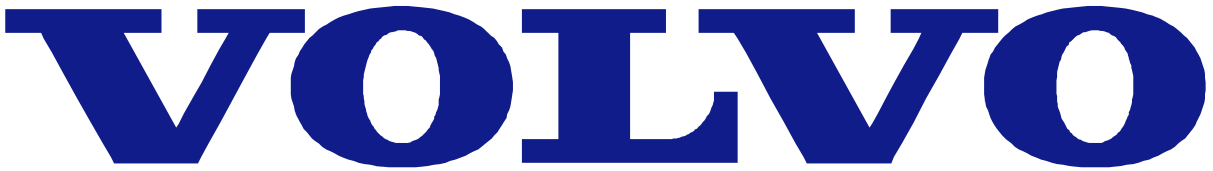

6 Principles For Global / Distributed Development In Project & Maintenance Assignments

Daniel Huang

Feb 2011

Agenda

- Introduction
- Challenges
- Our recommendation: 6 Principles

Introduction

- As Volvo IT continues its global growth and many assignments are distributed including team members from several locations.
  - Effective collaboration and a common way of working across sites (traditional and emerging) will be critical in ensuring quality levels are maintained.
  - It is also critical to ensure cost reductions are realized.
- To help achieve this it is important that the 6 key principles of working in a distributed development environment are understood and implemented.
  - These principles are based on best practices, known challenges when working distributed, and on avoiding problems that have already been experienced.
- To be used by the Project Manager or Maintenance Manager when setting up the project or plan for changes in the maintenance set up

Additional Challenges when Distributing Development

More challenging environment!

Examples of Challenges Encountered in Distributed Development

- Decrease in **Communication** “bandwidth”
- Reduced **Visibility in progress**
- Adopting **Agile Methods**, especially customer engagement.
- **Language**
- **Command & Control** structure
- **Time Zone**
- Understanding **Cultural** difference
- etc

TW4

Page #6 - Potential.....
- Change paragraph #2: to "Reduced Visibility in progress"
- Add: Language
- The list needs to be added with "etc" showing that there are many more challenges than what's on list
- Page should say that this list only shows examples

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Experienced Problem Areas

- “Underestimation of the importance of **architecture leadership** in daily work (other key areas as well)”.
- “Insufficient business **domain knowledge** at all involved sites”.
- “Differing views on **resource competence/experience levels**”.
- “High **resource turn over** rate”
- “Unclear directions on **common ways** of working
- “Lack of Volvo IT specific **education and support** on methods, architecture and tools at involved sites”.
- “Reduced **Visibility** of complete solution from remote site/partner”
- “Communication **filtered** via central point of contact”.

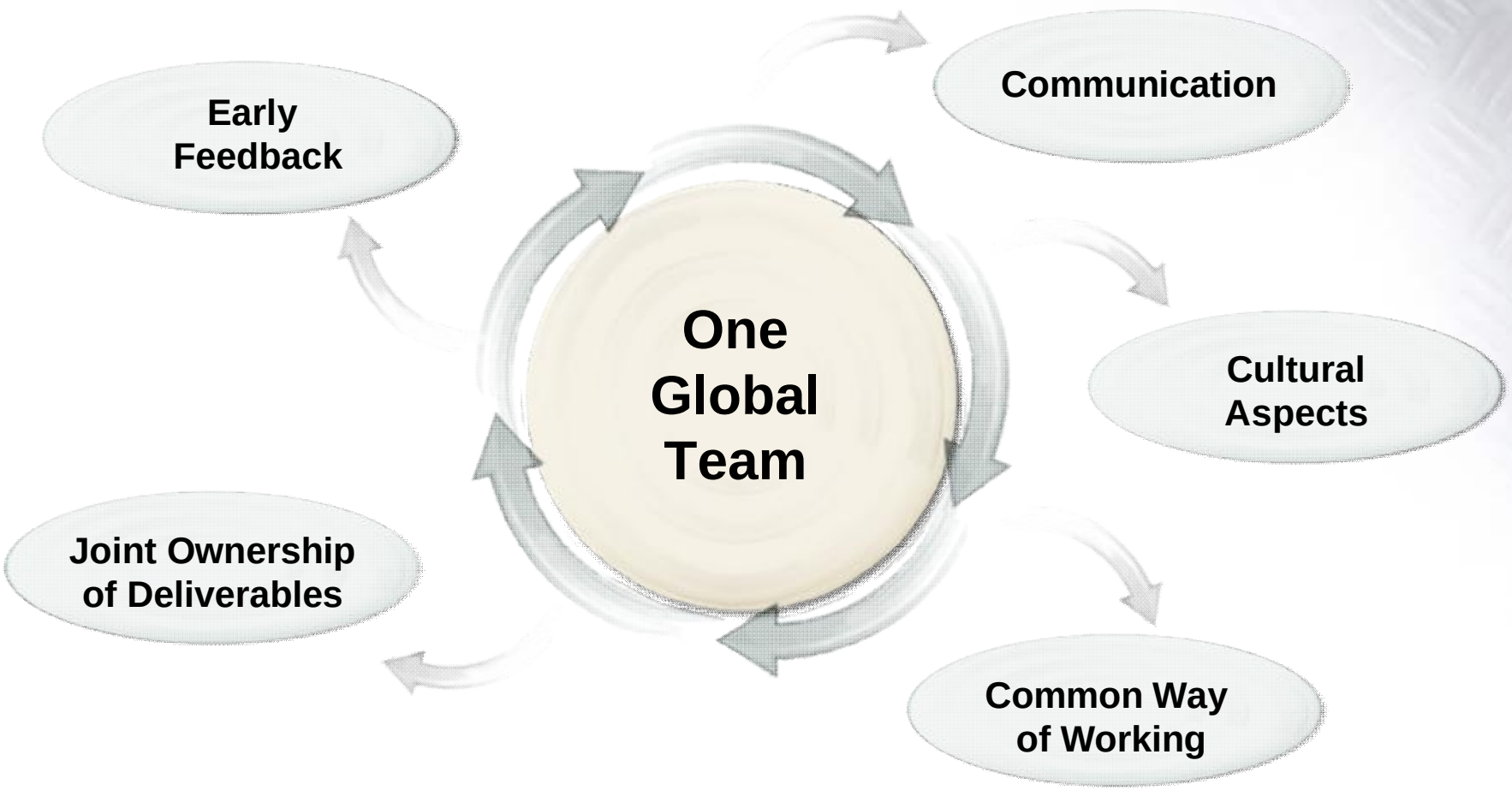
Examples of what this Could Lead to

- Difficulties in understanding & communications
  - Architectural guidelines not understood or followed
  - Business requirements not correctly translated into required application functionality
- Detailed processes with increased emphasis on upfront requirements specifications and design documents
  - Over-reliance on documentation and strict change control
  - Inability to react quickly to issues found late in the cycle
- Investments in knowledge transfer lost due to high turn over rate
- Uncertainty of project/assignment status.
- Reduction in trust from customers

Poor quality and reduced cost efficiency!

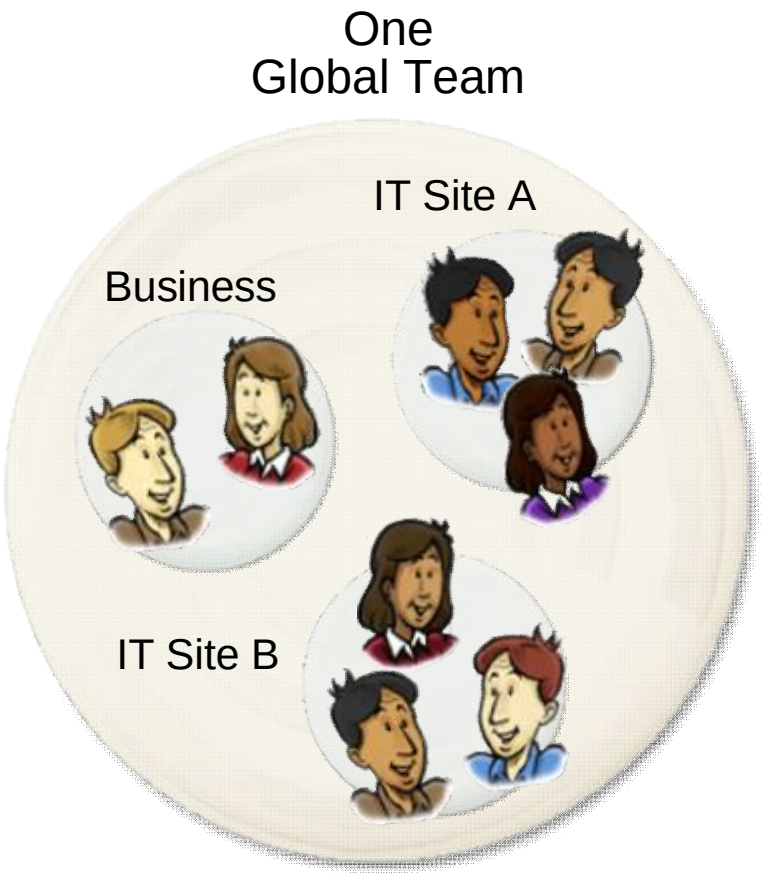
6 Key Principles

To Support Distributed Development & Maintenance



One Global Team

Principle 1#



Cross Competence - to ensure that the team has all the competence (and right level) needed tied to the team, to deliver end to end functionality.

Team Involvement - avoid decencies to single key competence and encourage knowledge and task sharing. Make sure all team members can take part in foras/meetings.

Shared leadership – make sure the team members have the freedom and flexibility to do their work, and ability to lead and to follow as appropriate. Encourage team members to talk across levels

Functional – divide work by functionality, not by technical layers to avoid dependencies between teams

Customer Understanding – key roles for assignment management, business requirements, architecture etc must be close to the customer.

Business Domain & Architectural Knowledge - availability for the specific application at all involved sites to ensure delivery and quality

Purpose – ensure that the team has cooperative goals, that everyone has the same picture, agrees and reviews simple goals.

Create an identity – make sure that all the aspects above are fulfilled, this will give you the energy and direction to work together.

TW12

Page #10 - One Global Team.....
- Make sure the printed version of this page looks ok
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Communication

Principle 2#

TW13

Communication Behavior 90%

- **Knowledge and team build up**
  - Co-locate during start-up and planned visits during assignment life cycle
- **Create network map**
  - Build understanding and relationships as you work (virtuality index)
- **Hold the team together**
  - Keep the communication going in between meetings by sharing your desk top and using communicator and phone

Communication Tools 10%

- **Individual/team communication**:
  - Live Meeting (including audio)
  - Email
  - Communicator (including audio)
  - Phone
  - Audio conference
- **Conference room equipment**:
  - Quality of equipment and knowledge of how to optimize sound quality
- **Shared information/development**:
  - TFS(MS), JIRA/Subversion (Java), SolMan
  - Wiki, TeamPlace, Blog

TW13

Page #11 - Communication.....
- paragraph #3: (customer / IT/IT) ??
- paragraph #3: fora (not foras)
- paragraph #3: (purposes, ...) to be removed (?)
- paragraph #2: "avoid single point of contacts" to be removed
- Write "Shared Information and Development", then give examples of this from all tracks

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Cultural Aspects

Principal 3#

“Get Connected” will help project and maintenance managers to better understand the significance of the human subjective aspects of their projects.

By providing project and maintenance managers with **insight and tools** it will help to develop and sustain a healthier, more productive project and maintenance assignment culture.

It will also enable them to develop skills to help recognize and redirect these aspects in ways that contribute positively to the success of the assignment.

TW10 Page #12 - Cultural Aspects.....
- Picture of a Book as background
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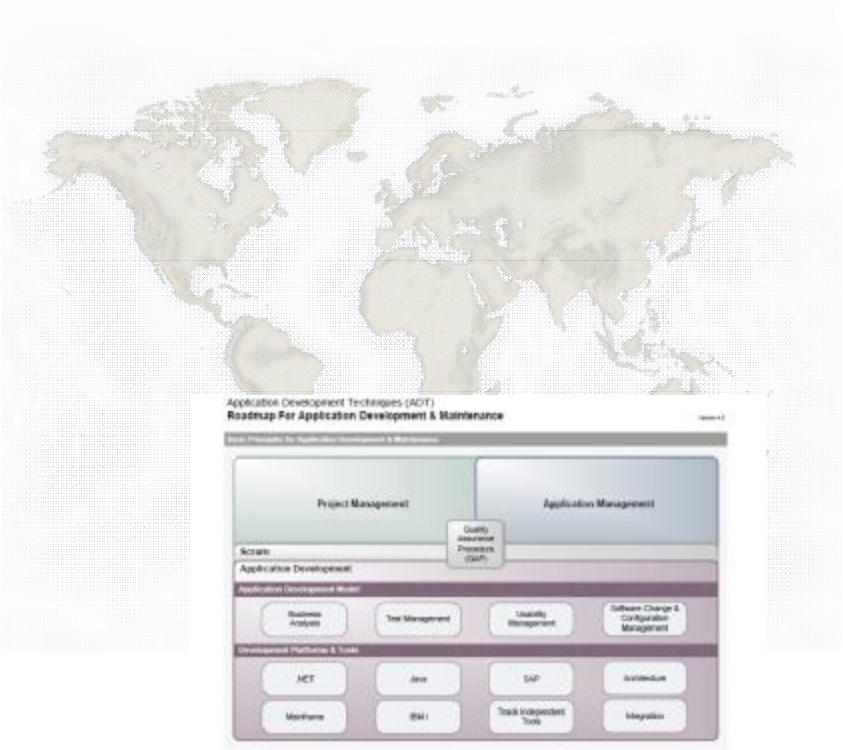
Common Way of Working

Principle 4#



- Ensure **one way** of working are used across the team globally.
- Ensure that **support** is available for all involved sites
- Plan for adaptation to the appointed and recommended **“common way of working”**

TW11

Page #13 - Common Way.....
- change to "...for all sites..." (...not at all sites...) for paragraph #2 and #3
- Change first paragraph to "Ensure One Way of working are used across all team globally".

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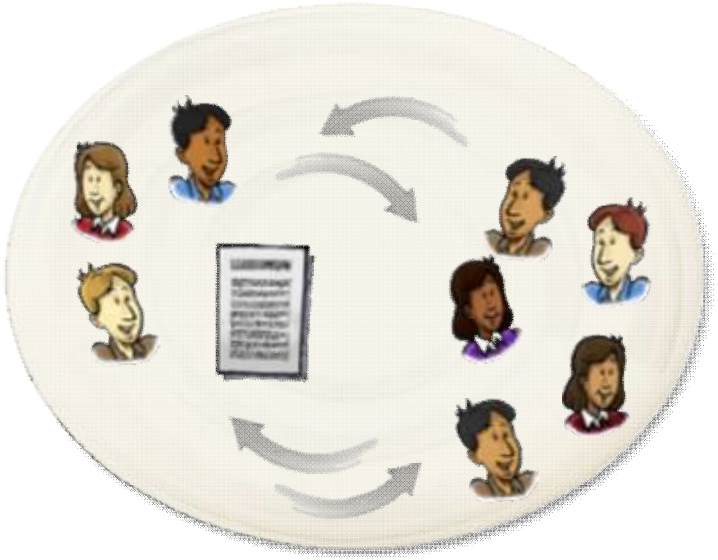
Joint Ownership of Deliverables

Principle 5#

For each development step
- planned collaboration activities to ensure common understanding and commitment



The ownership is always within the whole team

Early Feedback - Small Frequent Releases
Principle 6#

Improves Quality – both in functionality and technical solution

- **Small frequent releases**
  - Increase visibility and enable early feedback.
  - Customer uses early feedback to elaborate on and develop the requirements. Decreases the need to articulate requirements in detailed documentation.
  - IT uses early feedback to verify solution
  - Prototyping

- **Feedback driven**
  - Testing centric (Test early, Test often and Test continuously)

Conclusion

- Understanding and implementing the 6 key principles will help guide projects and maintenance using distributed development.

How to continue

- Implement the 6 principles
- Together with your team and stakeholders – identify your challenges and problem areas.
- Map those towards your challenges and problem areas and make sure these are managed.

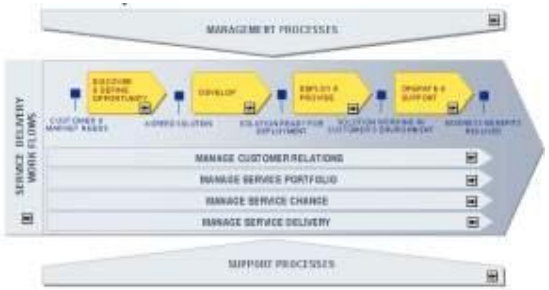
Thank You!

Backup Slides

The AD Common Way of Working Strategy

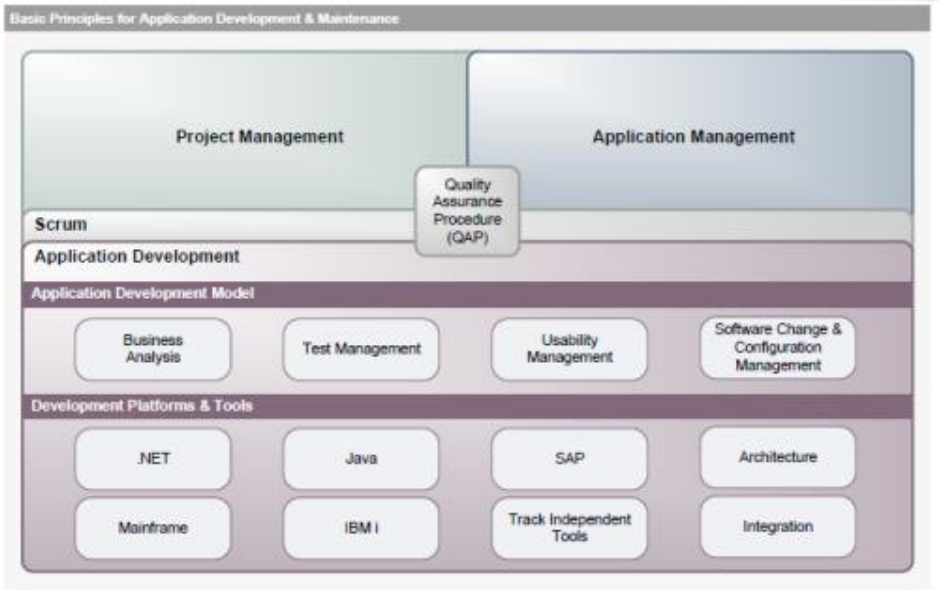
Included in AD Roadmap for Application Development & Maintenance.

Volvo IT Corporate BMS



Volvo Group IT Infrastructure Policy (VIAP)

ADT Roadmap for Application Development & Maintenance



The Effort to Implement the Common Way of Working can Vary

New Development Project team

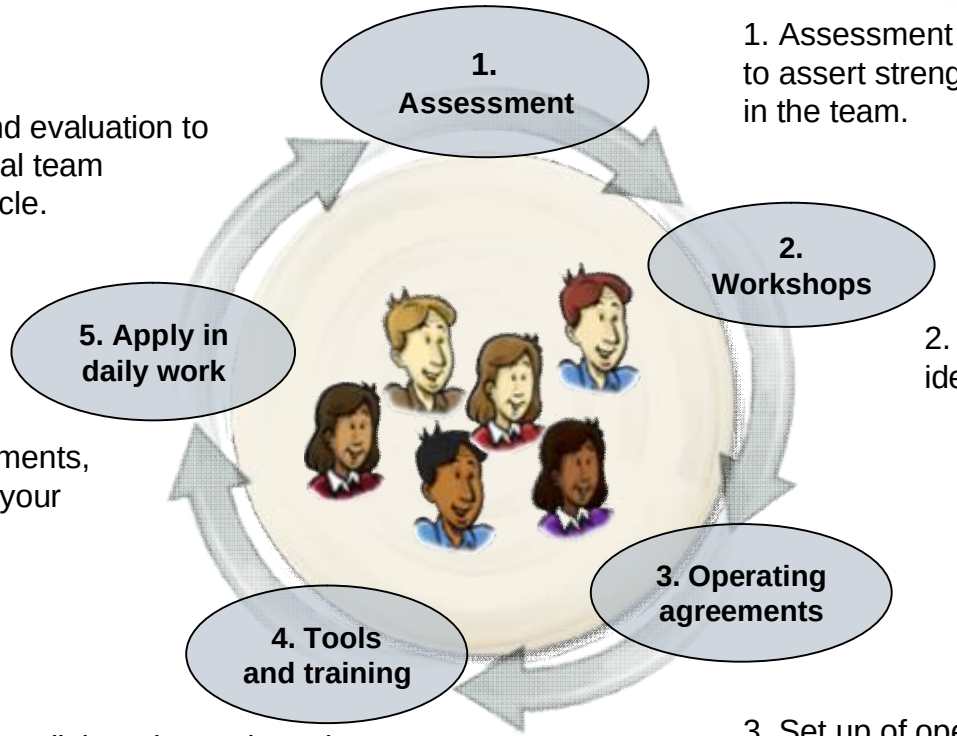
Lower effort required as there are unlikely to be existing process in place – **Possibility to start correctly.**

Existing Project or Maintenance Assignment team

- Increased effort due to possible existing usage of non standard processes.
- Prioritized areas will adopt the common processes in combination with ongoing enhancement activities.
- Additional funding may be required.

Communication
Principle #2

Team Communication Cycle



1. Assessment and interviews to assert strengths and needs in the team.

2. Workshops based on the needs identified and further elaborated.

3. Set up of operating agreements as rules for the virtual teamwork. This agreement will act as a common way of working together.

4. Set up collaboration tools and training needed for efficient virtual teamwork.

5. Apply the new agreements, tools and knowledge in your daily work.

(6) Follow-up and evaluation to assert next virtual team development cycle.