Eclipse BIRT 2.0 Release Review

December 16, 2005

Eclipse BIRT PMC

Introduction: BIRT 2.0 Release Review

- **BIRT 2.0 is targeted for availability January 20, 2006**
  - Based on Eclipse Platform 3.1.x
  - Also tested on Eclipse Platform 3.0.1

- **Major Milestones**
  - Prior releases: 1.0, June 2005; 1.0.1, July 2005
  - Next release: 2.1, June 2006 (based on EP 3.2)

- **Release alignment**
  - "Major" release designation determined by feature set
  - Summer releases will be aligned with Eclipse release train

Features: BIRT 2.0 Requirements Process

- **Requirements gathered from multiple sources:**
  - Enhancement requests already entered in Bugzilla
  - Discussions in BIRT newsgroup
  - Innovation/experience from within the BIRT project team
- **Requirements captured in Bugzilla**
  - Community encouraged to enter all enhancements into Bugzilla for planning and tracking
- **Candidate projects identified and listed on BIRT Wiki**
- **BIRT Project Specifications (BPS) created to define scope and encourage discussion and feedback**
- **BIRT 2.0 Plan developed and published**

Features: BIRT 2.0 Objectives & Themes

- **Extend reach of BIRT to handle wider application needs**
  - Enable BIRT to be used for many more production applications
- **Specific features can be grouped into broad categories**
  - Supporting additional report types (e.g., multi-page reports)
  - Ease of Use for existing features (e.g., chart builder, expression builder)
  - Performance and scalability (e.g., disk based sorting)
  - Developer productivity (e.g., libraries, JDT integration, templates)
  - Richer report viewing framework (e.g., Table of Contents)
  - Sophisticated parameter support (e.g., dynamic parameters)
  - Improved data access infrastructure (e.g., XML ODA driver)
  - J2EE application integration (e.g., access to application context)
- **Incorporate Eclipse Themes & Priorities where applicable**
  - See Release Plan for details

Features: Summary of Projects

BIRT is Ready for Prime Time!

- Table of Contents Support in Viewer UI
- Chart Interactivity at View Time in Reports
- Ability to Export Report Data as CSV
- Data Extraction from a Report
- Table of Contents API Support in Engine
- Top N / Bottom N Report Layout
- Multi-pass Aggregate, Sorting and Filtering Support
- Hyperlinks to Other Reports
- Multi-page Reports
- Persistent Storage of Report Output
- Basic XML as a Data Source
- Improvements to Chart components
- Provide Methods for Controlling Chart Behavior
- Provide support for Displaying CLOB (Text) Data from Database
- Provide support for Displaying BLOB (Image) Data from Database
- Bookmarks (Hyperlinks into a Report Body)

- Expanded JavaScript Support
- New and improved chart types
- Controlled/bounded use of System Memory
- Disk-Based Sorting and Data Manipulation
- Page-on-Demand Report Viewing APIs
- Cache Query Results while Developing
- Page-on-Demand Navigation UI/UI Framework
- Concurrent User Scalability for large numbers of Active Users
- Improve PDF Output Generation
- Dynamic Parameter List Support
- Cascading Dynamic Parameter Lists
- Chart Builder/Wizard
- Ability to use Property Editor for Chart Elements
- New Expression Builder for Improved Usability
- Syntax color coding in Expression Builder
- Auto-complete in Expression Builder

- Custom Template Support for New Reports
- Enhance Report Object Model API for Ease of Use
- Improvements to Chart Engine API
- Improve and Publish Chart Model
- Library Support for Reusable Report Items and Objects
- External Style Sheets for Use Across Multiple Report Designs
- Perspective for Java Code Editing in Report Designs
- Ability to import CSS Style Sheets
- Pass-through of External Context Objects to ODA Data Providers
- Support Data Set Output Parameters
- Move ODA Runtime Extension Point and Java Interfaces to DTP
- Provide Plug-in Adapter for BIRT ODA Drivers to DTP ODA

See New and Noteworthy documents for BIRT 2.0 M2 and later for details.

Non-Code Aspects: Documentation & Examples

- **BIRT 2.0 download includes online documentation**
  - Created by professional technical writers
- **Tutorials and examples available on www.eclipse.org/birt**
  - How-To recorded demos (20 currently available)
  - Articles on common BIRT usage scenarios
  - Examples of common reports
- **BIRT includes an embedded Derby sample database**
  - Easy to learn how to use BIRT with tutorials and examples
  - Standard SQL data that can easily be loaded into other DBs
- **New & Noteworthy pages created for 2.0 M2 and above**
- **Final New & Noteworthy includes all new features in 2.0**

Non-Code Aspects: Internationalization & Localization

- **Internationalization support**
  - Report Designer and Engine environment leverages the Eclipse and Java infrastructure
  - Internationalization tested and verified in representative locales
    - English, Japanese, Chinese
  - Currently no right to left locale support, limited PDF support
- **Localization**
  - Report Designer and viewer translations provided in download
    - English, French, German, Spanish, Japanese, Simplified Chinese, Korean
  - Report architecture designed to enable easy localization of labels and text in actual reports

APIs: Overview

- BIRT 1.0.x introduced new APIs based on expertise and extensive review of senior architects with 10+ years of experience in BI field

- All except BIRT ROM were marked as "Provisional" in BIRT 1.0

- Intention is for new APIs to go through at least one release of Provisional status to allow for feedback

- Community feedback on BIRT 1.0.x APIs prompted a number of enhancements and improvements

  - Improved Engine API for ease of integration with applications

  - Added support for extensible Data Explorer View in UI

APIs: Status

Name	Status	Doc Status	Test Cases	# of Clients	Backward Compatible	Maturity
BIRT Report Object Model	Platform	Comprehensive document	Yes	2+	Indefinite	Platform
BIRT Design Engine API	*Platform*	Overview, How To and JavaDoc	Yes	2+	1.0, 1.0.1	*Mature*
BIRT Report Engine API	Provisional	Overview, How To and JavaDoc	Yes	3+	1.0, 1.0.1	Medium
BIRT Report Scripting API	*Provisional*	*JavaDoc*	*Yes*	*N/A*	*New*	*Medium*
BIRT Open Data Access Extension API	*Deprecated*	Overview and JavaDoc	Yes	3+	1.0, 1.0.1	Medium
BIRT Report Item Extension API	Provisional	Overview and JavaDoc	Yes	2+	1.0, 1.0.1	*High*
BIRT Report Rendering Extension API	Provisional	JavaDoc	Yes	2+	1.0, 1.0.1	Low
BIRT Chart Engine API	Provisional	Overview, FAQ, Model Specification and JavaDoc	Yes	2+	1.0, 1.0.1	*Medium*
BIRT Chart Type Extension API	Provisional	JavaDoc	Yes	5+	1.0, 1.0.1	Low
BIRT Chart Device Rendering Extension API	Provisional	JavaDoc	Yes	3+	1.0, 1.0.1	Medium

API Contract Compatibility: BIRT 2.0 will be upwards contract-compatible with BIRT 1.x to the greatest extent possible. All incompatibility exceptions will be documented. Downward contract compatibility is not supported. There is no guarantee that compliance with BIRT 2.0 APIs will ensure compliance with BIRT 1.x APIs. Refer to general Eclipse document on Evolving APIs for a discussion of the kinds of API changes that maintain contract compatibility.

End-of-Life

- BIRT 1.0.x scripting event names deprecated
  - Old names were inconsistent and hard to understand
  - Old names are automatically converted to new names when design is opened in BIRT 2.0
- BIRT Open Data Access Extension API is deprecated
  - Open Data Access API has moved from BIRT to DTP project
  - BIRT 2.0 includes an adapter to ensure that existing ODAs work
  - Adapter eases transition but will be removed in a future release
  - New Open Data Access adapters should be developed using DTP APIs
- Small number of additional specific APIs deprecated in BIRT 2.0
  - Deprecated in order to improve API design based on feedback/use

Architectural Items

- **Data Access components of BIRT moved to DTP project**
  - Includes ODA (Open Data Access) architecture
- **BIRT project developers contributing to DTP**
- **Future BIRT releases will incorporate additional DTP components when they are available**
  - Examples: Connection Profiles, SQL Query Parser, SQL Query Builder

Bugzilla Statistics

- **Dedicated professional QA team testing BIRT**
  - All defects logged in Eclipse Bugzilla
- **All bugs are tracked through Bugzilla**
- **Release Exit Criteria**
  - Zero outstanding Critical defects
  - Zero outstanding Major defects
  - 100% test attempt / pass
- **All automated tests/JUnit tests are in CVS**

Bugzilla Statistics

Target Milestone ⇨	2.0 Milestone Releases				Total 2.0	2.1	Future
	M1	M2	M3	Final			
Blocker	2	2	10	9	23	0	1
Critical	3	8	23	14	48	0	0
Major	9	9	92	52	162	3	1
Minor	10	4	29	26	69	0	3
Normal	34	58	388	427	907	5	38
Trivial	2	2	12	13	29	0	1
Enhancement	22	21	35	81	159	7	63
Grand Total	**82**	**104**	**589**	**622**	**1397**	**15**	**107**

Bug statistics as of Dec 8, 2005

Standards (same as BIRT 1.0.x)

- 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

- Adopted Eclipse platform model: Milestone release ~ every 6 weeks
- Intermediate stable builds ~ every 2 weeks to encourage feedback

Sep 30, 2004	▪ BIRT Project accepted as a new Eclipse Foundation top-level project
Feb, 2005	▪ 1.0 Preview Release: Eclipse Report Designer, Report Engine, Chart Engine
Jun 6, 2005	▪ **BIRT 1.0 released**
Aug 5, 2005	▪ **BIRT 1.0.1 released**
Sep 19, 2005	▪ BIRT 2.0 M1 released
Oct 28, 2005	▪ BIRT 2.0 M2 released
Dec 5, 2005	▪ BIRT 2.0 M3 released
Dec 30, 2005	▪ BIRT 2.0 Release Candidate target
Jan 20, 2006	▪ **BIRT 2.0 GA target date**
Feb - May, 2006	▪ Target for BIRT 2.1 Milestone builds ~ every 6 weeks
Jun, 2006	▪ **Target for BIRT 2.1 (with full support for Eclipse Platform 3.2 GA)**

Process: Responding to BIRT 1.0 RR Feedback

- BIRT 1.0 Release Review highlighted process issues
  - BIRT 1.0 was not using Bugzilla for all defects
  - PMC was not meeting/communicating frequently enough
  - More transparency needed in development discussions
- Mitigating factors
  - BIRT Project was still in start-up mode in Eclipse Foundation
  - BIRT was forging new ground in Eclipse Foundation
- BIRT Project has matured with BIRT 2.0
  - Responded to BIRT 1.0 Release Review feedback
  - Fully embraced Eclipse processes (nightly builds, Bugzilla, etc.)
  - Transparency of development process (BPS, PMC minutes, etc.)
  - Promoting and supporting BIRT in the community
  - Continuing responsiveness to newsgroups (also strong in BIRT 1.0)
  - Dedicated resources generating content for BIRT web site pages

Process

- 56 committers for the Eclipse BIRT project
  - Committer elections and removals have followed charter principles
  - Continuing to recruit additional contributor organizations/individuals
- Open and inclusive release planning and tracking processes
  - Bugzilla used to request and track all defects and enhancements
- Leveraging other open source in the project where possible
  - Examples: Rhino; Flute; Tomcat
- All contributions made directly to Eclipse CVS
  - Nightly, stable, and release builds available to the community
- Weekly PMC meeting with minutes distributed to community
- PMC in discussions with two companies to join project and PMC

Community

- Open communications via 6 BIRT mailing lists and 1 newsgroup
  - Project activities communicated via mailing lists for PMC/general
  - One mailing list for each sub-project
  - Plus low-noise news only mailing list
- Newsgroup is very active (3794 postings as of Dec 7, 2005)
  - Many how-to questions and discussions
  - Typically same day responses from development team
  - Have adjusted projects in response to newsgroup feedback
- BIRT is frequently in top 2 or 3 projects in "Liveliness" scale
- Coordination/cooperation between other open source projects
  - TPTP incorporates BIRT functionality
  - Moved BIRT ODA architecture and resources to Eclipse DTP
  - Tested BIRT with MySQL, getting content on MySQL site
  - Working with Zend to provide easy PHP access to BIRT

Community

- Articles and Technical Content Placement
    - MySQL web site, Nov 2005 (http://dev.mysql.com/tech-resources/articles/using-birt)
        - "Using BIRT To Report On Bugzilla in MySQL"
    - Digital Voice Blog, Sep - Oct 2005 (http://digiassn.blogspot.com)
        - "Sguil Event reporting with BIRT"
        - "BIRT Report Server Pt. 1"
        - "BIRT Report Server Pt. 2"
    - TechForge, Oct 2005 (http://www.techforge.com/index.php/articles/192)
        - "Using Eclipse BIRT and Hibernate"
- Conferences and User Groups
    - Eclipse World 2005, Aug 2005 (http://bzmedia.com/eclipseworld)
        - "Introduction to BIRT"
        - "Mastering BIRT"
    - Silicon Valley BEA dev2dev User Group, Aug 2005 (http://dev2dev.bea.com/pub/e/719)
        - "Actuate BIRT"
    - SF Bay Area Chapter, ACM, Nov 2005 (http://www.sfbayacm.org)
        - "BIRT: The Open Source Eclipse Reporting Framework"
    - Javapolis, Dec 2005 (http://www.javapolis.com)
        - "Leveraging and Extending BIRT for Reporting in Java Applications"
- Blogging
    - BIRT World: http://birtworld.blogspot.com
    - Promoting BIRT on many other sites such as TheServerSide, JavaLobby and EclipseZone

Newsgroup Feedback

"It is an elegant and well implemented design ..."
Colombian developer referring to BIRT 2.0 Cascading Parameter feature design

"Thanks to everyone on the BIRT team, this look like a great tool."
Developer at http://servicepower.com

"It is very interesting and excellent indeed."
Developer

"… first of all I would like to say: great work …"
Source Forge Developer

"Have upgraded to 2.0 M2 and must say - it rocks! ... Thanks for all the great work."
Peter Hazzard, Founder and Principal Consultant of Moshier Island Group, has over 18 years of system integration experience (www.moshierislandgroup.com)

"I'm evaluating BIRT and I have to say it's very impressive -- nice work BIRT team!"
Ben Wolin (ben.wolin at bricsnet.com)

Framework Uptake Examples

- BIRT continues to generate a lot of interest and uptake is strong

Pentaho – http://www.pentaho.org
Pentaho provides an integrated open source BI stack solution that includes BIRT.
Actuate – http://www.actuate.com/birt
Commercial version of BIRT with support, indemnification and support.
EmbeddedPlus – http://www.embeddedplus.com
Commercial DoorKeeper product uses BIRT as the reporting component.
Ivis Technologies – http://www.ivis.com
BIRT is the reporting component of commercial xProcess product.
Zend – http://www.zend.com
Zend and BIRT team are investigating integration of BIRT with PHP.
Eclipse TPTP Project – http://www.eclipse.org/tptp
Including BIRT as the reporting component within TPTP.
Possibly Many Others…
Newsgroup includes postings from many large organizations: IBM, L.L.Bean, SPSS, NASA JPL…

Intellectual Property

- Accepting Contributions (In-Bound Licensing)
    - All BIRT code provided under [Eclipse Public License (EPL)](#)
    - Included 3rd party (non-EPL) components approved by EMO
    - Exception: iText is used by BIRT for PDF generation but not approved by EMO
        - Therefore, iText is not included in BIRT Eclipse downloads and distributions

- Licensing Contributions (Out-Bound Licensing)
    - BIRT 2.0 provided under EPL
    - about.html / licenses are in place

- Due Diligence and Record Keeping
    - All BIRT Committers completed Committer Agreement & approved by PMC/EMO
    - PMC maintains list of all 3rd-party (non-EPL) components used by BIRT
    - EMO source scan and due diligence is in progress
        - BIRT 2.0 will not be released until this is complete with a positive result
    - Project Log maintained by the PMC (see Project pages)

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

Project Plan

- BIRT 2.0 scheduled for Jan, 2006
  - Based on Eclipse 3.1.x
  - Also supports Eclipse 3.0.1
- BIRT 2.1 scheduled for Jun, 2006
  - Primary goal is support for Eclipse 3.2
  - Part of the Eclipse 3.2 release train ("Callisto")
  - Investigating if we can also continue to support Eclipse 3.0.x
  - Expecting to finalize additional planning in Jan, 2006
  - Details will be published for community review in Jan/Feb
- BIRT release tentatively targeted for Jun 2007
  - Synchronized with Eclipse Platform release in that timeframe
  - Feature set and planning will determine release designation
  - Detailed planning TBD

Thanks and…

Feedback, Feedback, Feedback!

- **Please provide us with your feedback, requirements, issues**

- **Submit enhancement requests / defects in Bugzilla**
  https://bugs.eclipse.org/bugs/enter_bug.cgi?product=BIRT

- **Submit questions / issues in the BIRT Newsgroup:**
  news://news.eclipse.org/eclipse.birt

- **Engage with the PMC to contribute:**
  birt-pmc@eclipse.org or **individual PMC members (see**
  http://eclipse.org/birt/index.php?page=project/pmc.html)