CATWORKX MIDSUMMER DAY 2016
ALM WITH ATLASSIAN-TOOLS IN SUPPLY CHAIN

WERNER CONZELMANN, HARMAN
JUNE 17
Agenda

1. Who we are
2. Facts
3. From requirement to developer
4. From developer to product
5. Challenges
6. Overview
7. Questions
Who we are

Innovation breeds quantifiable success

**MARKET LEADER**

- **$6.825** Billion revenues*
- EBITDA **$825** Million*
- EPS **$6.20***
- **$23** Billion automotive order backlog**

*FY2016 Guidance
**As of June 30, 2015

**GLOBALLY DIVERSE**

- **29,000** Professionals worldwide
- **12,600** Engineers
- **25+** Countries: Americas, Europe and Asia
- **16+** Legendary brands

**INNOVATION LEADER**

- **6,100** Patents and patents pending
- **56** Design awards in 2015
- **3** GRAMMY® Awards-AKG, JBL, Lexicon
- **2** Academy Awards
Who we are

• Over 80 years of industry groundbreaking “firsts”
What we do

**CONNECTED CAR**
Navigation, Multimedia, Connectivity, Telematics, Safety & Security Solutions

**LIFESTYLE AUDIO**
Premium Branded Audio products for use at home, in the car and on the go

**PROFESSIONAL SOLUTIONS**
Audio, Lighting, Video Switching and Enterprise Automation for Entertainment and Enterprises

**CONNECTED SERVICES**
Cloud, Mobility and Analytics Software Solutions & OTA update technologies for Automotive, Mobile and Enterprises

<table>
<thead>
<tr>
<th>Category</th>
<th>LTM Revenue</th>
<th>LTM EBITDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connected Car</td>
<td>$3,018M</td>
<td>13.7%</td>
</tr>
<tr>
<td>Lifestyle Audio</td>
<td>$2,023M</td>
<td>14.7%</td>
</tr>
<tr>
<td>Professional Solutions</td>
<td>$1,013M</td>
<td>13.2%</td>
</tr>
<tr>
<td>Connected Services</td>
<td>$682M</td>
<td>13.7%</td>
</tr>
</tbody>
</table>

EBITDA is non-GAAP measure and excludes restructuring, non-recurring charges and acquisition-related items. LTM = Last Twelve Months ending March 31, 2016. *Includes intercompany revenues.
Who we are

Werner Conzelmann

- Team Lead Global Engineering Tools & ALM, Harman
- in Software Development for 25 years
- responsible for Atlassian Applications at Harman since 2008

Marc Keil

- Subject Matter Expert Atlassian Tools
- works with Atlassian Applications since 2011
- has implemented JIRA in uncommon environments (e.g. in Facility Management)
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## Facts

- **JIRA in use in Harman since**: ~ 2008
- **Users**: > 9000
- **Current release in use**: 6.4.13
- **No. of projects**: ~ 900
- **No. of issues**: ~ 490,000
Facts

Development target: „Automotive Infotainment System“:

- Domains: ~ 60
- Customer requirements: ~ 50,000
- Features to be developed: ~ 10,000

~10,000 is the initial amount of JIRA tasks for feature implementation only
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From requirement to developer

Harman Requirements Management

Customer Requirements Documents

Magic

Harman TRS Documents (domain specific documents)

Feature Nav

Feature Nav Domain Disp Task

Feature Nav Domain Map Task
From requirement to developer

Harman Requirements Management

- Feature Nav
  - Required for Release x
  - Feature Nav Domain Disp Task
  - Feature Nav Domain Map Task

Harman JIRA – Task Management

Main Tasks

- Feature Nav
- Do. Disp - Task 1
  - Required for Rel at CW
- Feature Nav Domain Disp Workpackage A

Sub-Tasks

- Feature Nav Domain Disp Workpackage B
- Feature Nav Domain Map Workpackage C

Feature Nav
- Do. Map - Task 2
  - Required for Rel at CW
Main tasks in JIRA will be assigned to functional owner of domain.

After review 1-n subtasks will be created (criteria for # of subtasks: complexity, architecture, effort …).

Subtask has to be assigned to developer by FO or by Senior developer.

Developer will create Feature Branch in Stash (Bitbucket).
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From developer to product

Harman JIRA – Task Management
Sub-Tasks

Workflow

- Developer is working in Stash until solution fulfills functional and quality criteria
- By pull request in Stash, JIRA subtask status will be switched to „Ready for Integration in Module“ status
- This way, subtask is completed for developer
Harman JIRA – Task Management

Sub-Tasks

- Feature Nav Domain Disp Workpackage A
- Feature Nav Domain Disp Workpackage B
- Feature Nav Domain Map Workpackage C

Main Tasks

- Feature Nav Domain Disp Task 1
- Feature Nav Domain Map Task 2

• Domain Workpackages will be integrated in Master Branch by Continuous Integration (CI – Bamboo) (optional)

• Features (Main Tasks) can be tested on Domain level, after all Workpackages have been completed

• Release branches will be managed more restrictive
From developer to product

- Feature overall status will be generated in RM tooling
- Test management (TMS) is using that information for system tests
- Feature reportings will be done from that point
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Challenges

- External suppliers are working with their own JIRA
- Harman is requested by customer to transfer domain specific tasks to supplier JIRA
- “Sync“ is implemented by custom solution, developed by catWorkX
• Domain and Project integration are supported by „Integration Tasks“
• „Integration Tasks are using „Issue Picker“ plugin, to collect workpackages/tasks which have been implemented
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Overview

Requirements Engineering TOOL

Task Management TOOL

Source Code Management TOOL

- Jira Issue Domain 1 WP A
- Jira Issue Domain 1 WP B
- Jira Issue Domain 2 WP C
- Feature Branch WP A
- Feature Branch WP B
- Feature Branch WP C
- Domain 1 Integration
- Domain 2 Integration
- Projekt Integration

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Questions
Thanks for attention!
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