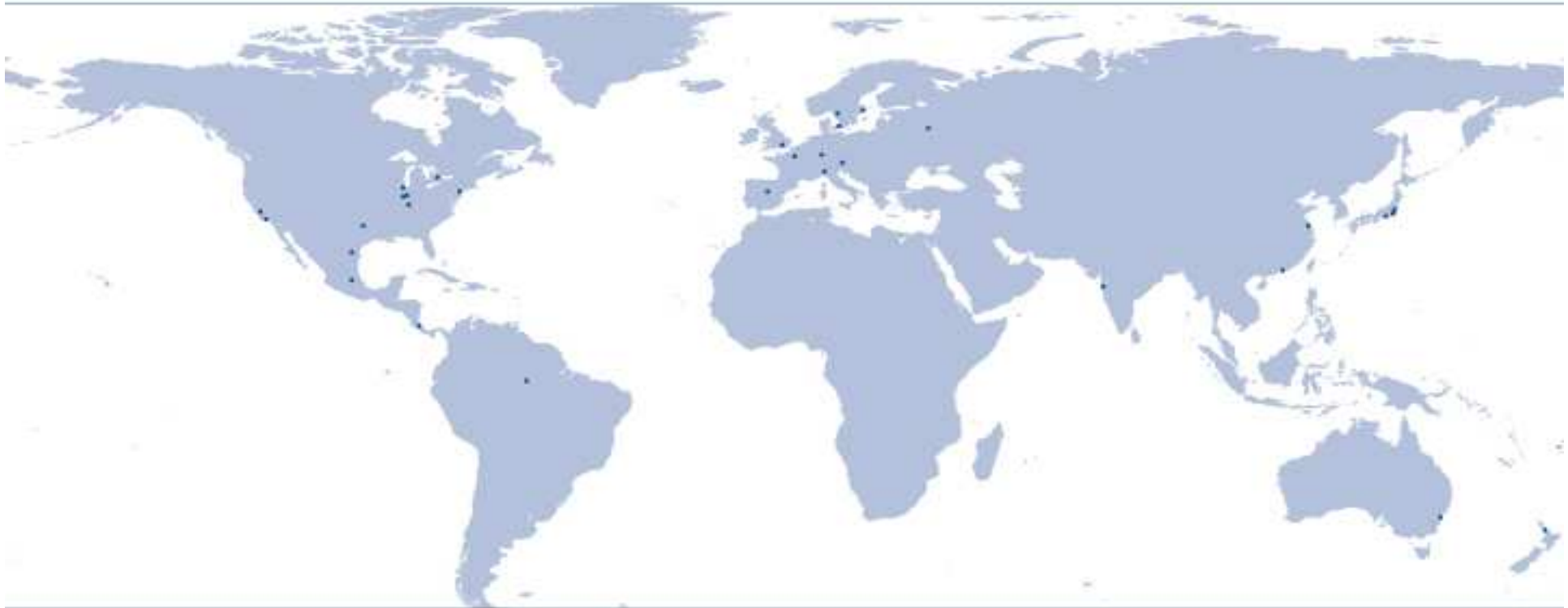


Application Lifecycle Management with Polarion and custom Plug-ins



Michael Radlingmaier 2011-10-07

About SONY DADC AUSTRIA AG



- Producer of optical storage media (CD, DVD, BD)
 - Supply Chain Partner
 - Manufacturing
 - Packaging
 - Distribution
- Provider of digital services
 - Digital Supply Chain Services (Audio, Video, Graphics, AudioBooks, eBooks)
 - iPad / iPhone Applications
 - Games and Software Services (license Management, etc.)
- BioSciences
 - Consumables for Life Sciences
- 2 locations in Salzburg with about 1400 employees
 - About 6000 employees globally

The situation before Polarion was based on a pragmatic, reduced workflow



- Tool Assistance through Bugzilla
 - Customized workflows in Bugzilla
 - Bugs, Change Requests and Improvements were systematically tracked in Bugzilla
 - Test-/Initial Operation-Protocol were managed as attachments in Bugzilla
- Communication
 - Emails triggered by Bugzilla
 - Bugs were partially sent to developers and testers directly in emails
- Role Management
 - Reduced number of roles, only for basic functions in projects
 - No clear responsibilities

Pro's and con's of the past Software Development Lifecycle (SDLC) with Bugzilla



- Pro's
 - Lightweight, pragmatic process
 - Flexible for changes
 - Faster training phase for new employees
- Con's
 - No Application Lifecycle Management
 - No difference between Requirement, Defect, Test Case
 - Tests vs. Bugs, not Tests vs. Requirements
 - Violation of basic Requirements for a clean SDLC
 - Insufficient planning of scope, resources and time
 - Insufficient Traceability
 - Unclear responsibilities

CMMI-compatible solution in Polarion allowed dramatic improvements in SDLC

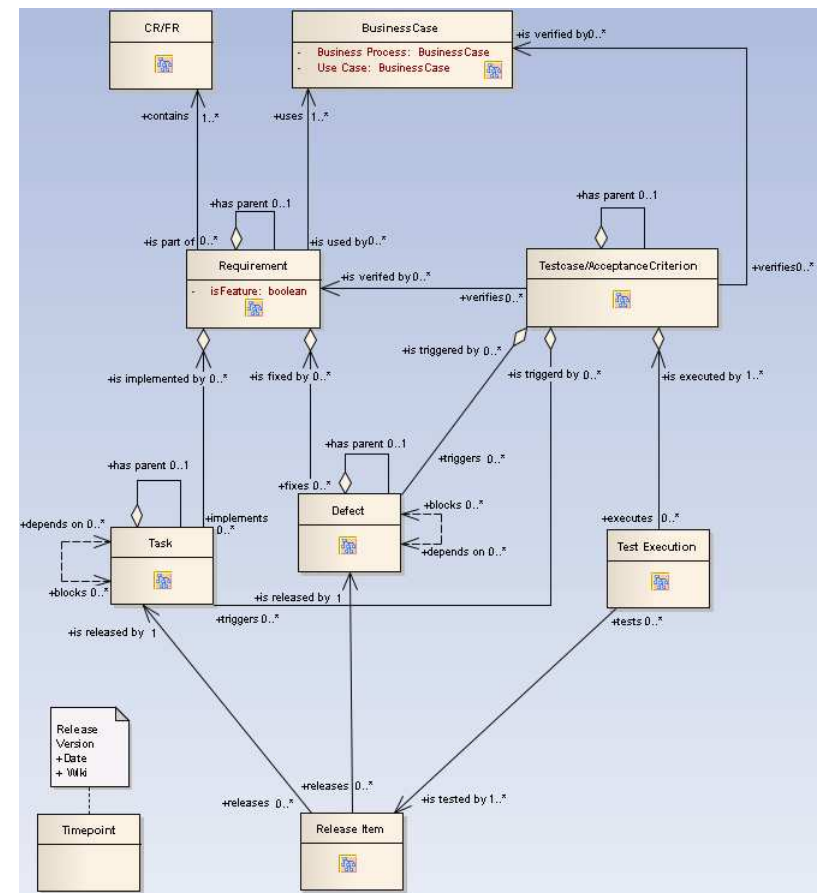


- Essential changes in SDLC:
 - Differentiation of Requirements Management & Requirements Development & Verification/Validation
 - Systematic Build/Release Management
 - Verification vs. Requirements, not Defects
 - Change Management process established
- Improvements in the following areas:
 - Traceability
 - Role Management
 - Reporting/Measurements/Metrics
- Organizational changes:
 - Separated teams (Development, Operational Business, IT, Business Development) growing together to a global process
 - Project management & control are integrated parts of the processes

Implementation problems with Polarion as tool for supporting the new processes



- Implementation of Polarion in parallel with new CMMI-based processes for e.g. REQM, RD, PMC, MA, CM, ...
- Complex data model with items in Polarion
- Heavyweight process
- Acceptance level, trainings:
 - Less space for dodging processes
 - Tailored workflows and roles must be trained
- Classical change process in an Agile environment



Customizations simplify and automate the partly heavyweight processes

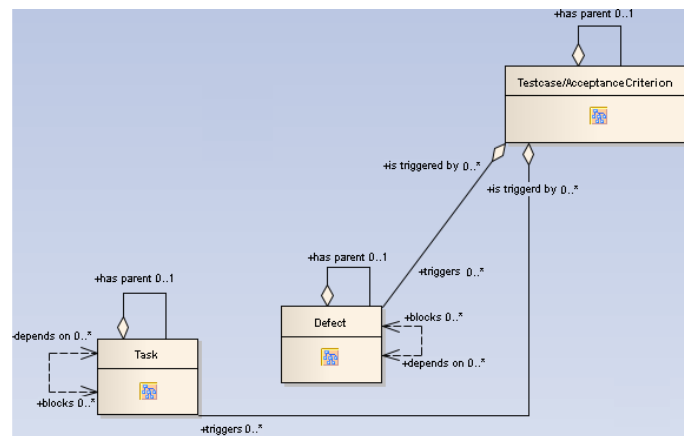


- ,Triggers‘ Link
 - Automatic generation of Release Items and Test Executions
- Bulk-create Work Items
 - Generation of connected Work Items
- Underlying Work Item Search
 - Work Item tree with metrics for current Item
- Task Creation Daemon
 - A Java Daemon processes emails and generates a task in Polarion for special emails

Process Automation in Polarion through a 'Triggers' Link Type



- **'Task triggers Test Case' (1 .. *)**
 - Test Case is requested by a Task, which means it is necessary to execute the Test Case
 - Automatic Status update on successful Test Executions
 - Nothing deployed to production untested
 - Release Items contain all activities for Go-Live (Java, DB, Scripts, Setups)
- When a Task is done, a Test Execution will be derived from each linked Test Case and a correct link will be compounded



Process Simplification in Polarion through 'Bulk Create'



Bulk Create Workitems

Create Workitems here

<input checked="" type="checkbox"/> Create Requirement	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Create Test Case	<input checked="" type="checkbox"/>	<input type="checkbox"/> Create Acceptance C.	<input type="checkbox"/>
<input checked="" type="checkbox"/> Create Test Execution	<input type="checkbox"/>	<input checked="" type="checkbox"/> Create Defect	<input type="checkbox"/>	<input checked="" type="checkbox"/> Create Task	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Create Release Item	<input type="checkbox"/>				

Common Fields: These fields will be set for all created WIs

Assignee:
automatic

Title:
Requirement 1

Severity: Major Category: Ingestion Priority: Medium

Phase: N/A TimePoints: Timepoint 1

<input checked="" type="checkbox"/> Edit Requirement
<input checked="" type="checkbox"/> Edit Test Case
<input checked="" type="checkbox"/> Edit Acceptance Criterion
<input checked="" type="checkbox"/> Edit Test Execution
<input checked="" type="checkbox"/> Edit Defect
<input checked="" type="checkbox"/> Edit Task
<input checked="" type="checkbox"/> Edit Release Item

- A 'Bulk Create Workitems' Servlet makes it easy to create the linked Work Items
- Linking is generated automatically
- 'Common Fields' like 'Category' are inherited in all Work Items

Process Overview with ,Underlying Workitem Search‘



Search Result

Times (All WIs in consideration)		
Initial Estimate:	4 days	32 Hours
Time Spent:	5 days	40 Hours
Remaining Estimate:	7 hours	7 Hours
Accomplishment Rate:	85,11 %	

Requirement TEST-865	
Underlying WI:	5
Unresolved WI:	4
Resolved WI:	1

1 Tasks (all)

ID	Title	Status	Severity	Assignee	Due Date	Time Spent	Initial Estimate
TEST-866	Implement a PDF Export	closed	blocker	Steve Developer	2011-04-22	40h	25h
						Sum:	40 h 25 h

1 Defects (all)

ID	Title	Status	Severity	Assignee	Due Date	Time Spent	Initial Estimate
TEST-867	Some Special Characters are not recognized in the Exported PDF	planned	critical	Mark Test	2011-04-29	none	4h
						Sum:	0 h 4 h

2 Release Items (all)

ID	Title	Status	Severity	Assignee	Due Date	Time Spent	Initial Estimate
TEST-870	AUTO-RI Some Special Characters are not recognized in the Exported PDF	open	critical	Mark Test		none	none
TEST-869	AUTO-RI Implement a PDF Export	open	blocker	Steve Developer		none	none
						Sum:	0 h 0 h

1 Test Executions (all)

ID	Title	Status	Severity	Assignee	Due Date	Time Spent	Initial Estimate
TEST-868	Test if PDF Export Works	planned	major	John Requirement	2011-04-29	none	3h
						Sum:	0 h 3 h

- Delivers the status of Work Items, which belong to Parent- (Requirement or Change Request)
- PDF Export

- Implementation of a new SDLC and Polarion ALM
 - Challenge: partly heavy-weight processes
- Development of Polarion Customizations
 - Simplification and automation of complex development processes
- CONCLUSION
 - Customizations are valuable and necessary extensions for a standard Polarion toolset and simplify daily tasks of developers, testers and managers.