

ChaMP (Change Management Process)

**Continuously Improving an Enterprise
Development Group**

**A case study on successfully
introducing Kanban/Lean ideas to an
enterprise software development group**



BOSCH

About Robert Bosch

- Bosch is a Worldwide company that operates in 3 business sectors:
 - Automotive Technology
 - Industrial Technology
 - Consumer Goods and Building Technology
- Bosch worldwide has 282,000 employees and is a privately held company*.
- Corporate Information Systems for North America is headquartered in South Bend, IN

(*as of January 1, 2009)



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Meet our Development Group

→ Background:

- Corporate Sector Information Systems and Services Application Foundation Regional department had over 1 year of experience development using Agile methodology (Scrum/XP practices) prior to implementing our Kanban system.
- Group consists of 3 senior level developers, 7 mid level developers.

→ Practices:

- Group had begun using generally accepted Software Engineering practices: (TDD, Continuous Integration, Automated Builds, Refactoring).
- Metrics used previously consisted of Cycle times for change requests, and Project Completion numbers. No more granularity beyond that.

→ Customers:

- We support applications for our North American customers.
- Recently expanded into developing and supporting global applications.



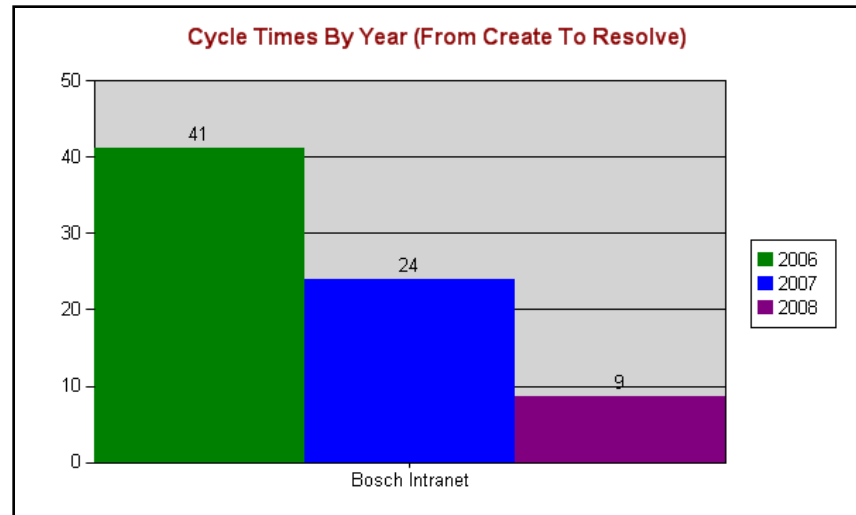
The Case for Changing our Change Mgmt. Process

- Decision Making:
 - Decisions made at the inappropriate organizational level negatively influences overall productivity
 - Individual developers dependence on supervisor to provide them tasks when they became idle
- Backlog
 - In this specific case, the department's change requests were accumulating rapidly in the queue, and managing them consumed much of the supervisor's time and efforts
 - Metrics
 - As cycle time becomes unmanageable, so does the change request queue
 - One important index for this change request system is cycle time (from creation to resolution)
- Solution
 - A kanban system was employed to smooth the business process and empower execution level associates to make decisions, removing much of the burden from the supervisor and removing waste through unnecessary delegation processes



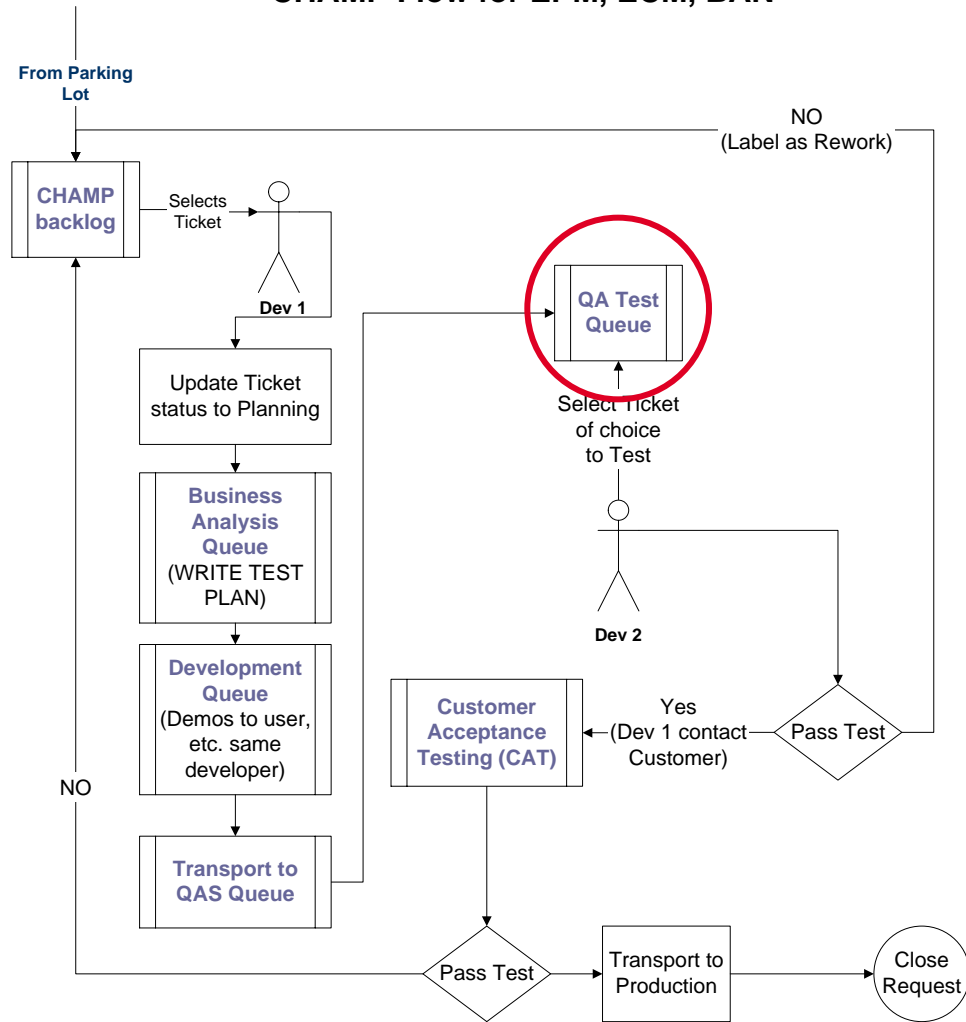
Application Development Change Management (change tickets < 5 days to implement)

- Cycle time in 2006 = 41 days
 - Focused (top-down) management of change tickets implemented
- Cycle time in 2007 = 24 days
 - Kanban concept introduced
- Cycle time in 2008 = 9 days
 - Improvement achieved through customer driven prioritization of requests and decision making at the execution level



Corporate Information Systems: ChaMP Process

CHAMP Flow for EPM, ECM, BAN



Initial implementation of ChaMP

- Began pilot at end of project (BoschAuditNet) in October of 2007. Based on David Anderson's work, using a simple board showing current changes.
- In November 2007 implemented an electronic Kanban board to bring visibility of change system to team.
 - Daily 15 minute stand up meetings used to discuss status.
 - Triaged existing requests (some should be in projects, others not needed).
 - Team member selects ticket to work on from backlog.
 - Work in Process report showed all tickets in process.
 - Completed requests report kept team abreast of progress.
- Results
 - Reduced our queue nearly in half by the new Year, from 70 tickets in queue, to 40 tickets.
 - Cycle Time report shows process flow for completed tickets.



Continuous Improvement

1. After initial involvement of entire department, set up a ChaMP team of 3 team members.
2. ChaMP Team continued with change tickets, other department members worked on projects.
 - Requests taking < 2 weeks effort go into ChaMP system.
 - Requests > 2 weeks effort become Projects.
3. Implemented weekly or bi-weekly status meetings with Customer Stakeholders.
 - Stakeholders prioritize changes.
 - Team communicates status and discusses changes in depth during these meetings



Continuous Improvement

4. In August decided to implement physical Kanban board and involved the entire department again to provide better visibility into process.
5. New Kanban board implemented these process improvements:
 - Explicit queues for work items.
 - Higher visibility to management of progress.
 - Better self-management by team
6. Lessons Learned from this improvement:
 - In retrospect we should have implemented limits on each queue.
 - Could not implement that later due to team concerns.
 - Train leaders to help them buy into the process.



ChaMP Kanban Board



New Process Improvements

- Development Disciplines
 - Business Analysis queue mandates Test Plan creation.
 - QA Test queue mandates a “QA” member must test that request.
 - Conduct Retrospectives every other month.

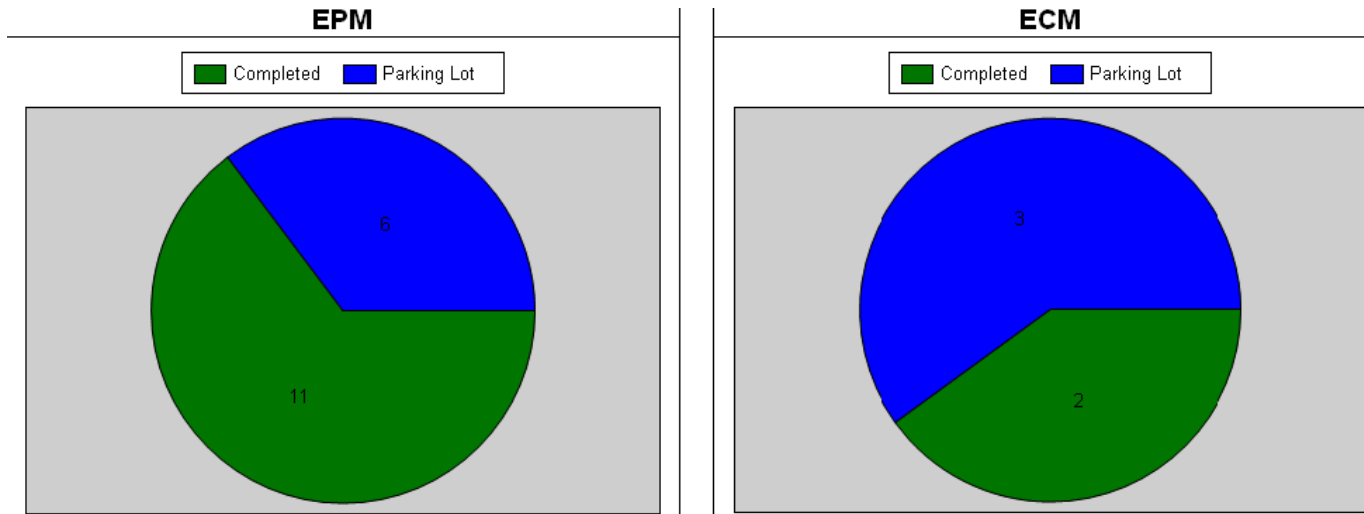
- Communication
 - Level of effort estimated using points (S, M, L).
 - Stakeholders select from parking lot set amount of points every cycle
 - Created reports for Stakeholder meetings.

- Release Management
 - Production releases every 2 weeks.
 - Implemented standard staging policies for 3 major applications.

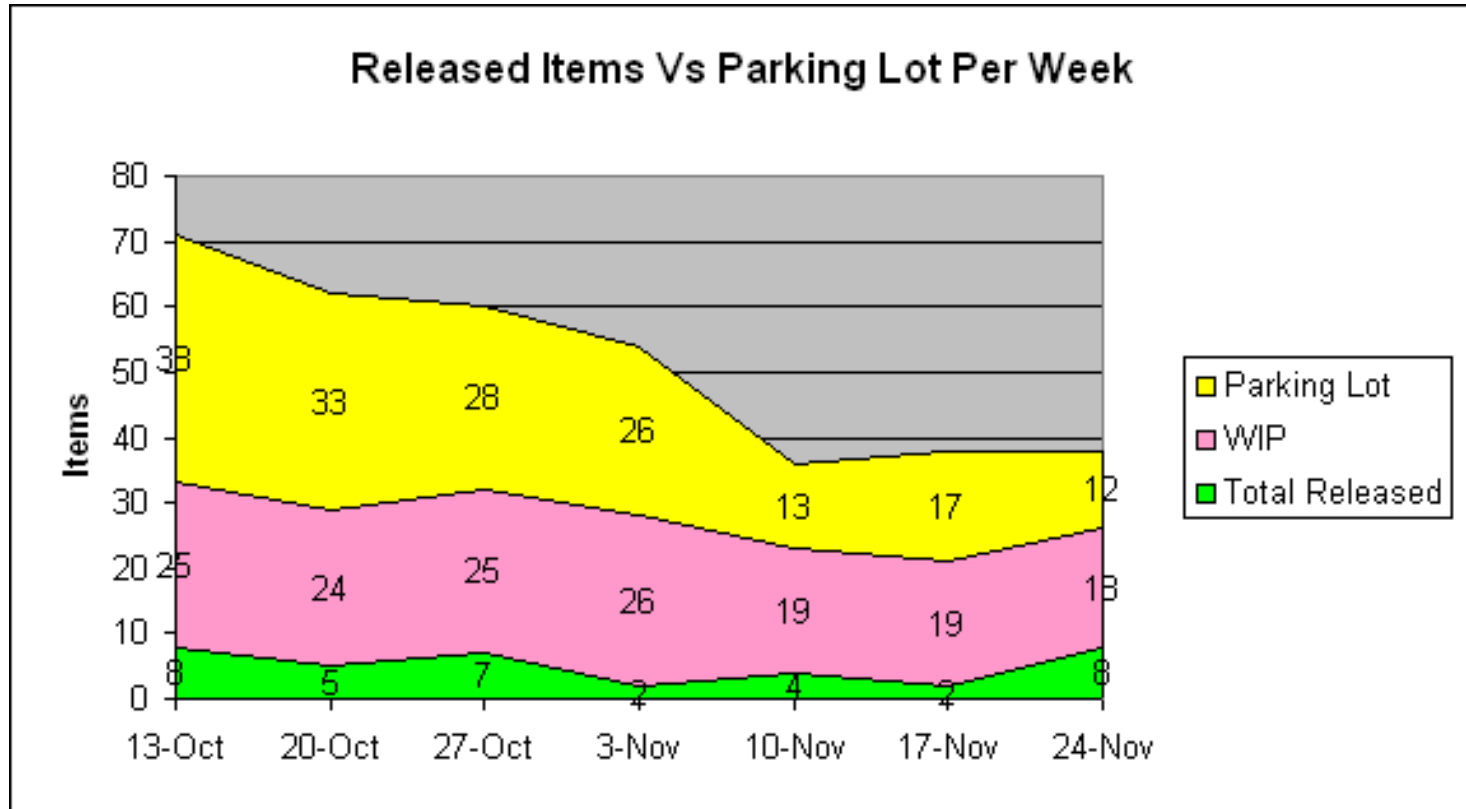


Metrics

- Tracking Released Work, Work In Process (items in ChaMP boards), and Parking Lot, for 3 major applications.
- Meeting Review report keeps stakeholders informed of progress.



Metrics



Future of Kanban/Lean in Bosch CI

- Currently, Electronic Data Exchange, Security/Workplace/Mobility, Factory Floor, BASIS and Infrastructure Applications departments plan to implement this into their change process, to be followed by a pilot project in Germany.
- Our department plans to utilize Kanban to manage a major project.
- Portfolio planning in one department is done using Kanban approach.
- Implement queue limits!

