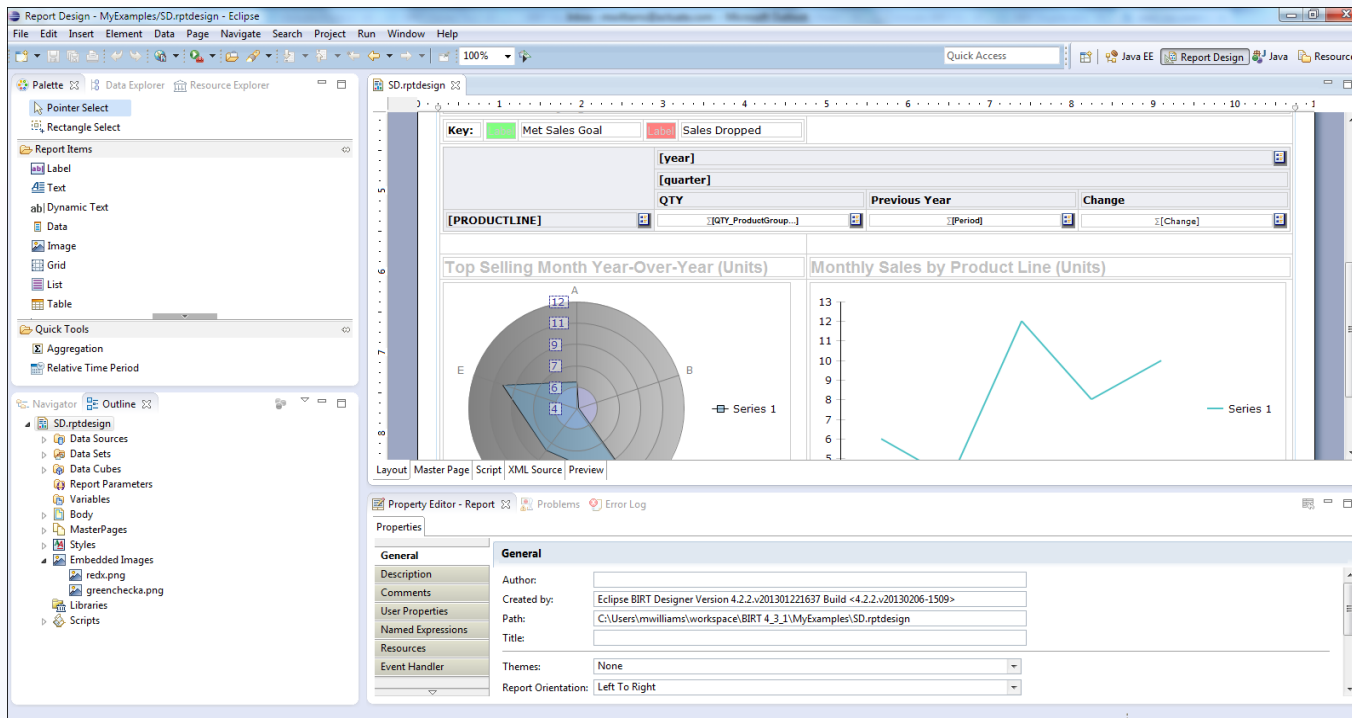
Customer Listing[1].xls [Protected View] - Microsoft Excel


File Home Insert Page Layout Formulas Data Review View

A1 Customer Listing

	A	B	C	D	E
1	Customer Listing				
2		CITY	PHONE	CONTACTLASTNAME	CREDITLIMIT
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24	<b>Denmark</b>				

# The BIRT Designer





Classic Models, Inc

2207 Bridgepointe Parkway

San Mateo, CA 94404

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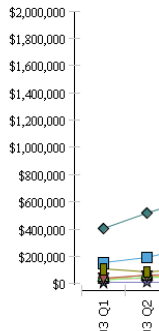
Total Price:



Classic Models, Inc

2207 Bridgepointe Parkway

San Mateo, CA 94404



Classic Cars

Trains

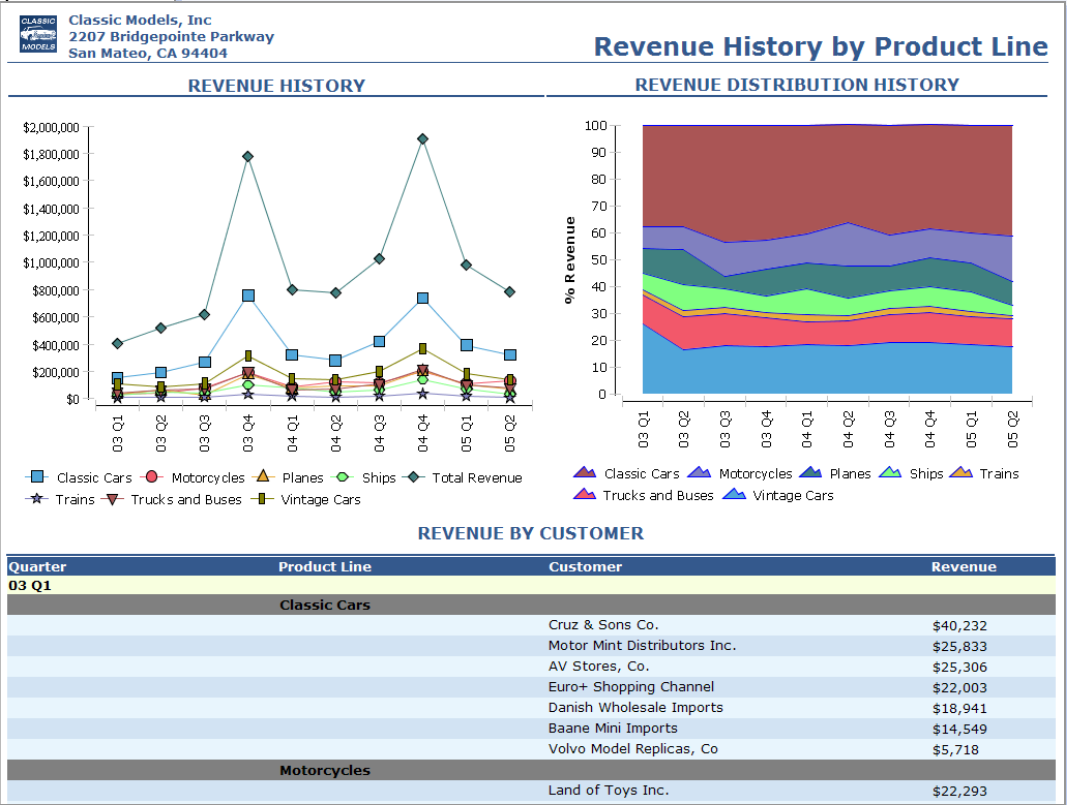
Trucks

Quarter

03 01

## Listing with Groups and Sub-Totals

## Charts and Tables



## CLASSIC MODELS



### Classic Models, Inc.

701 Gateway Boulevard  
South San Francisco, CA 94080

#### Annual Sales By Product Lines

Year	Classic Cars	Motorcycles	Planes	Ships	Trains	Trucks & Buses	Vintage Cars	Total
<b>2003</b>								
Q1	\$152,581	\$33,062	\$37,136	\$24,446	\$7,810	\$43,593		
Q2	\$194,291	\$41,629	\$50,387	\$50,171	\$12,144	\$62,804		
Q3	\$243,978	\$79,845	\$45,047	\$24,272	\$7,027	\$73,842		
Q4	\$778,535	\$194,372	\$168,251	\$102,153	\$38,839	\$196,416		
<b>Total</b>	<b>\$1,369,386</b>	<b>\$348,909</b>	<b>\$300,822</b>	<b>\$201,044</b>	<b>\$65,822</b>	<b>\$376,657</b>		
<b>2004</b>								
Q1	\$317,306	\$85,681	\$65,159	\$66,762	\$21,028	\$67,942		
Q2	\$252,165	\$80,101	\$69,780	\$30,719	\$4,862	\$73,696		
Q3	\$419,674	\$127,310	\$105,973	\$66,859	\$21,728	\$106,833		
Q4	\$739,276	\$234,150	\$204,551	\$141,609	\$39,278	\$200,230		
<b>Total</b>	<b>\$1,728,423</b>	<b>\$527,243</b>	<b>\$445,464</b>	<b>\$305,951</b>	<b>\$86,897</b>	<b>\$448,702</b>		
<b>2005</b>								
Q1	\$392,920	\$112,384	\$103,702	\$60,591	\$18,235	\$101,332		
Q2	\$225,273	\$128,874	\$35,870	\$20,812	\$4,076	\$41,874		
<b>Total</b>	<b>\$618,193</b>	<b>\$241,259</b>	<b>\$139,573</b>	<b>\$81,404</b>	<b>\$22,311</b>	<b>\$143,207</b>		
<b>Grand Total</b>	<b>\$3,716,003</b>	<b>\$1,117,412</b>	<b>\$885,859</b>	<b>\$588,400</b>	<b>\$175,030</b>	<b>\$968,566</b>		

## Crosstabs

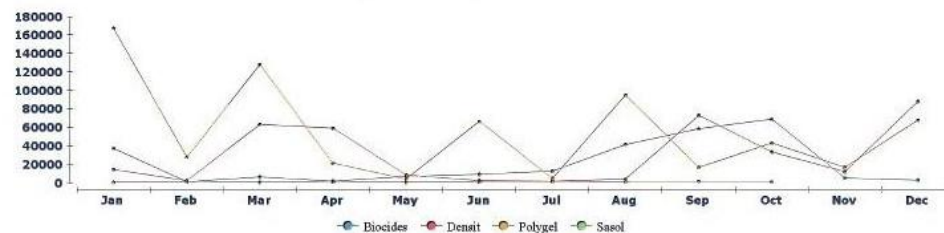
## Crosstab and Charts

### Inventory Turn Trend

Jan 01, 08 to Dec 31, 08

**Report Description :** This report shows the inventory issue turn rate for each Business Unit and Facility by month.

#### Inventory Turn Trend by Month for Business Unit



#### Inventory Turn Trend by Month for Facilities of BU: Biocides

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
<b>MAG</b>	0	0	0	2	0	6	8	0	0	0	0	0	17
<b>MFC</b>	777	270	94	186	6095	3077	2003	35690	21033	16489	265	1878	87857
<b>MHP</b>	69	365	5076	36	122	5099	9214	4414	3950	42583	0	717	71644
<b>MSF</b>	35838	52	620	1412	40	345	926	489	32943	9155	4373	0	86194
<b>MWG</b>	287	460	276	19	338	319	124	664	223	210	0	0	2921
<b>Total</b>	36971	1148	6066	1655	6596	8847	12275	41256	58149	68436	4638	2595	248632

## Assignment Manager Monthly Format

Labor: BARRY  
 Month: JANUARY  
 Year: 2008

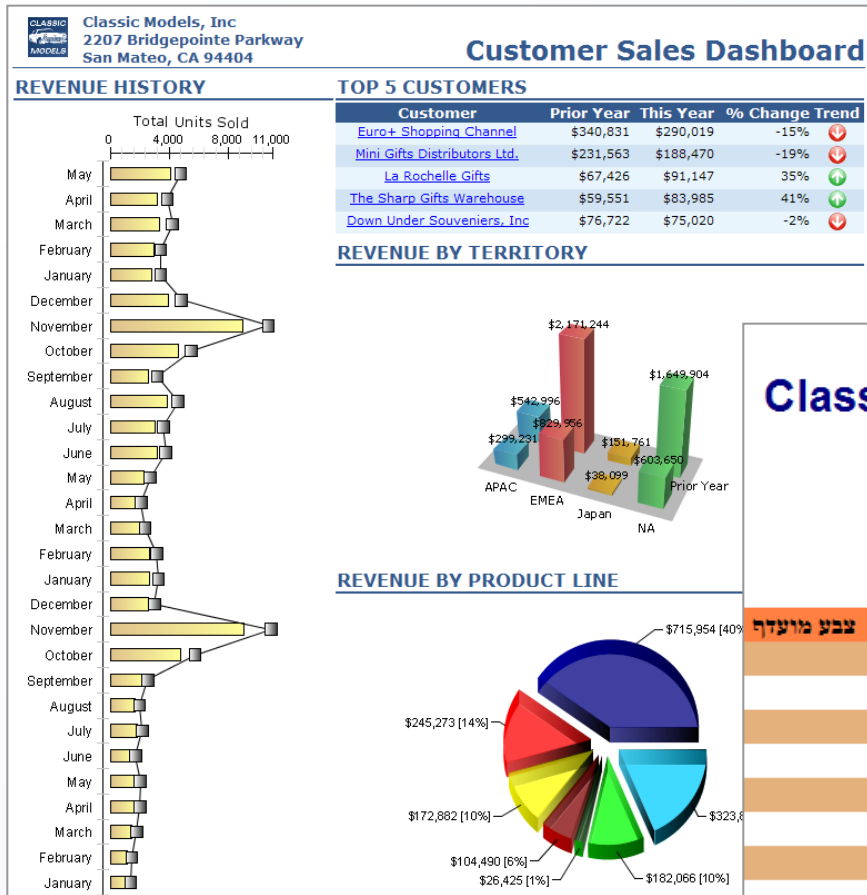
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
		1	2	3	4	5
			8:39 AM 1000 Relocate Guard Rails Around Compressor	7:00 AM 1000 Relocate Guard Rails Around Compressor		
6	7	8	9			
13	14	15	16			
20	21	22	23			
27	28	29	30			

## Calendar / Schedule

## Forms

<b>FORM 4</b> <small>Check this box if no longer subject to Section 16. Forms 4 or Form 5 obligations may continue. See instruction 1(f).</small>							
UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549							
STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP							
Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940							
(Print or Type Responses)							
1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Date, if (Month/Day/Year)	3. Transaction Code (Instr. 8)	4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	5. Amount of Securities Beneficially Owned Following Reported Transactions (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
1. Name and Address of Reporting Person*		2. Issuer Name and Ticker or Trading Symbol		5. Relationship of Reporting Person(s) to Issuer (Check all applicable)			
Signal Collectibles Ltd.		SL2_4473		<input checked="" type="checkbox"/> Director <input type="checkbox"/> 10% Owner <input type="checkbox"/> Officer (give title below) <input type="checkbox"/> Other (specify below)			
(Last) (First) (Middle)		3. Date of Earliest Transaction (Month/Day/Year)		<input checked="" type="checkbox"/> Shipped			
2793 Furth Circle		10 Feb 2004 00:00					
(Street)		4. If Amendment, Date of Original Filed (Month/Day/Year)		6. Individual or Joint/Group Filing (Check applicable line)			
Brisbane, CA - 94217				<input checked="" type="checkbox"/> Form filed by One Reporting Person <input type="checkbox"/> Form filed by More than One Reporting Person			
(City)	(State)	(Zip)	Table I - Non-Derivative Securities: Acquired, Disposed of, or Beneficially Owned				
1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Date, if (Month/Day/Year)	3. Transaction Code (Instr. 8)	4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	5. Amount of Securities Beneficially Owned Following Reported Transactions (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
103	19 Oct 2004 00:00	19 Oct 2004 00:00	HQ336336	6066.78	6066.78		
103	5 Jun 2003 00:00	5 Jun 2003 00:00	JMS55205	14571.44	14571.44		
103	18 Dec 2004 00:00	18 Dec 2004 00:00	OM314933	1676.14	1676.14		





## Dashboards

## Multi-Language and Bi-Directional

### Classic Models, Inc.

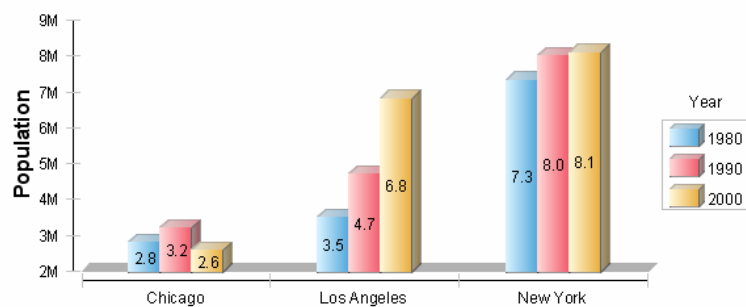
קרית מדע 11, יחשלים  
תוצאות הסקר



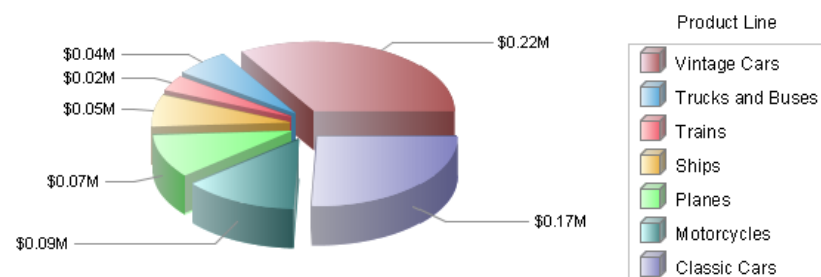
שם הלקוח	דגם מועדף	צבע מועדף
ANG Resellers	1300 רנו אלפין	אדום
AV Stores, Co.	הרלי דוידסון	כחול
Alpha Cognac	פורד פלקון	כתום
American Souvenirs Inc.	פורד מוסטנג	ירוק
Amica Models & Co.	קורוואיר מונזה	כחול
Anna's Decorations, Ltd.	קורוואיר מונזה	צהוב
Anton Designs, Ltd.	1300 רנו אלפין	לבן
Asian Adventures, Inc.	קורוואיר מונזה	זהוב
Asian Shopping Network, Co	'דוג' צ'ארג'ר	סגול
Asian Treasures, Inc.	קורוואיר מונזה	אדום
Atelier graphique	אלפא רומיאו GTA	כסוף

# BIRT Chart Gallery

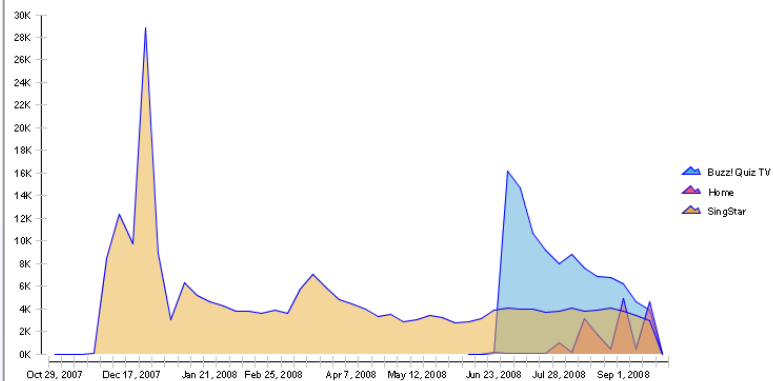
## Demographics Trend by City



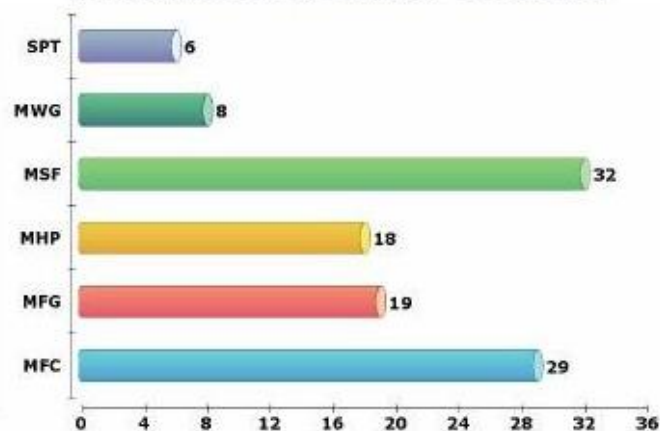
## Total Sales By Product Line



## New Users by Week by Title

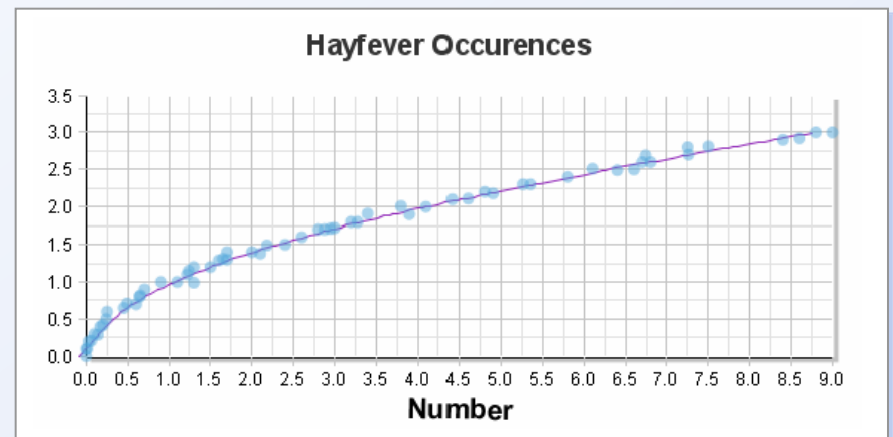
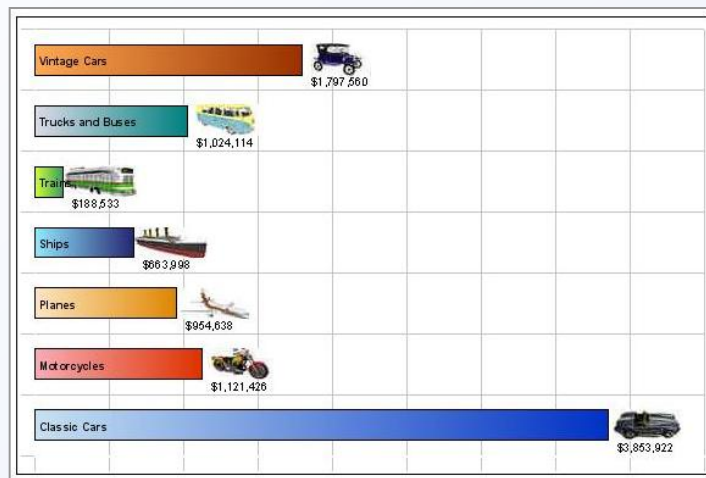
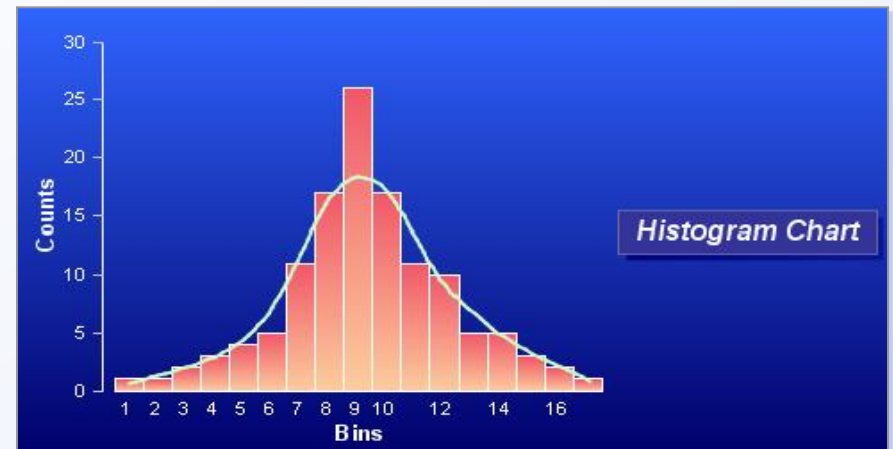
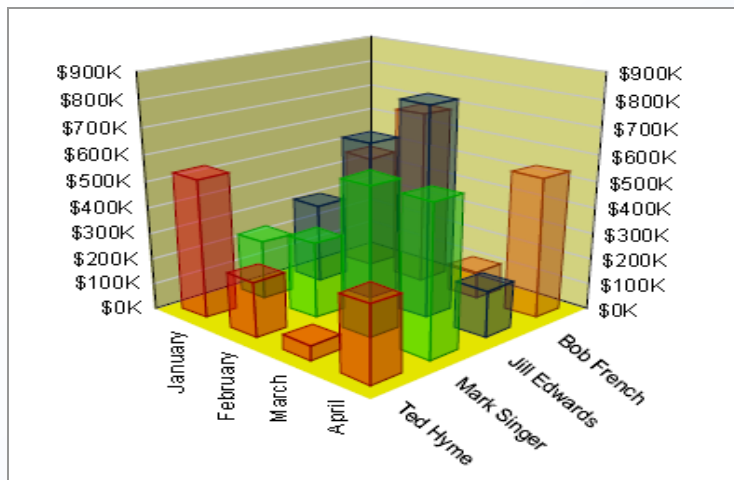


## # of Past Due POs by Facility for BU : Biocides

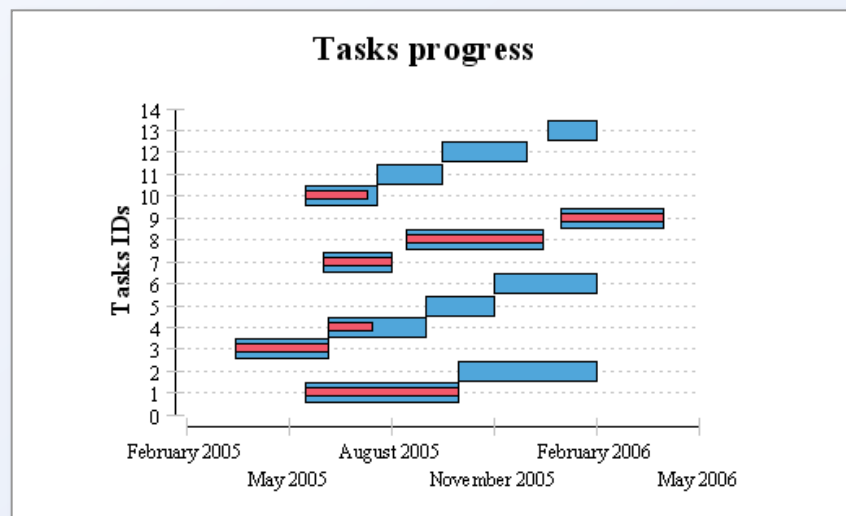
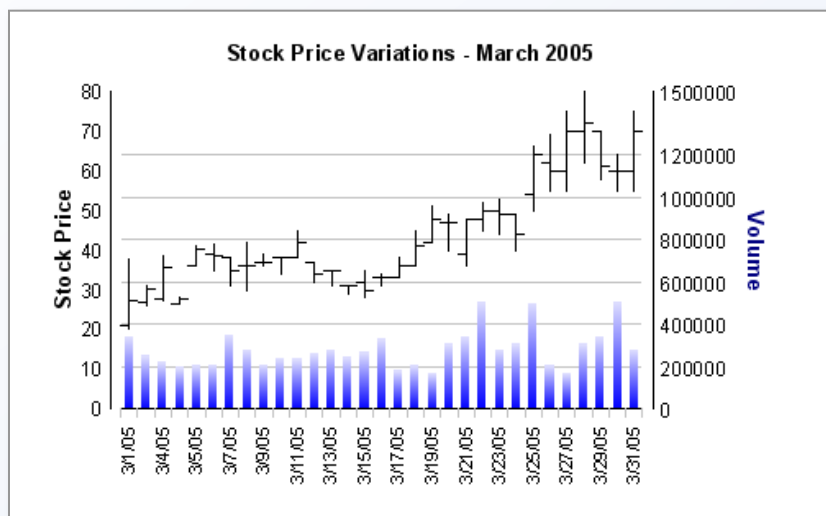
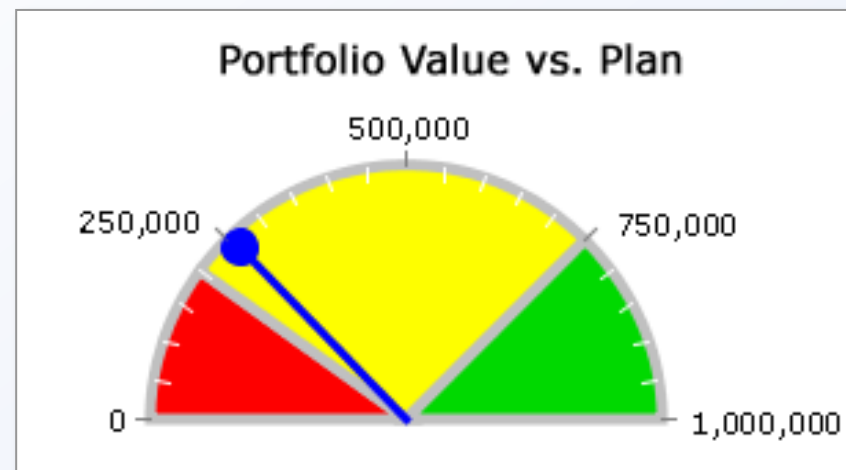
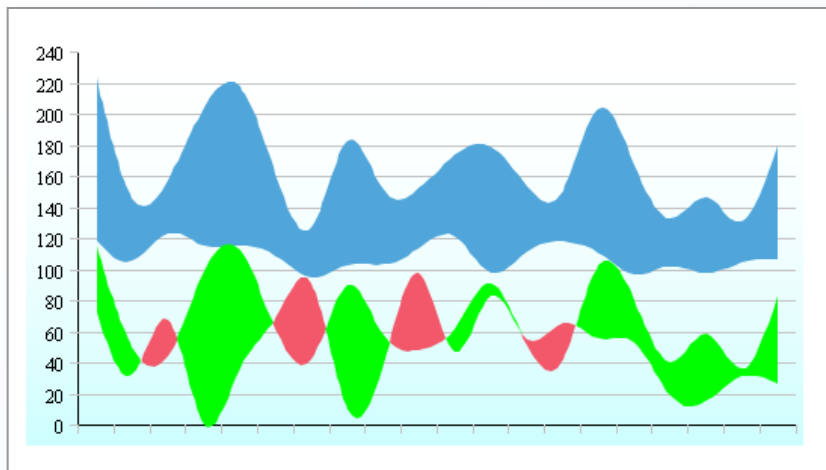




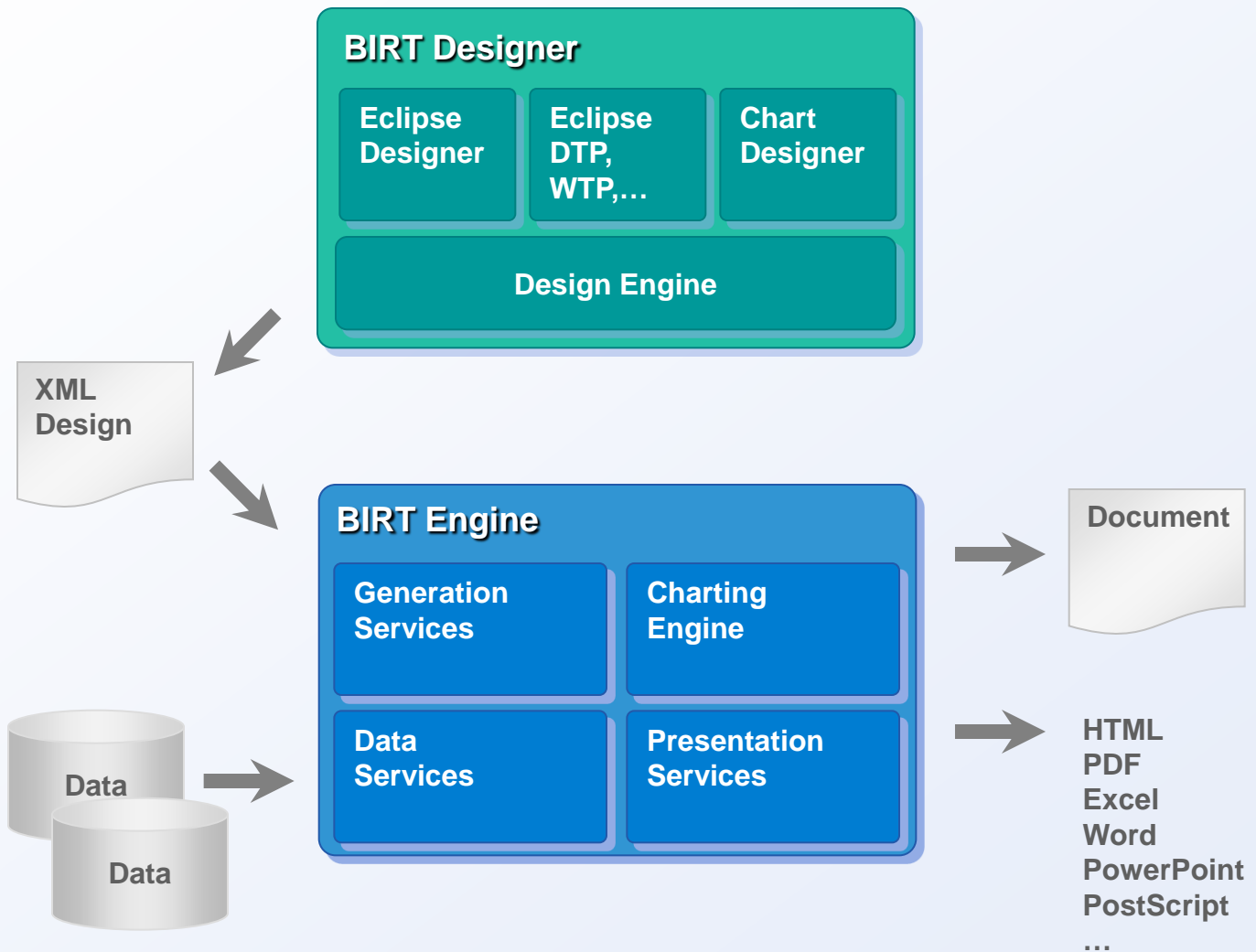
# BIRT Chart Gallery



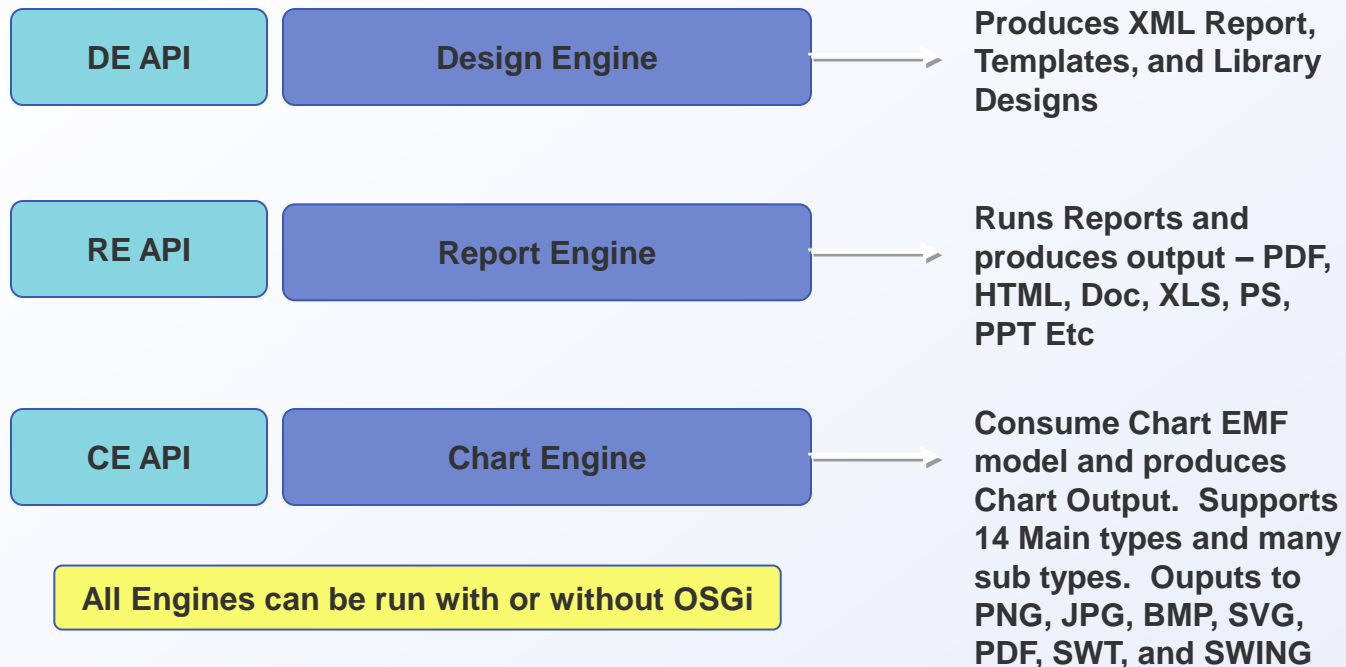
# BIRT Chart Gallery



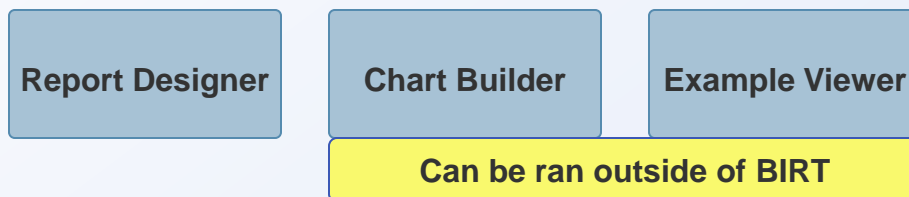
# High Level BIRT Architecture



# High Level BIRT Architecture

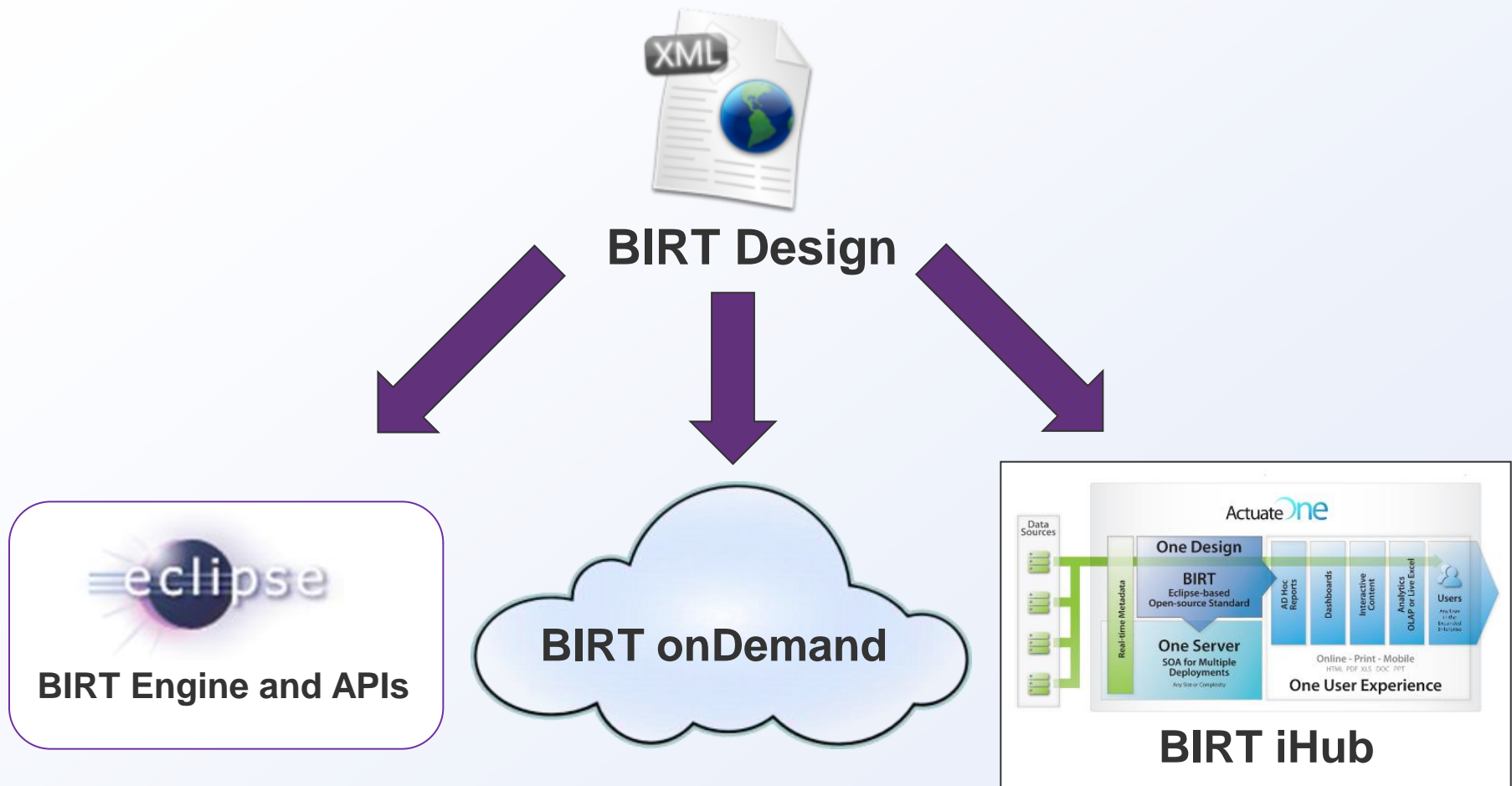


## Core BIRT Open Source Products

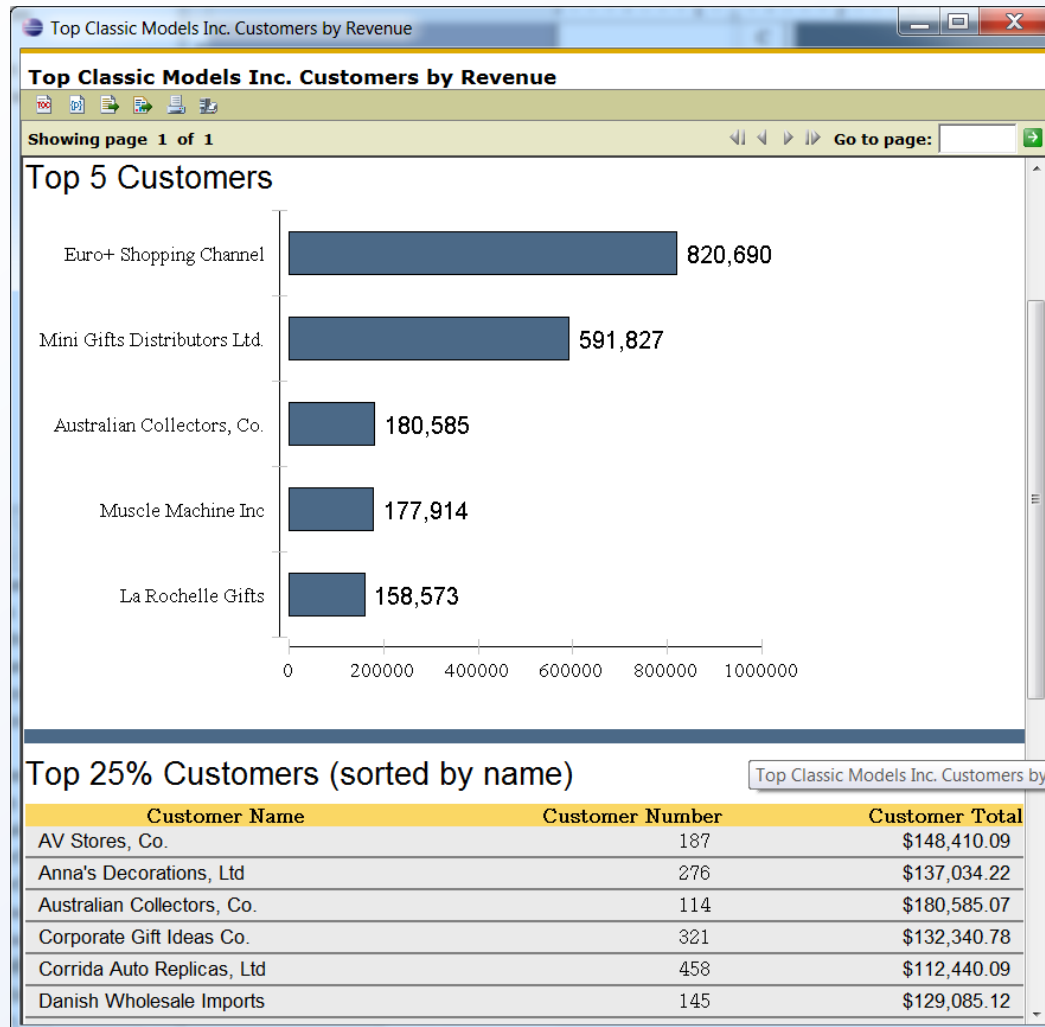


# Deploying BIRT Reports

# Multiple Deployment Options

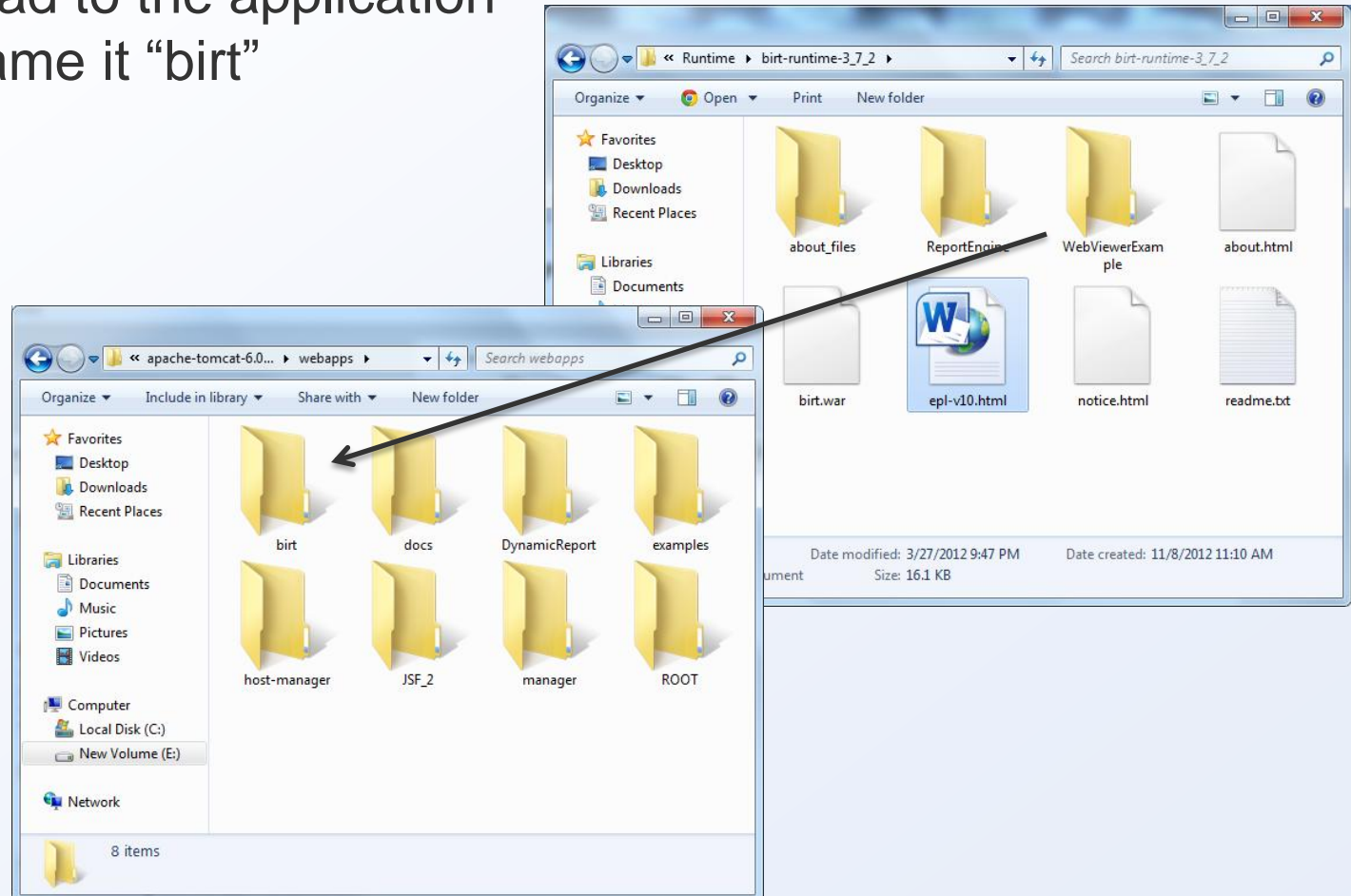


# BIRT AJAX-Based Sample Viewer



# Sample Viewer in BIRT Runtime

Copy WebViewerExample from the runtime download to the application server and rename it “birt”





As a straight HTML output:

[http://localhost:8080/birt/run?\\_\\_report=SD.rptdesign](http://localhost:8080/birt/run?__report=SD.rptdesign)

With viewer toolbar, pagination, etc.:

[http://localhost:8080/birt/frameset?\\_\\_report=tableReport.rptdesign](http://localhost:8080/birt/frameset?__report=tableReport.rptdesign)

Other servlet mappings:

preview, document, output, extract

URL parameters include:

id	title	showtitle	toolbar	navigationbar	locale
format	report	document	parameterpage	pagerange	fittopage
svg	isnull	islocale	masterpage	resourceFolder	bookmark
rtl	page	overwrite			

Output to PDF:

[http://localhost:8080/birt/frameset?\\_report=tableReport.rptdesign&\\_format=pdf](http://localhost:8080/birt/frameset?_report=tableReport.rptdesign&_format=pdf)

To display a single report item as a reportlet:

[http://localhost:8080/birt/run?\\_report=SD.rptdesign&\\_bookmark=myTable&\\_isreportlet=true](http://localhost:8080/birt/run?_report=SD.rptdesign&_bookmark=myTable&_isreportlet=true)

## Example JSP to embed viewer:

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1" pageEncoding="ISO-8859-1"%>
<%@ taglib uri="/birt.tld" prefix="birt" %>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">
<html>

    <head>

        <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1">
        <title>My Report - JSP</title>

    </head>
    <body>

        <birt:viewer id="birtViewer" reportDesign="reportName.rptdesign"
        pattern="frameset"
        height="450"
        width="700"
        format="html"></birt:viewer>

    </body>

</html>
```

**Live Example:** <http://localhost:8080/birt/dashboard.jsp>

## Example JSP to embed parameters:

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
pageEncoding="ISO-8859-1"%>
<%@ taglib uri="/birt.tld" prefix="birt" %>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1">
  </head>
  <style type="text/css">
    .class1 { background-color:#ff0000; color: #ffffff; }
  </style>
  <body>

    Parameter Page 1
    <br>
    <birt:parameterPage
      id="report1"
      name="page1"
      reportDesign="cascade_report.rptdesign"
      isCustom="true"
      pattern="frameset">

    ...
```

## Example JSP to embed parameters (cont.):

```
Cascading Parameter1: <birt:paramDef id="5" name="Country" />
<br><br>
Cascading Parameter2: <birt:paramDef id="6" name="City"/>
<br><br>
Cascading Parameter3: <birt:paramDef id="7" name="Customer" cssClass="class1"/>
<br><br>
<input type="submit" name="submit" value="Submit form"/>
<br><br>
</birt:parameterPage>
<br>
</body>
</html>
```

**Live Example:** [http://localhost:8080/birt/cascade\\_report.jsp](http://localhost:8080/birt/cascade_report.jsp)

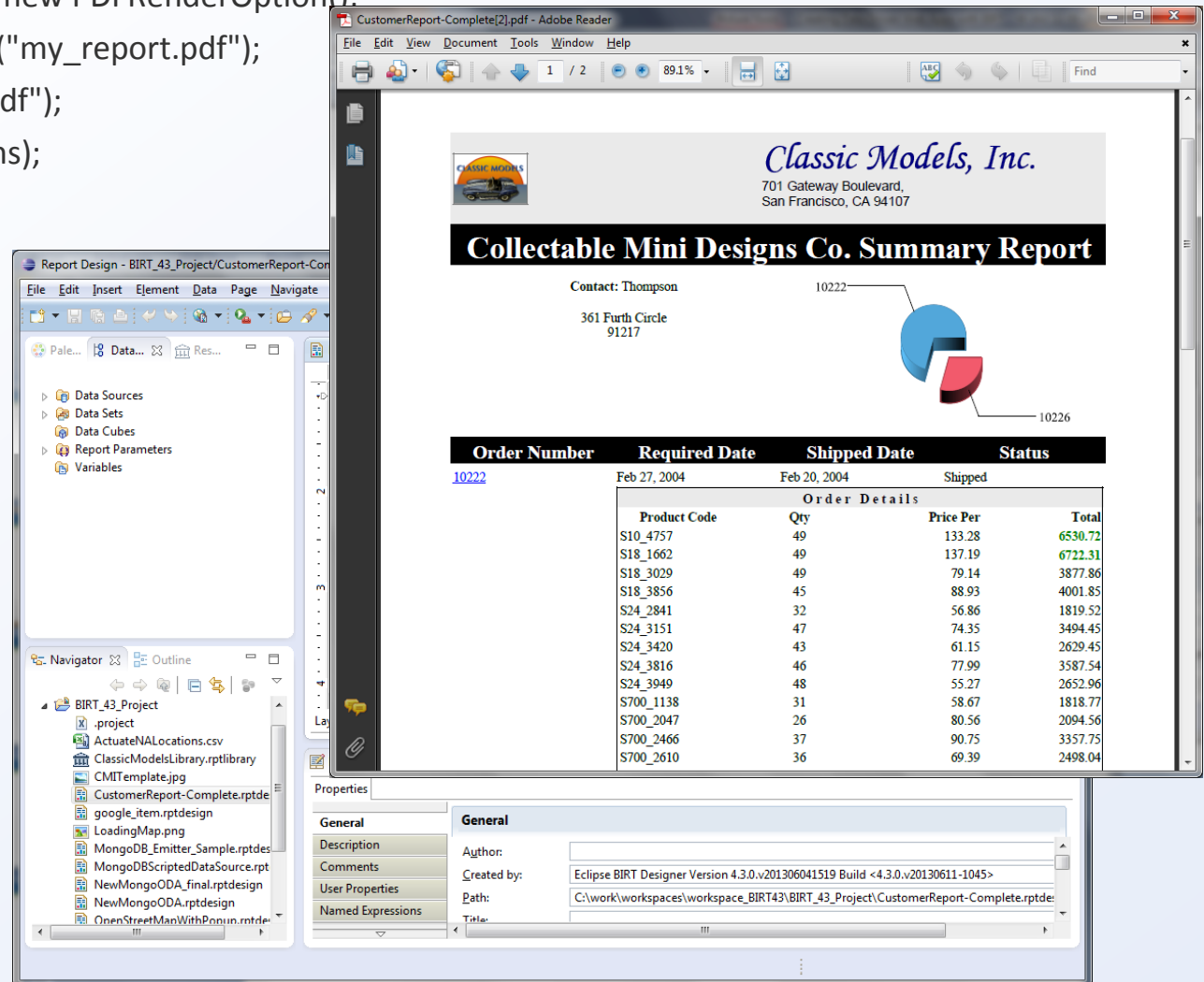
- Report Engine can be used in different ways
  - 3 tasks related to report execution and rendering
    - *RunTask*
    - *RenderTask*
    - *RunAndRenderTask*
  - Using RunTask and then RenderTask means multiple processes to generate and view a report.
  - RunAndRenderTask happens in single process so event firing order is different

# Report Engine API (REAPI)

```
static void executeReport() throws EngineException
{
    IReportEngine engine=null;
    EngineConfig config = null;
    try{
        config = new EngineConfig( );
        config.setLogConfig("C:\\\\BIRT_422\\\\logs", java.util.logging.Level.FINEST);
        Platform.startup( config );
        IReportEngineFactory factory = (IReportEngineFactory) Platform
        . createFactoryObject( IReportEngineFactory.EXTENSION_REPORT_ENGINE_FACTORY );
        engine = factory.createReportEngine( config );
        IReportRunnable design = null;
        design = engine.openReportDesign("C:\\\\BIRT_43\\\\designs\\\\param.rptdesign");
        IRunAndRenderTask task = engine.createRunAndRenderTask(design);
        task.setParameterValue("ordParam", (new Integer(10101)));
        task.validateParameters();
        ...
    }
```

# Report Engine API (REAPI)

```
PDFRenderOption options = new PDFRenderOption();
options.setOutputFileName("my_report.pdf");
options.setOutputFormat("pdf");
task.setRenderOption(options);
task.run();
task.close();
engine.destroy();
} catch (Exception ex) {
    ex.printStackTrace();
}
finally
{
    Platform.shutdown();
}
```



The screenshot displays the BIRT Report Designer interface on the left and the rendered report in Adobe Reader on the right.

**Report Designer Interface:**

- File Menu:** File, Edit, Insert, Element, Data, Page, Navigate
- Toolbox:** Data Sources, Data Sets, Data Cubes, Report Parameters, Variables
- Navigator:** BIRT\_43\_Project, .project, ActuateNALocations.csv, ClassicModelsLibrary.rptlibrary, CMITemplate.jpg, CustomerReport-Complete.rptdesign, google\_item.rptdesign, LoadingMap.png, MongoDB\_Emitter\_Sample.rptdes, MongoDBScriptedDataSource.rpt, NewMongoODA\_final.rptdesign, NewMongoODA.rptdesign, OpenStreetMapWithPolygon.rptdesign
- Outline:** Properties, General

**Rendered Report (Adobe Reader):**

**Classic Models, Inc.**  
701 Gateway Boulevard,  
San Francisco, CA 94107

**Collectable Mini Designs Co. Summary Report**

Contact: Thompson  
361 Furth Circle  
91217

10222

10226

Order Number	Required Date	Shipped Date	Status
10222	Feb 27, 2004	Feb 20, 2004	Shipped
<b>Order Details</b>			
Product Code	Qty	Price Per	Total
S10_4757	49	133.28	6530.72
S18_1662	49	137.19	6722.31
S18_3029	49	79.14	3877.86
S18_3856	45	88.93	4001.85
S24_2841	32	56.86	1819.52
S24_3151	47	74.35	3494.45
S24_3420	43	61.15	2629.45
S24_3816	46	77.99	3587.54
S24_3949	48	55.27	2652.96
S700_1138	31	58.67	1818.77
S700_2047	26	80.56	2094.56
S700_2466	37	90.75	3357.75
S700_2610	36	69.39	2498.04

**Properties Panel:**

- General**
- Description**
- Comments**
- User Properties**
- Named Expressions**
- Author:**
- Created by:** Eclipse BIRT Designer Version 4.3.0.v201306041519 Build <4.3.0.v20130611-1045>
- Path:** C:\work\workspaces\workspace\_BIRT43\BIRT\_43\_Project\CustomerReport-Complete.rptdesign
- Title:**



# REAPI with JSF

## Step 1 – Create Java Class

```
public class birt2jsf {  
    String executeReport(String param) throws EngineException  
    {  
        IReportEngine engine=null;  
        EngineConfig config = null;  
        try{  
            config = new EngineConfig( );  
            config.setLogConfig("/logs", java.util.logging.Level.FINEST);  
            Platform.startup( config );  
            IReportEngineFactory factory = (IReportEngineFactory) Platform.createFactoryObject(  
                IReportEngineFactory.EXTENSION_REPORT_ENGINE_FACTORY );  
            engine = factory.createReportEngine( config );  
            IReportRunnable design = null;  
            design = engine.openReportDesign("E:/apache-tomcat-6.0.36/webapps/JSF_2/test.rptdesign");  
            IRunAndRenderTask task = engine.createRunAndRenderTask(design);  
            task.setParameterValue("Country", param);  
            task.validateParameters();  
        }  
    }  
}
```

...

# REAPI with JSF

## Step 1 – Create Java Class

```
IRunAndRenderTask task = engine.createRunAndRenderTask(design);
task.setParameterValue("Country", param);
task.validateParameters();
HTMLRenderOption options = new HTMLRenderOption();
ByteArrayOutputStream outs = new ByteArrayOutputStream();
options.setOutputStream(outs);
options.setImageHandler(new HTMLServerImageHandler());
options.setBaseImageURL("images");
options.setImageDirectory("E:/apache-tomcat-6.0.36/webapps/JSF_2/images");
options.setEmbeddable(true);
options.setOutputFormat("html");
task.setRenderOption(options);
String output;
```

...

# REAPI with JSF

## Step 1 – Create Java Class

```
task.run();
output = outs.toString();
task.close();
engine.destroy();
return output;
}catch( Exception ex){
    ex.printStackTrace();
    return "Error";
}
finally
{
    Platform.shutdown( );
    RegistryProviderFactory.releaseDefault();
}
}
```

# REAPI with JSF

## Step 2 - Create Java Bean

```
@ManagedBean(name="birtBean")
@SessionScoped
public class BirtBean implements Serializable {
    private static final long serialVersionUID = 1L;
    private String name;
    public String getReport() {
        birt2jsf report = new birt2jsf( );
        String reportHTML = null;
        try {
            reportHTML = report.executeReport(name);
        } catch (EngineException e) {
            e.printStackTrace();
        }
        return reportHTML;
    }
    public String getName() {
        return name;
    }
    public void setName(String name) {
        this.name = name;
    }
}
```

# REAPI with JSF



## Step 3 - Create JSF page

```
<?xml version="1.0" encoding="UTF-8"?><!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xmlns:f="http://java.sun.com/jsf/core"
      xmlns:h="http://java.sun.com/jsf/html">
  <h:head>
    <title>BIRT JSF 2.0 Example</title>
  </h:head>
  <h:body>
    <h3>Enter Country</h3>
    <h:form>
      <h:inputText
        value="#{birtBean.name}">
      </h:inputText>
      <h:commandButton value="View Report" action="page-a">
    </h:commandButton>
    <h:outputText value="#{birtBean.report}" escape="false"/>
  </h:form>
</h:body></html>
```

[http://localhost:8080/JSF\\_2/](http://localhost:8080/JSF_2/)

[PDF](#) • [DOC](#) • [XLS](#)

**Dynamic Text:**

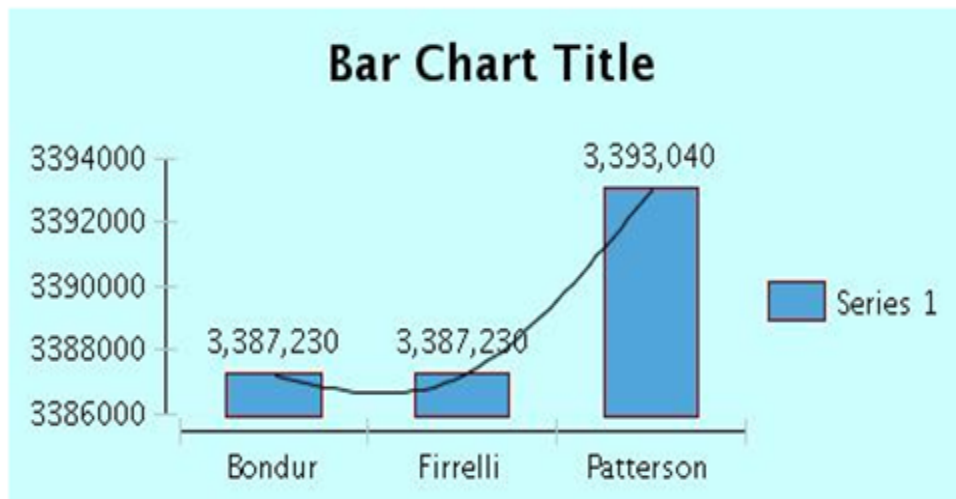
Dynamic Text  

**Report Parameter (number):**

0 1000  
▼ 581

**Update**

**BIRT Report as JSF component**



**Dynamic Text:** *Dynamic Text*

New product for use with open-source (OS) BIRT. BVT is available for download at [developer.actuate.com](http://developer.actuate.com)

## Key Features:

- **It's FREE!**
- It uses the Actuate Viewer (Built on OS Viewer)
  - More modern look and feel
  - More seamless parameter entry screen
  - Calendar date-picker
- It's built on the latest BIRT version (4.3)
- **Includes JavaScript API (JSAPI) AJAX library for easier integration into applications of all types.**
- **BVT Webinar:**
  - Title:** Introducing the Free BIRT Viewer Toolkit - Enhance the Way Your Users View BIRT Designs
  - Duration:** 30 minutes
  - Location:** Available for download at [developer.actuate.com](http://developer.actuate.com)

# Running Reports with BVT

The URLs used with the OS viewer can still be used with BVT.

With viewer toolbar, pagination, etc.:

[http://localhost:8080/BVT/frameset?\\_\\_report=tableReport.rptdesign](http://localhost:8080/BVT/frameset?__report=tableReport.rptdesign)

As a straight HTML output:

[http://localhost:8080/BVT/run?\\_\\_report=SD.rptdesign](http://localhost:8080/BVT/run?__report=SD.rptdesign)

Output to PDF:

[http://localhost:8080/BVT/frameset?\\_\\_report=tableReport.rptdesign&\\_\\_format=pdf](http://localhost:8080/BVT/frameset?__report=tableReport.rptdesign&__format=pdf)

To display a single report item as a reportlet:

[http://localhost:8080/BVT/run?\\_\\_report=SD.rptdesign&\\_\\_bookmark=myChart](http://localhost:8080/BVT/run?__report=SD.rptdesign&__bookmark=myChart)

Parameterized report with date picker:

[http://localhost:8080/BVT/frameset?\\_\\_report=DynamicParameter.rptdesign](http://localhost:8080/BVT/frameset?__report=DynamicParameter.rptdesign)

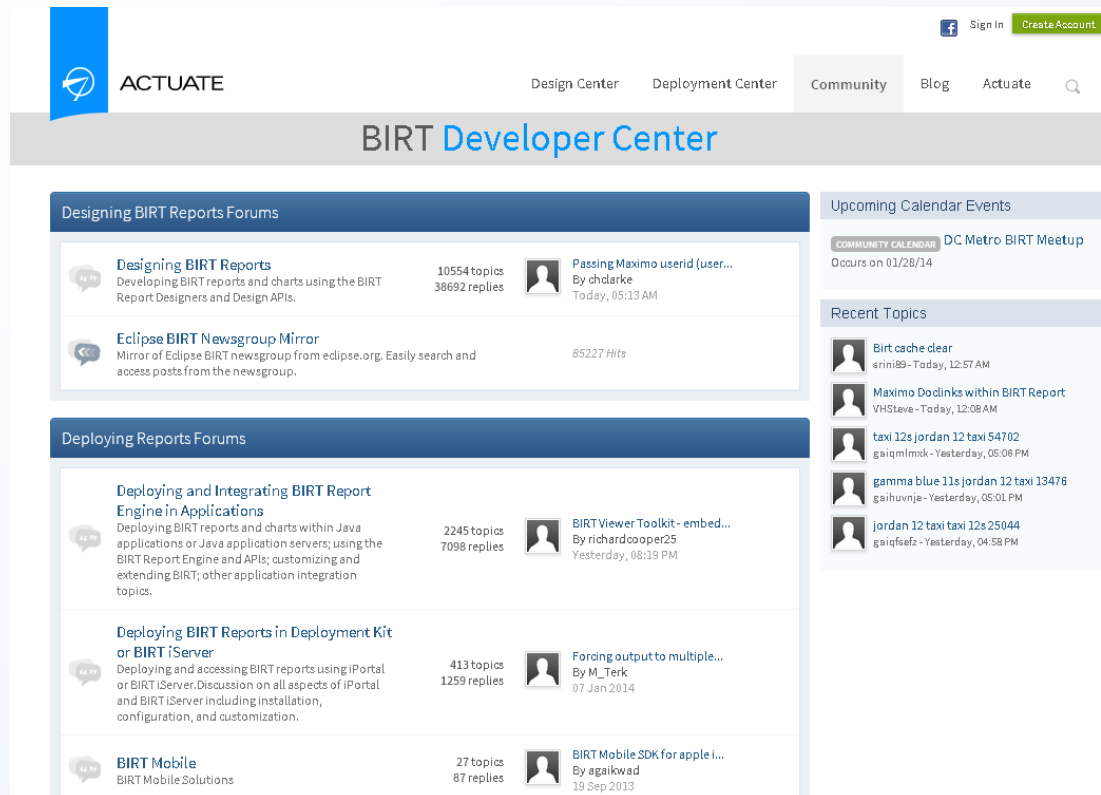


```
<html><head>
  <script type="text/javascript" language="JavaScript"
    src="http://localhost:8080/BIRTViewerToolkit/jsapi"></script>
</head>
<body onload="init();">
  <div id="myDivContainer" style="border-width: 1px; border-style: solid;"></div>
  <script type="text/javascript" language="JavaScript">
    var myViewer;
    function init() {
      actuate.load("viewer");
      actuate.initialize( "http://localhost:8080/BIRTViewerToolkit/", null, "administrator", "", createViewer );
    }
    function createViewer() {
      myViewer = new actuate.Viewer( "myDivContainer" );
      myViewer.setReportName("/reports/TableReport.rptdesign" );
      myViewer.submit();
    }
  </script>
</body></html>
```

**Live Example:** <http://localhost:8080/BVT/JSAPIReport.html>

## Centralized hub for BIRT developers

- Access demos, tutorials, tips and techniques, documentation...
- Enables developers to be more productive and build applications faster



The screenshot shows the BIRT Developer Center website. The header includes the Actuate logo, navigation links for Design Center, Deployment Center, Community, Blog, and Actuate, and a search bar. The main content area is divided into two sections: Designing BIRT Reports Forums and Deploying Reports Forums. The Designing section lists topics like 'Designing BIRT Reports' and 'Eclipse BIRT Newsgroup Mirror'. The Deploying section lists topics like 'Deploying and Integrating BIRT Report Engine in Applications' and 'Deploying BIRT Reports in Deployment Kit or BIRT iServer'. A sidebar on the right shows 'Upcoming Calendar Events' and 'Recent Topics'.

## Explore

- Search/sort
- Rate, comment
- Forums

## Download

- Documentation
- Software
- Examples

## Contribute

- BIRT designs, code
- Technical tips
- Applications

***developer.actuate.com***

**Creating Data Driven Web Apps with BIRT**  
*Michael Williams*  
*[mwilliams@actuate.com](mailto:mwilliams@actuate.com)*

- 1** Sign-in: [www.eclipsecon.org](http://www.eclipsecon.org)
- 2** Select session from schedule
- 3** Evaluate: 