Eclipse BIRT Project: 1.0 Release Review

Eclipse BIRT PMC

Introduction: BIRT 1.0 Release Review

- Business Intelligence and Reporting Tools
- Major Milestones
    - Project Proposal posted on August 24, 2004
    - Project accepted on September 30, 2004
    - Builds available from Eclipse.org starting February 28, 2005
- Positive community interest and feedback
    - Newsgroup has been very active
    - Actively engaged with TPTP and DTP Eclipse projects
    - Other projects already extending BIRT
- BIRT 1.0 is targeted for availability May 2005

Features: BIRT 1.0 Objectives & Themes

- Develop and deliver the Eclipse Report Designer, Report Engine and Charting Engine BIRT projects
- Support common report types including listings; sorting; grouping and aggregation of data (with and without subtotals)
- Enable users to be productive in developing their first report in 15 minutes using sample data and in 2-3 hours using their own (relational) data
- Provide an extensible framework for further tool creation
- Target Users / Technology Consumers:
  - Java application developers who are using Eclipse and need to incorporate reports in their application
  - Report developers who are helping the application developers by creating reports for use in the Java application
  - Tool & product developers who are extending the BIRT framework

Features: Feature Set Implemented

All originally planned features have been implemented

- Listing and Grouped Listing Reports
- Multi-section Reports
- Sub-reports
- List (including groupings, subtotals)
- Table (including groupings, subtotals)
- Text
- Grid
- Chart
- Label Element
- Data Element
- Image Element
- Web Style Output
- Web-based Report Viewer
- *Adobe Acrobat (PDF)*
- Printing
- *Report Wizard (> Cheat Sheets)*
- Schematic Design View
- Outline View
- Report Preview
- Style Builder
- *Chart Wizard (> Chart Properties)*

- Palette View
- Page Setup User Interface
- Grouping User Interface
- Properties User Interface
- Query Editor
- Expression Builder
- Cut, Copy, and Paste
- Parameters
- Scripting
- Aggregations
- Computed Columns
- Filtering
- Sorting
- Grouping
- JDBC Queries
- Custom Data Access
- Multiple Data Sources and Queries
- Report Execution and Viewing API
- Extensible Model
- Report Design API and Format
- Internationalization

Reference: http://www.eclipse.org/birt/project/R1_Requirements.pdf

New and Noteworthy document will be available at time of BIRT 1.0 release.

Items in italics are known candidates for improvement post 1.0.

Features: Extension Points Implemented

- Data source extensibility
    - Application specific design-time query builders
    - Custom design and run-time data access
- Custom business logic extensibility
    - Incorporate complex business logic scripting
    - Access existing and new Java code
- Visualization extensibility
    - Add new types of report items in a report design
    - Extend charting with new chart types; new output formats
- Rendering reports for output
    - Target report output for specific devices

Features: Responding to Community Feedback

- Received feedback in areas that we needed to improve:
    - Configuring additional JDBC drivers was too complex
    - Extension points for adding new data sources was too complex
    - Engine API was too complex and had rough edges
    - Initial charting framework did not lend itself to enabling SVG output
    - Available documentation on how to use BIRT in various scenarios

- In response:
    - Simplified JDBC driver management and added UI to make it easier
    - Revised the Open Data Access architecture and API
    - Redesigned Engine API to make it much easier to use
    - Improved extensibility of charts to facilitate output plug-ins
    - Added content to project web pages with "How To's" on using BIRT

Documentation and Examples

- BIRT 1.0 download will include online documentation
    - Created by professional technical writers

- Working on publishing a book for BIRT
    - Provisional title "Field Guide for BIRT"
    - Estimated availability Summer 2005

- Tutorials and examples available on www.eclipse.org/birt
- Sample SQL database (Classic Models Inc.) to show features
    - BIRT will include a Derby instance with the data already loaded

Other Deliverables

- Internationalization support
  - Report Designer and Engine environment leverages the Eclipse and Java infrastructure
  - Internationalization tested and verified in representative locales (except right to left locales)
- Localization
  - Report Designer translated to French, German, Spanish, Chinese, Japanese and Korean
  - Report architecture designed to enable easy localization of labels and text in actual reports
- Evangelism of BIRT in the market and broader community
  - Worked with major industry press and have gained good coverage
  - Presentations and booth at EclipseCon
  - Presentation and booth at MySQL User Conference

APIs: Overview

- API design process began in Q1 2004, leveraging expertise of senior architects with 10+ years of experience in BI field
  - Particularly important for BIRT Report Object Model, the XML-based design file format for BIRT

- All API's, including provisional API's, received extensive review from a team of senior engineers and changes were made as a result of a series of design iterations

- Community feedback prompted a number of further changes

- The BIRT ROM is designated "Eclipse platform" level in BIRT 1.0

- For all other APIs, the next step is to capture feedback as more tool builders extend the framework
  - These are designated "Provisional," and are so labeled in the BIRT API documentation

APIs: Status

Name	Status	Doc Status	Test Cases	# of Clients	Backward Compatible	Maturity
BIRT Report Object Model	Platform	Comprehensive 433 page document	Yes	2+	Indefinite	Platform
BIRT Design Engine API	Provisional	Overview, How To and JavaDoc	Yes	2+	Through 2.0	High
BIRT Report Engine API	Provisional	Overview, How To and JavaDoc	Yes	3+	Through 2.0	Medium
BIRT Open Data Access Extension API	Provisional	Overview and JavaDoc	Yes	3+	Through 2.0	Medium
BIRT Report Item Extension API	Provisional	Overview and JavaDoc	Yes	2+	Through 2.0	Medium
BIRT Report Rendering Extension API	Provisional	JavaDoc	Yes	2+	Through 2.0	Low
BIRT Chart Engine API	Provisional	Overview, FAQ and JavaDoc	Yes	2+	Through 2.0	Low
BIRT Chart Type Extension API	Provisional	JavaDoc	Yes	5+	Through 2.0	Low
BIRT Chart Device Rendering Extension API	Provisional	JavaDoc	Yes	3+	Through 2.0	Medium

End-of-Life

- BIRT is at a 1.0 release, so no End-of-Life items

Defect Statistics

- **Dedicated QA team testing BIRT**
  - Defects reporting in an internal system (discussed later)
- **Target for BIRT 1.0 release:**
  - Zero outstanding Critical defects
  - Zero outstanding Major defects

Severity	Reported	Resolved	Outstanding
Critical	93	86	7
Major	751	667	84
Other	1935	1605	330

Bug statistics as of April 25, 2005.

Code Contribution and Statistics

- Ground-up initiative targeting Java developer needs
- Actuate R&D project in this area since Q1, 2004
  - Actuate has donated all work from this project

- Project leverages other open source where possible
  - Example: Mozilla Rhino (JavaScript engine)

Project Area	Non-Commented Lines of Code
Report Designer	61K
Charting Engine	60K
Report Engine	113K
TOTAL:	234K

Statistics as of April 25, 2005. Statistics do not include 3rd party open source code.

Standards

- BIRT is designed to work in a standards-based environment

  - Eclipse plug-ins for design-time activities

  - General Java class libraries for deployment

  - Ability to render reports as HTML pages for output

  - Example deployment implementation for Apache Tomcat

- BIRT uses JavaScript for scripting (Mozilla Rhino engine)

  - Conforms to ECMA-262 standard

  - Reference: http://www.mozilla.org/js/

Schedule

- Eclipse start-up project to BIRT 1.0 in 8 months!
- Accelerated schedule to deliver preview release in time for EclipseCon 2005
- Targeted stable/milestone builds every 2 weeks to encourage feedback

Aug 24, 2004	▪ BIRT Project Proposal posted on http://www.eclipse.org
Sep 30, 2004	▪ BIRT Project accepted as a new Eclipse Foundation top-level project
Nov – Dec, 2004	▪ Published Release 1.0 Goals/Requirements and XML Report Design Schema
Dec – Feb, 2005	▪ Code check-ins for all modules to Eclipse CVS repository
Feb, 2005	▪ 1.0 Preview Release: Eclipse Report Designer, Report Engine, Chart Engine
Mar – May, 2005	▪ Incremental milestone builds responding to community feedback
May 2005	▪ 1.0 Release Date: Eclipse Report Designer, Report Engine, Chart Engine
Jul, 2005	▪ Target for BIRT 1.1 with support for Eclipse 3.1
Aug – Dec, 2005	▪ Target Milestone builds every 6 weeks, with possible intermediate 1.x releases
Dec, 2005	▪ Target for release 2.0

Process: Committer and Contributions

- 61 committers for the Eclipse BIRT project
- Voting process for new Committers established and is now being followed
- Actively engaged in recruiting other committers
  - One recruited for charting project, still looking for more
  - It is anticipated that 1.0 availability will help the recruiting process.
- Coordination/cooperation between other open source projects
  - Eclipse TPTP, DTP, WTP; Apache Derby
- Leveraging other open source in the project where possible (example: Rhino)

Process: Infrastructure and Other

- Build Process has been using Eclipse CVS since February 28, 2005
    - Project has been building nightly. Stable or Milestone builds targeted every 2 weeks.

- Defect tracking currently using two systems
    - Core project team is currently using a defect tracking system that is not visible to the community.
    - Also monitoring Bugzilla and addressing the community reported defects that come in through this channel.
    - We commit to move to a publicly accessible system post-BIRT 1.0.

- Project Management Committee (PMC) is meeting quarterly
    - Minutes from April 4th, 2005 meeting have been published on http://www.eclipse.org/birt

Process: Community

- Currently 150 – 200 downloads of pre-1.0 BIRT each business day
- Project mailing lists were setup recently
    - Committer mailing lists for each project in BIRT
    - General news mailing list: birt-news@eclipse.org
- Newsgroup is very active (663 postings as of April 24, 2005)
    - Many how-to questions and discussions
    - Same day responses from development team
- Have adjusted projects in response to newsgroup feedback

Newsgroup Feedback

I've fooled around with BIRT a bit and must say I'm very impressed so far!
--Architect, Fast Search

It looks impressively simple to do ... works like a charm. Hats off to a great product in the making.
--IT Developer

Have been using BIRT for a couple of weeks now with great success.
--UK Web Developer

Very impressive work.
--Developer, Software AG

Thanks for developing such a great product.
--Developer

Framework Uptake

- BIRT is still in the pre-1.0 release stage, but there are already four (other) groups that we are aware of who are extending BIRT for other tools or products. Examples:

Pentaho Project – www.pentaho.org & www.sourceforge.net/projects/pentaho/

"The Pentaho BI Project provides enterprise-class reporting, analysis, dashboard, data mining and workflow capabilities geared at helping organizations operate more efficiently and effectively. The software is freely released in Open Source with flexible deployment options that enable use as embeddable components, individual out-of-the-box products, and as a complete, integrated BI platform."

Eclipse TPTP Project – www.eclipse.org/tptp

Aim to extend the BIRT chart component to render SVG for graphing test results

Planning to use BIRT for reporting within TPTP

IP Issues

- **Contributions & 3rd Party Open Source (in-bound licensing)**
  - All new code and 3rd party components have been reviewed and are either licensed under EPL or approved by the Eclipse Management Organization; e.g., Mozilla Rhino
- **Licensing Contributions (out-bound licensing)**
  - BIRT is provided under the Eclipse Public License (EPL)
  - About.html/licenses are ready for all BIRT plug-ins (waiting on EMO approval)
- **Due Diligence and Record Keeping**
  - All committer's information has been recorded by EMO
  - Committer Agreement in place for all BIRT committers
  - EMO has ran scan tool on initial code contribution and completed all due diligence
  - EMO has recorded a list of all 3rd party open source code used by BIRT
- **Technology Reviews**
  - Creation Review completed September 22, 2004
  - Release Review scheduled for May 6, 2005

Reference: http://www.eclipse.org/org/documents/Eclipse%20IP%20Policy2003_12_03%20Final.pdf

Project Plan

- BIRT 1.0 scheduled for May, 2005
- Planning BIRT 1.1 for July, 2005
    - Support for Eclipse 3.1
    - Usability improvements based on feedback
    - Fully address all open source development requirements, including consistent use of mailing lists and publicly accessible defect tracking system
- Target for BIRT 2.0 is December, 2005
    - Planning a 6 week Milestone cycle
    - First 6 week milestone will be focused on planning
    - Details will be published for community review in May/June
    - Initial themes are support for more report types and multi-page reports

Thanks and …

Feedback, Feedback, Feedback!

- **Please provide feedback now for future BIRT releases**

- **Register enhancement requests in Bugzilla**