

Software Development Practices

Jeffrey Liu
IBM Senior Software Engineer
liuch@tw.ibm.com
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Software Development is about ...

Critical factors of Software Delivery

Project
Management

Team Collaboration

Continuous
Integration

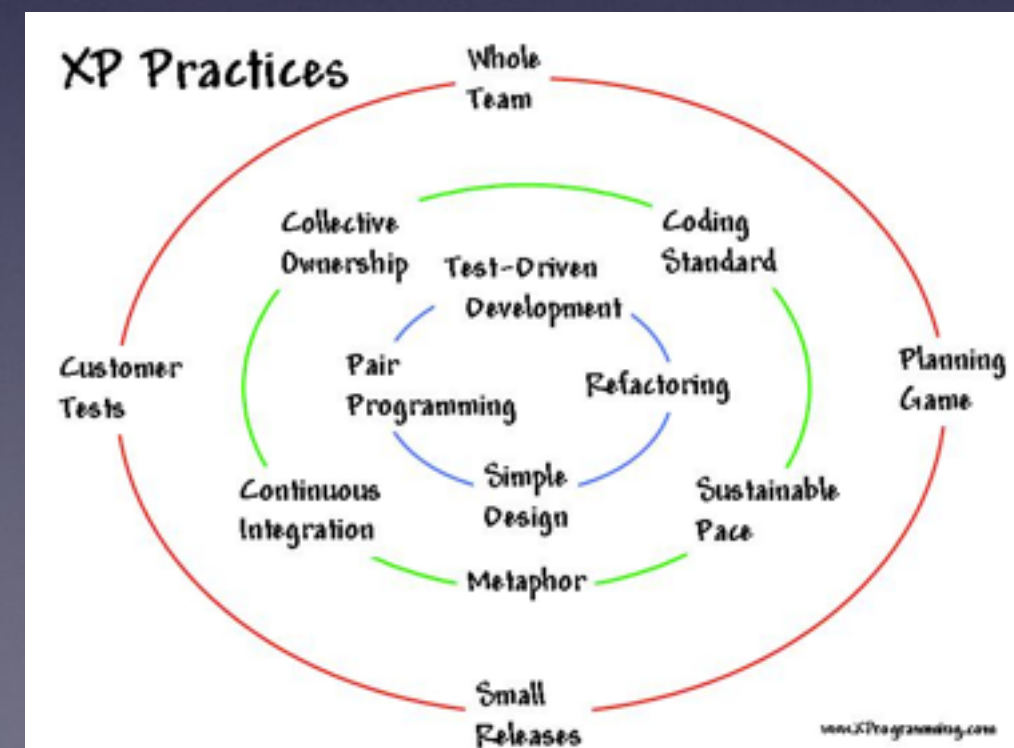
Issue Tracking

Agenda

- Part 1 : Agile Development Process
- Part 2 : Team Collaboration
- Part 3 : Continuous Integration
- Part 4 : IBM Experience

What I won't cover in this session

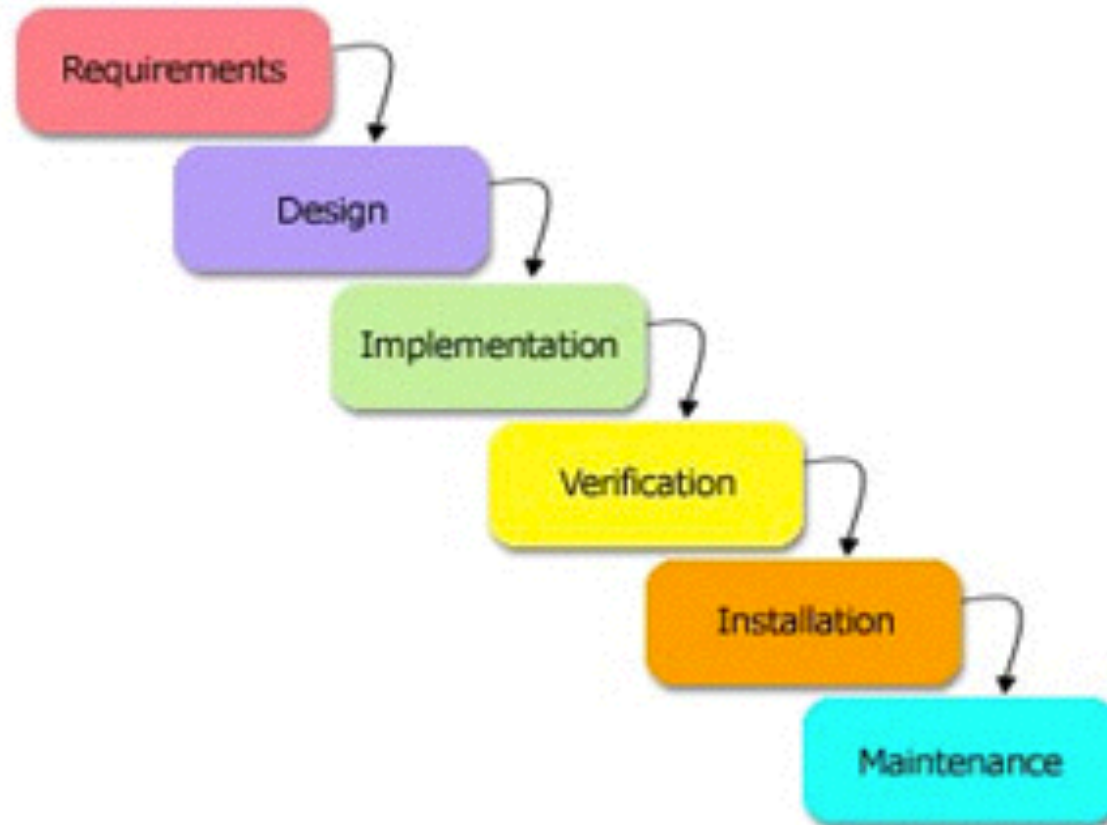
- Pair Programming
- Test-Driven Development
- Refactoring
- ...



Agile Development Process

What is Agile ?

What is the problem of waterfall development process



- Risk
- Cost
- **Satisfaction**

When to use waterfall development process ?

- When requirement and schedule are well-defined
- Quality is more much important than cost
- The uncertainty of technology and external impacts are low

Agile in a Nutshell

- Not just a set of methodologies
- Not just a set of practices
- It feels like a set of goals, principles, or values
- Do what you need to do to leverage instead of resist changes
- Reduce Risk
- Communication, Feedback, Simplicity, Teamwork

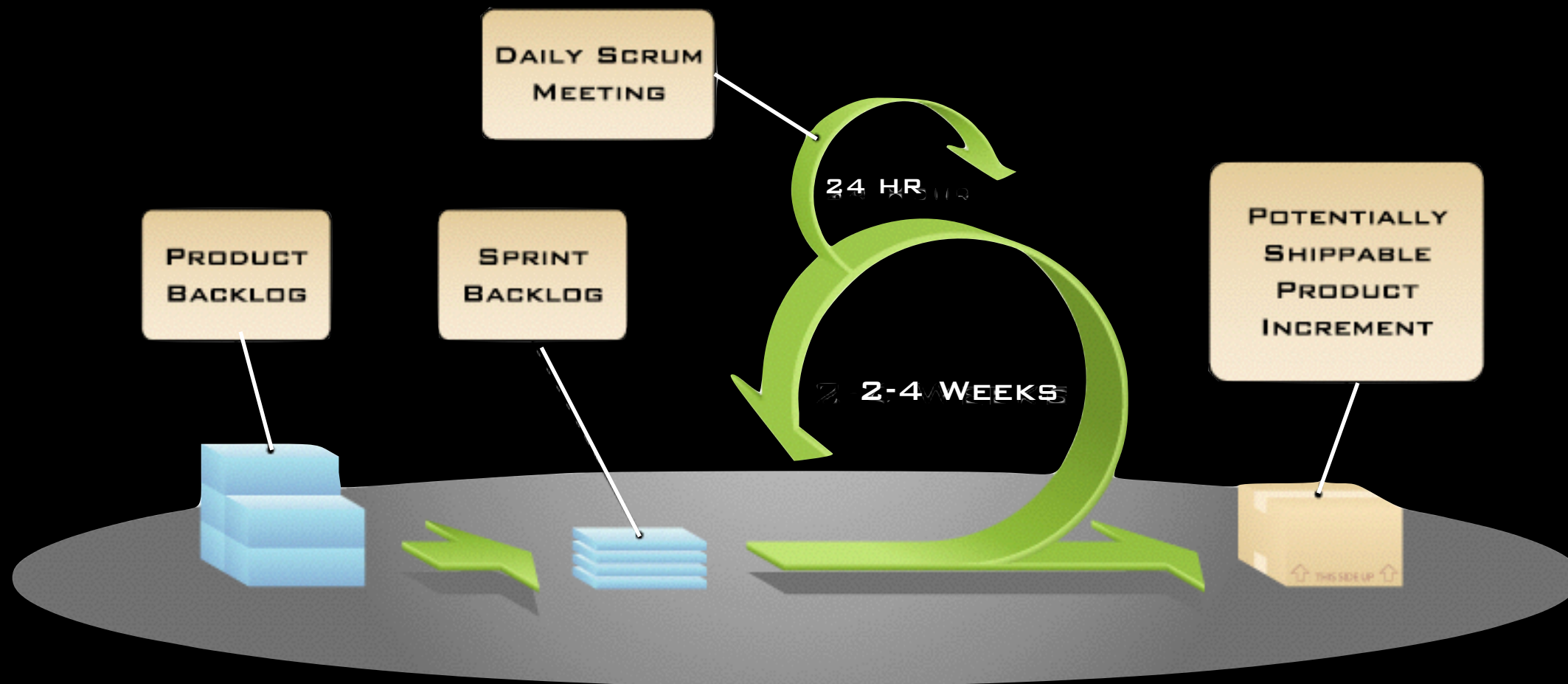
Agile Development with Scrum

What is scrum ?



Fig. 6: The Scrum

The scrum is a pushing contest between two teams of eight players. The ball is fed in from the side by the scrumhalf and the team that drives their opponent backwards and hooks the ball out past the last foot of their own scrum wins possession. A scrum down is used to restart play after certain infractions such as a “knock on” or a forward pass.



ROLES

- PRODUCT OWNER
- SCRUM MASTER
- TEAM MEMBER

CEREMONIES

- SPRINT PLANNING
- SPRINT REVIEW
- SPRINT RETROSPECTIVE
- DAILY SCRUM

ARTIFACTS

- PRODUCT BACKLOG
- SPRINT BACKLOG

Iteration Exit ?

- Exit Check List
- Done, Done, Done
- Stakeholder Demo/Review
- Time Boxed Iteration

What if we can't finish all the content planned for this iteration ?

Team Collaboration

Version Control

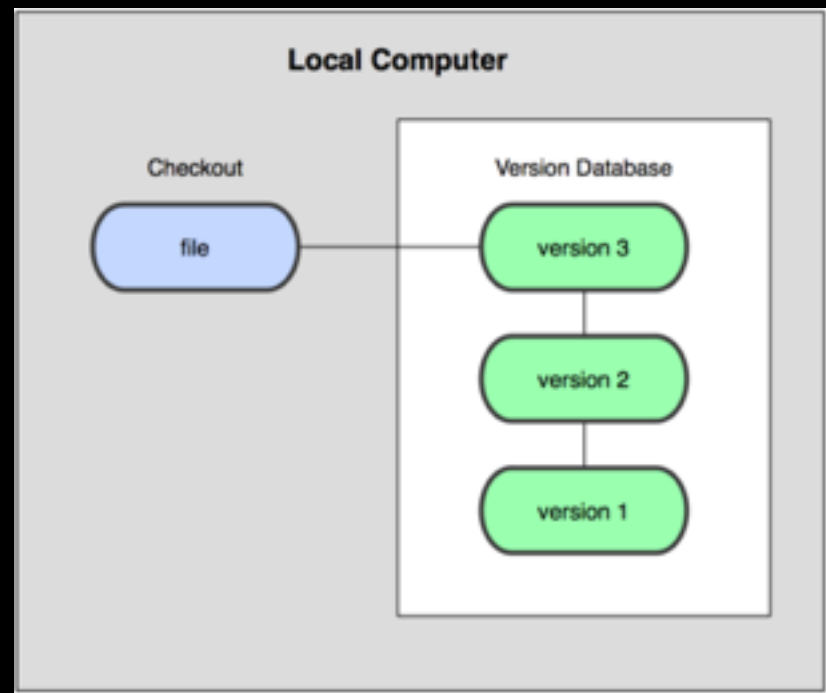
- Why Version Control ?
 - Backup and Restore
 - Source code sharing and synchronization
 - Merges
 - Branches

It is the very first thing you need to start a project

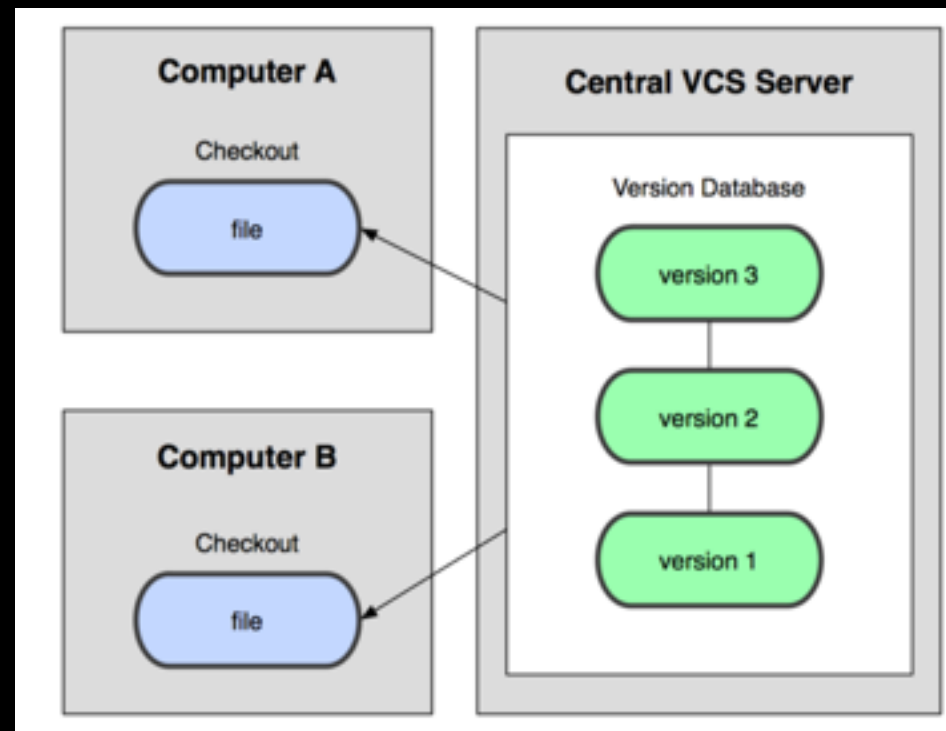
Version Control

- Tools available
 - CVS
 - Subversion
 - GIT
 - Mercurial
 - ClearCase
 - ...

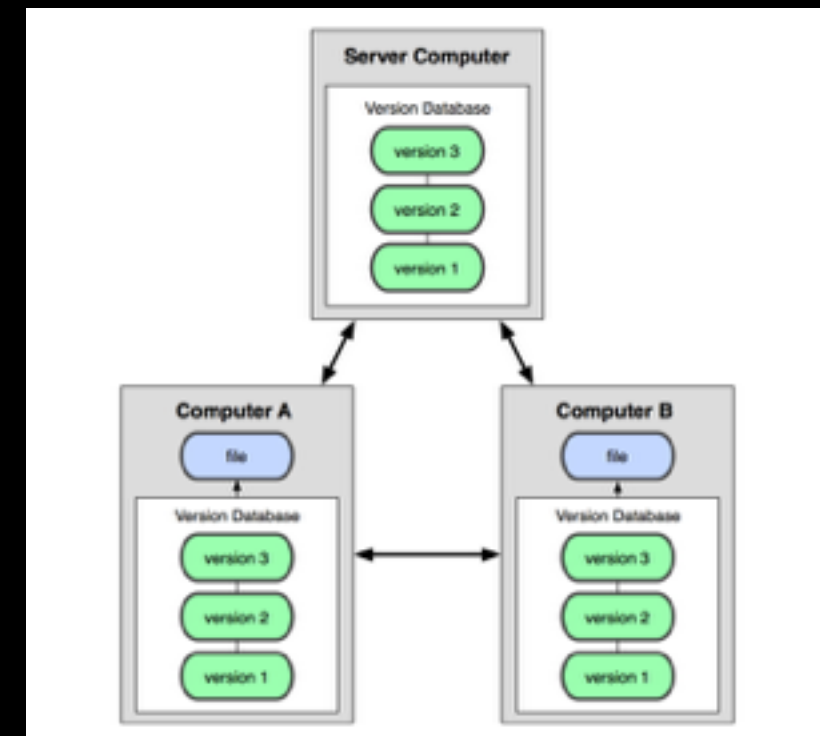
Different Topologies



Local

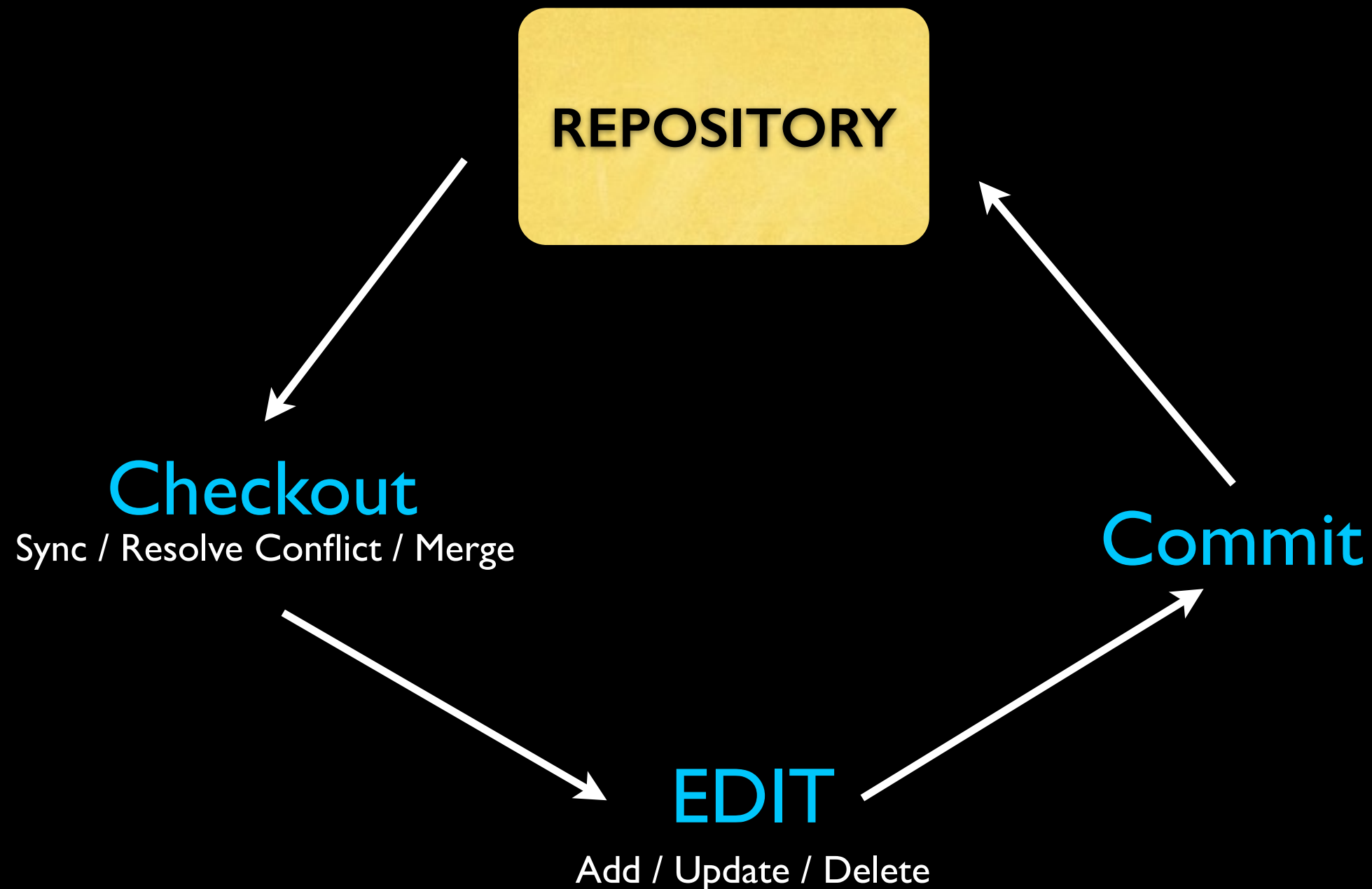


Centralized



Distributed

Common Usage Pattern



Basic Principles

- No build breaks
- Review your changes before submit
- Each submit should only deal with one task
- Make your submit comment clear

Issue Tracking System

- A centralized place to track all the “issues” that need to be followed up
 - Todos
 - Bugs
 - PMR
- The system maintain the life cycle of the issue, and provide the facilities for team members to collaborate on these issues

Rational Team Concert

What is RTC ?

- A collaboration tool that includes
 - Project Planning
 - Requirement Management
 - Issue Tracking
 - Version Control
 - Continuous Integration

MEMBER



Profile

Availability

Preference

TEAM



Team Members
Development Line
Process

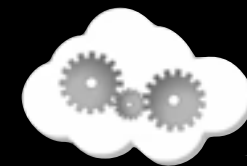
PROJECT



Teams

Release

Process



Process

Naming	Product Backlog , Sprint
Roles	Scrum Master, Product Owner
Permissions	Only Scrum Mater Can create iteration plan
Precondition	All code must be code reviewed before checkin
Follow up	When bug fixed, QA will be notified to verify the fix

Release






WORK ITEM

- Each Work item will be associated with an estimate
- Along with team member's available resource, the progress and loading of each individual/team/iteration plan could be transparently tracked
- Supported notification mechanisms : mails , event views, RSS , pop-up

4.4 m1 Apr 19, 2008 - May 19, 2008		
Name	Team Area	Progress
JUnit Plan	JUnit Team	79 / 79 - h <input type="text" value="No Open Work Estimated"/> 0%

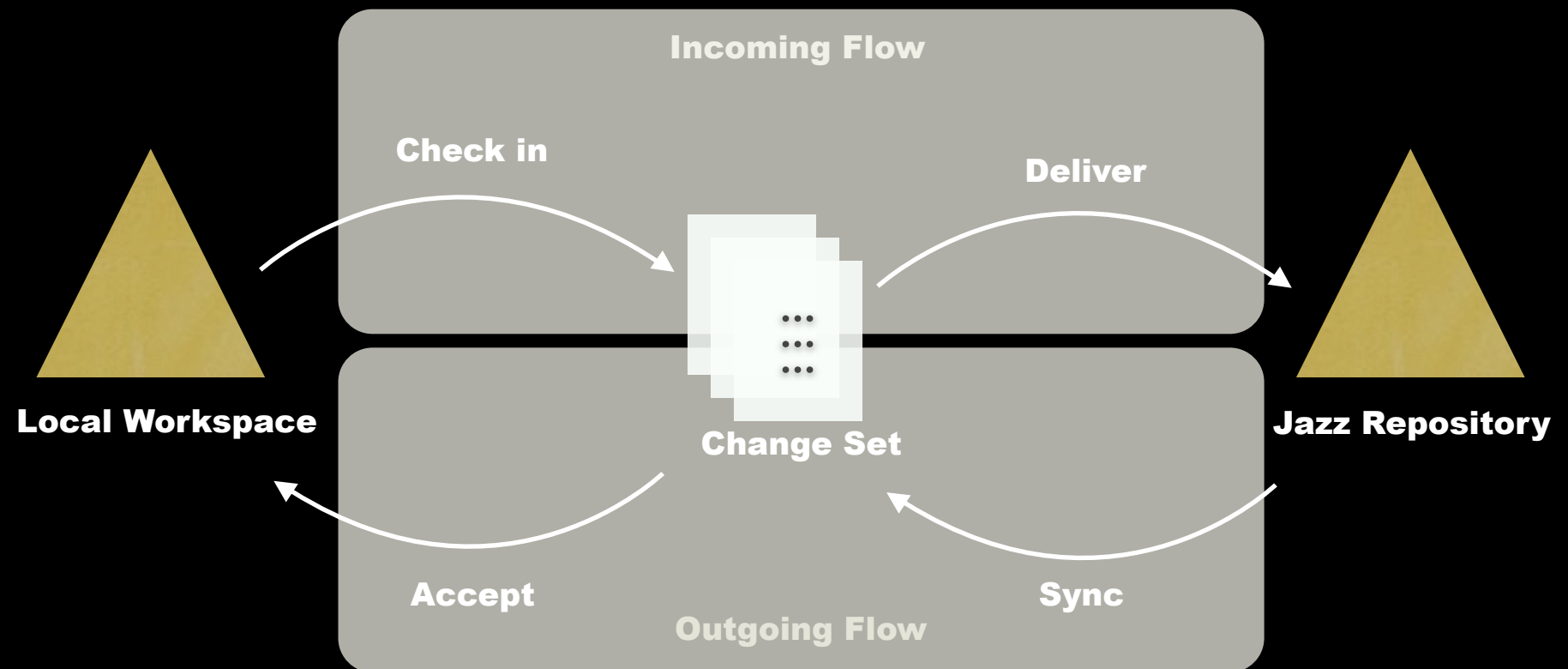
4.4 m2 May 19, 2008 - Jun 18, 2008		
Name	Team Area	Progress
JUnit Plan	JUnit Team	13 / 186 -47 h <input type="text" value="75%"/>

4.4 May 19, 2008 - no end date		
Name	Team Area	Progress
JUnit Release Plan	JUnit Team	0 / 0 h <input type="text"/>

	Bill Cassavelli Closed Items: 8 Open Items: 0	<input type="text" value="Progress: 25 / 25 - h"/> Estimated: -
	Jason Mitchell Closed Items: 1 Open Items: 0	<input type="text" value="Progress: 0 / 0 - h"/> Estimated: -
	Markus Kent Closed Items: 13 Open Items: 1	<input type="text" value="No Open Work Estimated"/> Estimated: 0%

VERSION CONTROL

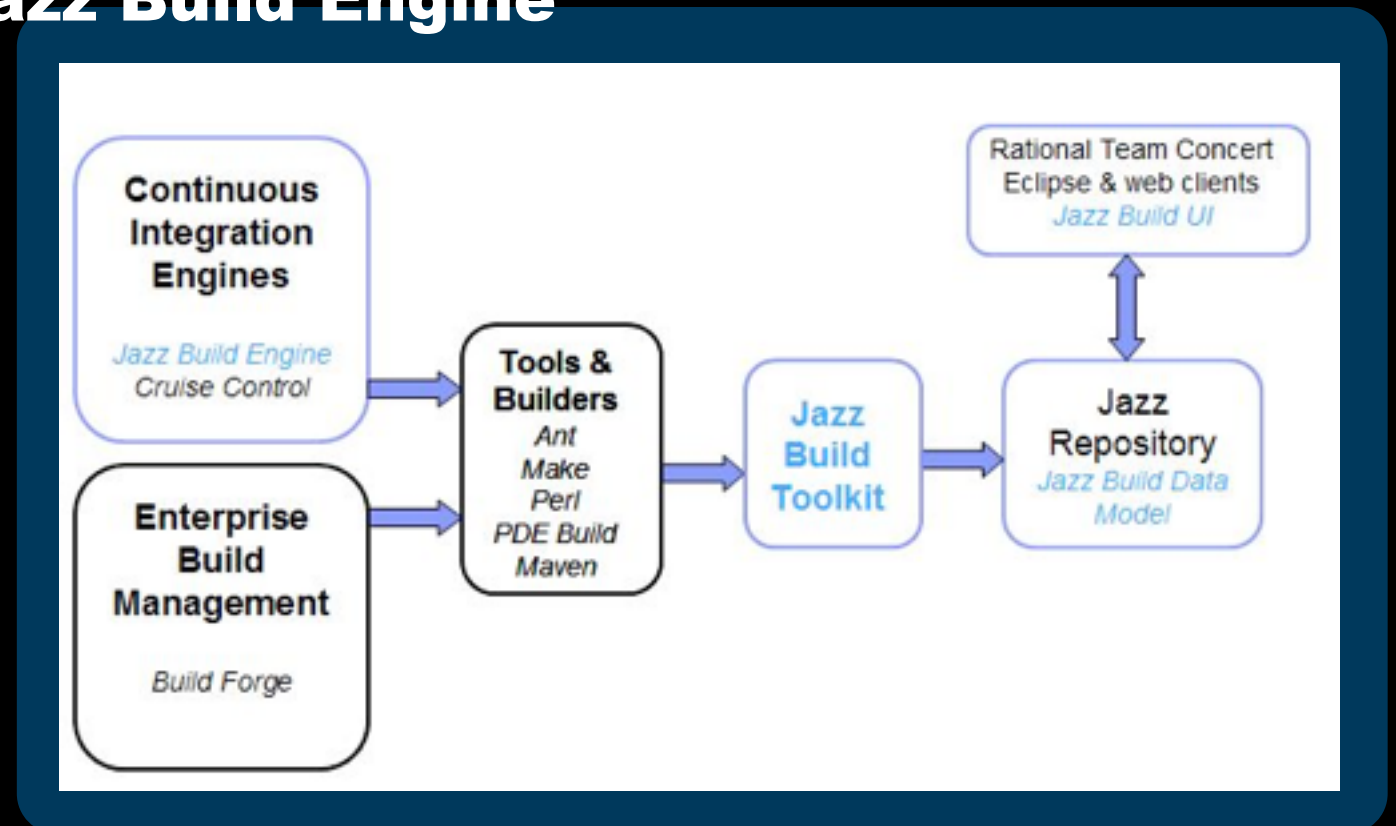
- Stream
- Component
- Change Set
- Baseline
- Snapshot



CONTINUOUS INTEGRATION

- **Build Scheduling**
- **Build Progress monitoring**
- **Build Alert**
- **Build Result Viewing**
- **Regression Testing**
- **Coverage Testing**
- **Linkage with other artifacts**
 - **Work items**
 - **Change Sets**

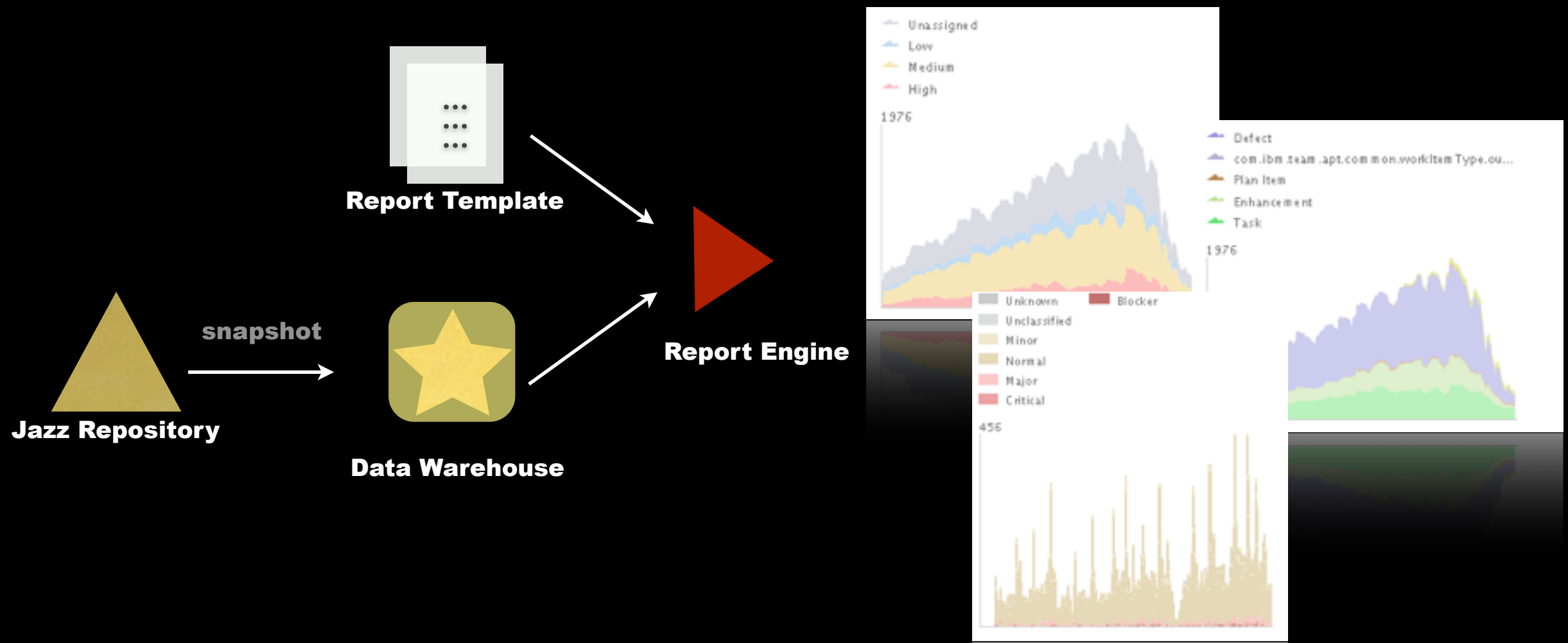
Jazz Build Engine



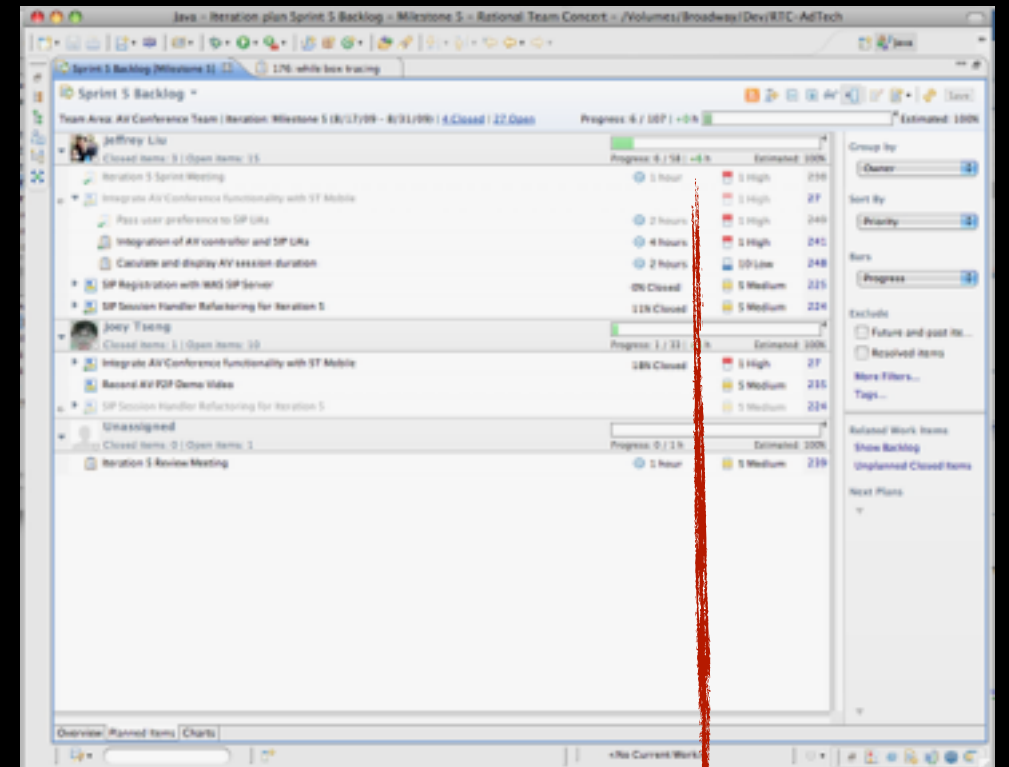
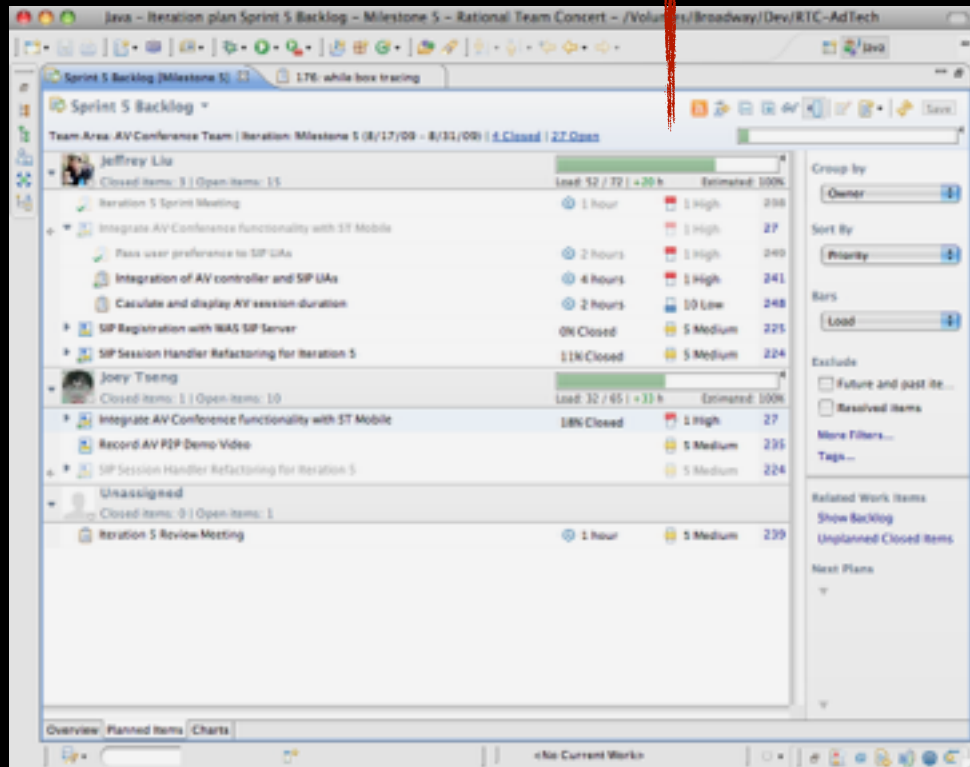
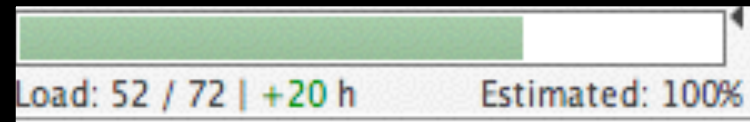
REPORT

Various project artifacts make it expensive to create report on-the-fly

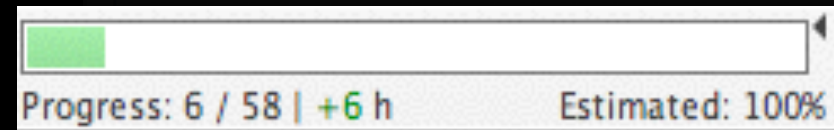
A **data warehouse** is a storage facility for read-only, historical and aggregated data.



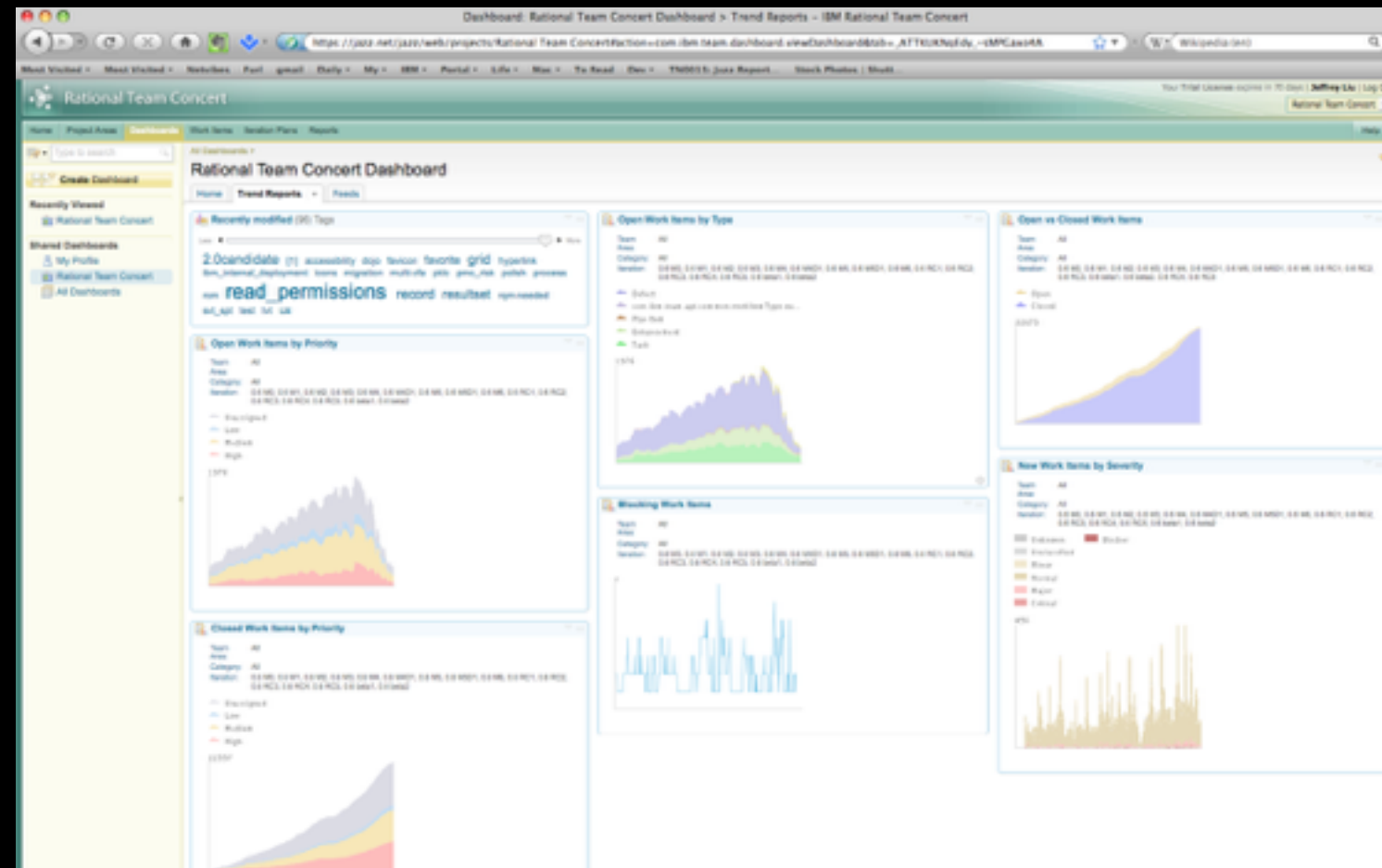
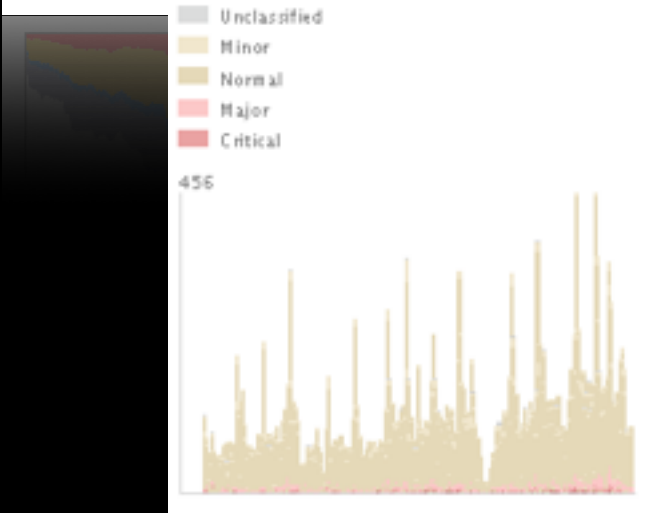
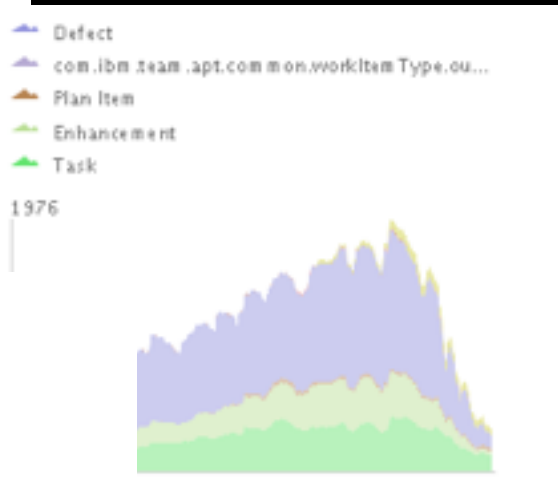
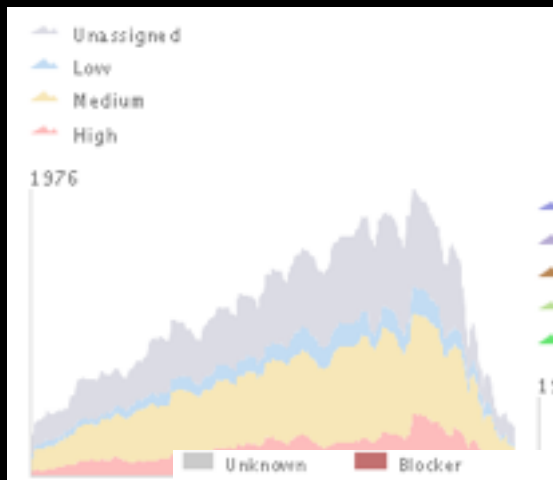
Work Load



Work Progress



Development Velocity



Continuous Integration

Life without CI ...

- Hard to pinpoint the root cause of failures
- Depending on project natures, it might take significant effort for integration
- It increase the testing efforts
- Low release quality

RTC Build History

Work Items - 20110928-0332 - Rational Team Concert

File Edit Navigate Search Project Run Window Help

Team Team Project My Wo Team

All Project and Team Areas (11 of 12 areas selected)

- 0.5.3 build
- 0.5.4 build
- 0.5.5 build
- 0.5.6 build
- 0.5.7 build
- 2.0.0 build
- 3.0.0 build - MCP6 express - 9004
- 3.0.0 build - MCP6 express - 9005
- 3.0.0 build - MCP6 with the works 9004
- 3.0.0 build - MCP6 with the works 9005
- BVT only
- Trunk Integration MCP6 build express - 9004
- Trunk Integration MCP6 build express - 9005
- Trunk Integration MCP6 build express without protected-sr
- Trunk Integration MCP6 build with the works - 9004
- Trunk Integration MCP6 build with the works - 9005
- Trunk Integration MCP7 build express - 9004
- Trunk Integration MCP7 build express - 9005
- Trunk Integration MCP7 build express - Blade
- Trunk Integration MCP7 build express without protected-sr
- Trunk Integration MCP7 build with the works - 9004

Build Trunk Integration MCP7 build express - 9005 20110928-0332

Completed

Duration: 1 hour, 30 minutes, 51 seconds
 Start Time: September 28, 2011 3:32:17 PM
 Completed: September 28, 2011 5:03:08 PM

Status Trend:

Reported Work Items
 Work items reported against this build to help stabilize i
 None reported against this build
[Create a new work item](#)
[Associate an existing work item](#)

Contribution Summary

Changes: [Show changes](#)
 Downloads: [19 downloads](#)
 Logs: [7 logs](#)
 Repository Workspace: [Trunk Integration MCP7 express 9005 build workspace](#)
 Snapshot: [Trunk Integration MCP7 build express - 9005_20110928-0332](#)
 Tests: [293 tests, 0 failures, 0 errors](#)
 Work items: [1 included in build](#)

General Information

Requested by: (scheduled build)
 Build Definition: [Trunk Integration MCP7 build express](#)
 Build Engine: [build2](#)
 Build History: [33 builds](#)
 Tags:
 Deletion allowed

Overview Activities Tests Downloads Logs Properties

Work Items Tag Cloud Problems Team Advisor Change Explorer Pending Changes Builds History Console Repository Files Search Properties

Trunk Integration MCP7 build express - 9005 - Found 33 Builds (8093 ms)

Build	Label	Progress	Estimated Completion	Start Time	Duration
Trunk Integration MCP7 build express - 9005 (personal build by CLEMENT SU)	20110928-0629	4% (Pre-build setup)	in 1 hour and 17 minu...	September 28, 2011 6:29:40 PM	23 seconds
Trunk Integration MCP7 build express - 9005 (personal build by Robert D. Callaway)	20110928-0628	8% (Fetching files)	in 1 hour and 16 minu...	September 28, 2011 6:28:52 PM	1 minute, 11 secc
Trunk Integration MCP7 build express - 9005	20110928-0332	Completed		September 28, 2011 3:32:17 PM	1 hour, 30 minute
Trunk Integration MCP7 build express - 9005 (personal build by Robert D. Callaway)	20110928-0144	Completed		September 28, 2011 1:44:52 PM	1 hour, 21 minute
Trunk Integration MCP7 build express - 9005 (personal build by CLEMENT SU)	20110928-0016	Completed		September 28, 2011 12:16:06 PM	1 hour, 29 minute

Search for ID or Text Bedrock Hub

<No Current Work>

Build Failed

Build Trunk Integration MCP7 build express - 9005 (personal build by CLEMENT SU) 20110927-2042

Completed

Duration: 1 hour, 29 minutes, 44 seconds
Start Time: September 28, 2011 8:42:22 AM
Completed: September 28, 2011 10:12:07 AM

Status Trend:

Contribution Summary

Downloads: [19 downloads](#)
Logs: [7 logs](#)
Repository Workspace: [Trunk Integration Workspace](#)
Tests: **293 tests, 10 failures, 0 errors**

Reported Work Items

Work items reported against this build to help stabilize it.

- [None reported against this build](#)
- [Create a new work item](#)
- [Associate an existing work item](#)

General Information

Requested by: CLEMENT SU
Build Definition: [Trunk Integration MCP7 build express - 9005](#)
Build Engine: [build3](#)
Build History: [34 builds](#)
Tags:
 Deletion allowed

Build	Label	Progress	Estimated Completion	Start Time	Duration
Trunk Integration MCP7 build express - 9005 (personal build by Jeannie K. Hawrysz)	20110927-2114	Completed		September 28, 2011 9:14:31 AM	1 hour, 34 minutes, 5...
Trunk Integration MCP7 build express - 9005 (personal build by Jeannie K. Hawrysz)	20110927-2043	Completed		September 28, 2011 8:43:55 AM	1 hour, 35 minutes, 3...
Trunk Integration MCP7 build express - 9005 (personal build by CLEMENT SU)	20110927-2042	Completed		September 28, 2011 8:42:22 AM	1 hour, 29 minutes, 4...

Failed Test Cases

Build Trunk Integration MCP7 build express - 9005 (personal build by CLEMENT SU) 20110927-2042

JUnit Tests

Name	Tests	Failures	Errors	Time Taken	Run ...
FVT-onbox-JUnit-remanufacture	245	10	0	23 m 44 s	
com.ibm.bedrock.fvt.suites.BedrockFvtFilteredTestSuite	245	10	0	23 m 44 s	
com.ibm.bedrock.fvt.LicenseAcceptanceCliTests	6	2	0	24 s	
testLicenseRejectSSH6	1	1	0	11 ms	5
testLicenseAcceptSSH6	1	1	0	2 ms	6
com.ibm.bedrock.fvt.FileGetPutCliTests	36	8	0	3 m 17 s	
testGetFileSCP6	1	1	0	2 ms	14

Details

Class name:

Method:

Time taken:

Overview Activities Tests Downloads Logs Properties

Build Logs

The image shows a screenshot of a build management interface. The top window displays a list of log files under the heading "Log Files". The list includes files for "Build" and "Test" categories, with a "Full Build Log" file selected. The bottom window shows the content of the selected log file, which is a text-based log from the Jazz build engine. The log contains various status messages, timestamps, and configuration details.

File Name	Description	File Size
Build		
compile-3.9.7.0-mcp7-REL-20110927-2042.log	...Compiling lo	
virtual-20110927-2042.log	...Virtual imagi	
Test		
beam-20110927-2042.log	Performing BEA	
bvtRun-20110927-2042.log	BVT Client serial	
smoketest-prepped-REL-20110927-2042.log	...Smoke test	
unittest-3.9.7.0-mcp7-REL-20110927-2042.log	...Running uni	
<no component>		
build-1317170540945.log	Full Build Log	

```
2011-09-27 20:42:21 [Jazz build engine] running on host: bedrock.rtp.raleigh.ibm.com
2011-09-27 20:42:21 [Jazz build engine] Should build occur?
2011-09-27 20:42:21 [Jazz build engine] Yes: Always build a user initiated request.
2011-09-27 20:42:23 [Jazz build engine] Invoking pre-build participant "com.ibm.team.build.jazzscm"
2011-09-27 20:42:27 [Jazz build engine] Deleting fetch destination "/home/build3/jazz/buildsystem/buildengine/
2011-09-27 20:42:44 [Jazz build engine] Fetching files to fetch destination "/home/build3/jazz/buildsystem/bui
2011-09-27 20:45:02 [Jazz build engine] Invoking build participant "com.ibm.team.build.ant"
Buildfile: /home/build3/jazz/buildsystem/buildengine/eclipse/workspace/src/rtc-build.xml
[echo] bvt.pxeFirmwareFilename: build3.tar.gz

buildall:
[echo] bvt.pxeFirmwareFilename: build3.tar.gz

setup:
[echo] SDK version: 3.9.7.0
[echo] buildDefinitionId: Trunk Integration MCP7 build express - 9005
[echo] Personal build: [no]
[echo] buildLabel/RTCBUILDID: 20110927-2042
[echo] buildResultUUID: _revswOlqEeC8LpMKdz5Pgw
[echo] build userid: build3
[echo] BRDEVHOME: /home/build3/jazz/buildsystem/buildengine/eclipse/workspace
[echo] BRHOME: /home/build3/bedrock-adk
[echo] MCP_CACHE_DIR: /home/mcp-cache-dir
[echo] JAVA_HOME (OK if unset): [unset]
[echo] mcp.env: mcp7
[echo] mcp64.env: mcp7_64
[echo] Ant version: Apache Ant version 1.7.1 compiled on June 27 2008
[echo] build cache hostname: bedrock.rtp.raleigh.ibm.com
```


IBM Experience

Role and Responsibilities

Release Management Team



Stakeholder Review

Scrum of Scrum

Iteration Exit Review

Iteration Exit Demo

Theme Lead Meeting

Theme A



Iteration Sprint

Daily Scrum

Post Mortem



DEV



SQA



ID

Theme B



Iteration Sprint

Daily Scrum

Post Mortem



DEV



SQA



ID

Theme B



Iteration Sprint

Daily Scrum

Post Mortem



DEV



SQA



ID

IBM Experience Tooling

bugzilla@mozilla - Bug List

Thu Apr 2 2009 01:32:10 PDT

90 bugs found.

ID	See	OS	Assignee	Status	Resolution	Summary
486205	nor	-- All	general@bugs	UNCO		TM: Arrays 50% performance regress
486206	nor	-- Mac	nobody@mozilla.org	UNCO		Prevent the screensaver from starting when viewing videos
486208	erh	-- All	nobody@mozilla.org	UNCO		Provide "read receipt" with an option to "kill" on composition
486209	nor	-- Win	nobody@mozilla.org	UNCO		context menu on right click displayed away from current mouse position in two monitor configuration
486211	maj	-- Win	nobody@mozilla.org	UNCO		javascript <div>HTML vpath query stopped to work in Firefox 3.1
486216	erh	-- All	nobody@mozilla.org	UNCO		Enhancement requested: Conversion of attachments to ODF formats
486221	nor	-- Win	nobody@mozilla.org	UNCO		Security dialog boxes
486226	maj	-- Mac	nobody@mozilla.org	UNCO		Cache problem - The code updates, but not the display
486231	erh	-- All	nobody@mozilla.org	UNCO		Enhancement suggestion: New option for sent mail folder selection
486238	win	-- Win	nobody@mozilla.org	UNCO		files in downloads window have the folder icon
486246	maj	-- Win	nobody@mozilla.org	UNCO		TB "forgets" existing folders
486248	maj	-- Win	nobody@mozilla.org	UNCO		Pop-up blocker prevents windows from opening
486249	nor	-- Win	nobody@mozilla.org	UNCO		did not install
486254	nor	-- Win	nobody@mozilla.org	UNCO		Cookies seem to reset when Firefox is closed regardless of "Clear Private Data" options.
486257	nor	-- Linux	nobody@mozilla.org	UNCO		Segmentation fault when right-clicking on a specific YouTube bookmark
486260	nor	-- Linux	nobody@mozilla.org	UNCO		NP_GetURLNotify() downloads empty files
486267	cr	-- Win	nobody@mozilla.org	UNCO		Profile not saving. Toolbars, bookmarks, history, all being cleaned upon closure, and all still missing upon opening
486269	cr	-- Linux	nobody@mozilla.org	UNCO		Segmentation fault "[prog] 0(1+9@)"
486281	nor	-- Win	nobody@mozilla.org	UNCO		Sent folder won't copy email nor does it contain text of the body of the email.
486282	nor	-- All	nobody@mozilla.org	UNCO		chrome overrides do not work with query strings
486284	nor	-- Linux	nobody@mozilla.org	UNCO		Incorrect mail tree in IMAP account
486288	nor	-- Win	nobody@mozilla.org	UNCO		the browser keeps shutting down, A box pops up and says sorry but connection want to restart or new session
486292	erh	-- Win	nobody@mozilla.org	UNCO		Window Popup Blocker: URL's property for blocking sites, too
486293	nor	-- Win	nobody@mozilla.org	UNCO		Poor performance using bookmarks menu with large amounts of bookmarks.
486294	er	-- Win	nobody@mozilla.org	UNCO		When saving an image using the right click "save image as" option Firefox 3.5b4pre freezes before saving

Team Area: 22 | Team Do: | My Work: |

Project and Team Areas (83 of 48 areas selected)

828 7.0 (Release 7.0) | 828 7.0 Iter3 (Iteration 3 of 6) | 828 7.0 Iter2 (Iteration 2 of 6) | 828 6.0.1 Backlog (Release 6.0.1) | 828 6.0.2 Backlog (Release 6.0.2) | 828 Backlog (Backlog) | 828 | 828

Owner: 828 Team | Iteration: 3 of 6 (6/25/13 - 10/21/13) | 828 | Closed | 2 Open

DEBBIE KILD | Closed Items: 0 | Open Items: 0 | Progress: -- | No Work | Estimated: --

EDWARD WEI | Closed Items: 0 | Open Items: 0 | Progress: -- | No Work | Estimated: --

Fei Gao | Closed Items: 0 | Open Items: 0 | Progress: -- | No Work | Estimated: --

WIS HSAIO | Closed Items: 0 | Open Items: 0 | Progress: -- | No Work | Estimated: --

Jason A. Keenaghan | Closed Items: 0 | Open Items: 0 | Progress: -- | No Work | Estimated: --

JEFFREY LIU | Closed Items: 0 | Open Items: 0 | Progress: -- | No Work | Estimated: --

Jenny Liang | Closed Items: 0 | Open Items: 5 | Progress: 0/0 | 0% | Estimated: 206

Eric 828 - Active-Active PR | Progress: 0/0 | 0% | Estimated: 2178

Story: (828) IA Configurations

- Integrate 828 Gateway & 828 Persistence with the configured values, and roles | In Progress | 2453
- Implement Active/Active configuration object prototype | In Progress | 3458
- UI for 828 PR A/JA Configurations | New | 2917
- UI for 828 HA A/JA Configurations | In Progress | 2915
- Design for 828 HA A/JA Configurations | In Progress | 2814

JING DHE HUANG | Closed Items: 0 | Open Items: 0 | Progress: -- | No Work | Estimated: --

JOHNSON CHANG | Closed Items: 1 | Open Items: 0 | Progress: 1/1 | 100% | Estimated: --

Eric 828 - Active-Active PR | Progress: 0/0 | 0% | Estimated: 2178

Ran Ran Li | Closed Items: 0 | Open Items: 1 | Progress: 0/0 | 0% | Estimated: 26

Eric 828 - Active-Active PR | Progress: 0/0 | 0% | Estimated: 2178

Notes | Planned Items | Charts | Links

Work Items | Tag Cloud | Problems | Team Advisor

No results to display.

You may choose one of the Work Item queries below to populate this view. More Work Item queries are available from the Work Items section of the [Team Area](#) view.

DATAPOWER

Search

Home - Training - Downloads - Your Account - Submit News - Top 10

Latest AutoBuild/Kurtest Runs [100] | main | Machines (MA) | wP | Refresh

Run ID	Branch	Host	Start	End	Duration(CP)	RunType	Changeset	Passing	Failing	Total	Comment
126236	main	401-vm01-001	2013-10-07 22:03:54	2013-10-08 00:36:15	2.8	vb-vm	226218	1316	0	1316	
126235	main	auto7	2013-10-07 17:48:40	2013-10-07 20:17:00	2.5	vb-44	226206	1316	0	1316	
126128	main	401-vm01-001	2013-10-07 06:18:55	2013-10-07 10:51:23	2.5	vb-vm	226156	1316	0	1316	
126089	main	auto7	2013-10-04 20:37:22	2013-10-04 22:45:36	2.1	vb-64	226145	1316	0	1316	
125926	main	401-vm01-001	2013-10-04 09:03:24	2013-10-04 12:19:12	3.3	vb-vm	226143	1316	0	1316	
125925	main	401-vm01-001	2013-10-04 05:36:02	2013-10-04 08:09:10	2.8	vb-vm	226141	1316	0	1316	
125893	main	401-vm01-001	2013-10-04 04:31:45	2013-10-04 07:16:23	2.7	vb-vm	226140	1316	0	1316	
125892	main	401-7036	2013-10-05 15:49:41	2013-10-05 18:11:54	2.4	vb-64	226138	1316	0	1316	
125728	main	401-vm01-001	2013-10-05 05:33:21	2013-10-05 08:06:51	2.5	vb-vm	226136	1316	0	1316	
125685	main	401-vm01-001	2013-10-04 23:55:36	2013-10-05 02:21:03	2.4	vb-vm	226135	1314	2	1316	
125617	main	401-vm01-001	2013-10-04 14:33:37	2013-10-04 17:09:36	2.6	vb-vm	226128	1316	0	1316	
125592	main	auto8	2013-10-04 00:48:14	2013-10-04 03:19:13	2.5	vb-64	226087	1316	0	1316	
125591	main	401-vm01-001	2013-10-03 16:03:11	2013-10-03 18:50:21	2.8	vb-vm	226079	1316	0	1316	
125612	main	404-vm01-001	2013-10-03 10:06:06	2013-10-03 13:33:51	3.5	vb-vm	226052	1316	0	1316	
125290	main	404-vm01-001	2013-10-02 21:52:59	2013-10-03 00:04:04	2.5	vb-vm	226022	1316	0	1316	
125289	main	401-7036	2013-10-02 11:25:33	2013-10-02 13:59:30	2.8	vb-64	226002	1316	0	1316	
125288	main	401-vm01-001	2013-10-02 10:33:17	2013-10-02 13:44:06	3.2	vb-vm	226000	1316	0	1316	
125186	main	401-vm01-001	2013-10-01 23:52:57	2013-10-02 02:11:16	2.6	vb-vm	226000	1316	0	1316	
125135	main	401-vm01-001	2013-10-01 14:33:47	2013-10-01 17:03:05	2.5	vb-vm	226002	1316	0	1316	
125029	main	401-vm01-001	2013-09-30 23:43:49	2013-10-01 03:23:08	3.7	vb-vm	226002	1315	1	1316	
125000	main	auto8	2013-09-30 09:11:05	2013-09-30 21:51:22	2.7	vb-64	226029	1315	1	1316	
124845	main	401-vm01-001	2013-09-30 10:18:30	2013-09-30 13:16:27	3.0	vb-vm	226011	1315	1	1316	
124844	main	401-vm01-001	2013-09-29 15:31:09	2013-09-29 18:16:16	2.8	vb-vm	226011	1316	0	1316	
124829	main	auto81	2013-09-29 12:10:39	2013-09-29 14:20:51	2.2	vb-64	226008	1316	0	1316	
124790	main	401-vm01-001	2013-09-29 03:18:07	2013-09-29 06:05:22	2.8	vb-vm	226005	1316	0	1316	
124755	main	401-vm01-001	2013-09-28 22:57:56	2013-09-29 01:34:04	2.6	vb-vm	226005	1315	1	1316	



IBM Experience

Practices

- * Continuous Process Improvement. Theme lead meeting is especially useful
- * Process need to be enforced with appropriate tool
- * Agreed Developer disciplines.

Summary

- Before You Start your project
 - Decide the development process that works for your team
 - Identify the tools to use for team collaboration
 - Version Control, Issue Tracking, Information Sharing, Todo...
 - Identify your build tools, unit testing framework, and setup your continuous integration system.
 - Setup the development disciplines

Questions

