

# **Distributed agile Development**

@ Microsoft patterns and practices

**Ade Miller**

**Principle Development Lead**

**Microsoft patterns & practices group**

# CAVEAT #1

Ade Miller

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patterns & practices

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Microsoft

# CAVEAT #2

YMMV

(Your Mileage May Vary)

# Software Development in 2010



# Why Collocate?

- Communication
- Efficiency
- Risk



**Gemini Mission Control, 1960s**

# Why Distribute at All?

- Global Markets
- Global talent
- Reducing costs



**Hubble Mission Control, 1990s**

# Customer Connected Engineering

A fancy name for p&p's agile approach...

- Mine expertise in the community
- Deliver solutions driven by customer demand
- Involve customers in projects
- Ship frequently and get feedback
- Make customers happier and more successful

# Teams and Projects at p&p

- 4-5 Small teams
  - Total of 25 employees and 30+ contractors
  - Teams often include subject matter experts
  - Strong agile culture: Scrum + XP
- Ship to customers every two weeks
- Projects last 3-8 months

# CHALLENGES OF DISTRIBUTION

Vision...



Reality...



# Communication Challenges

- Lost meaning
- Lost trust
- Different Core hours and time zones

# Some Problematic Team Practices

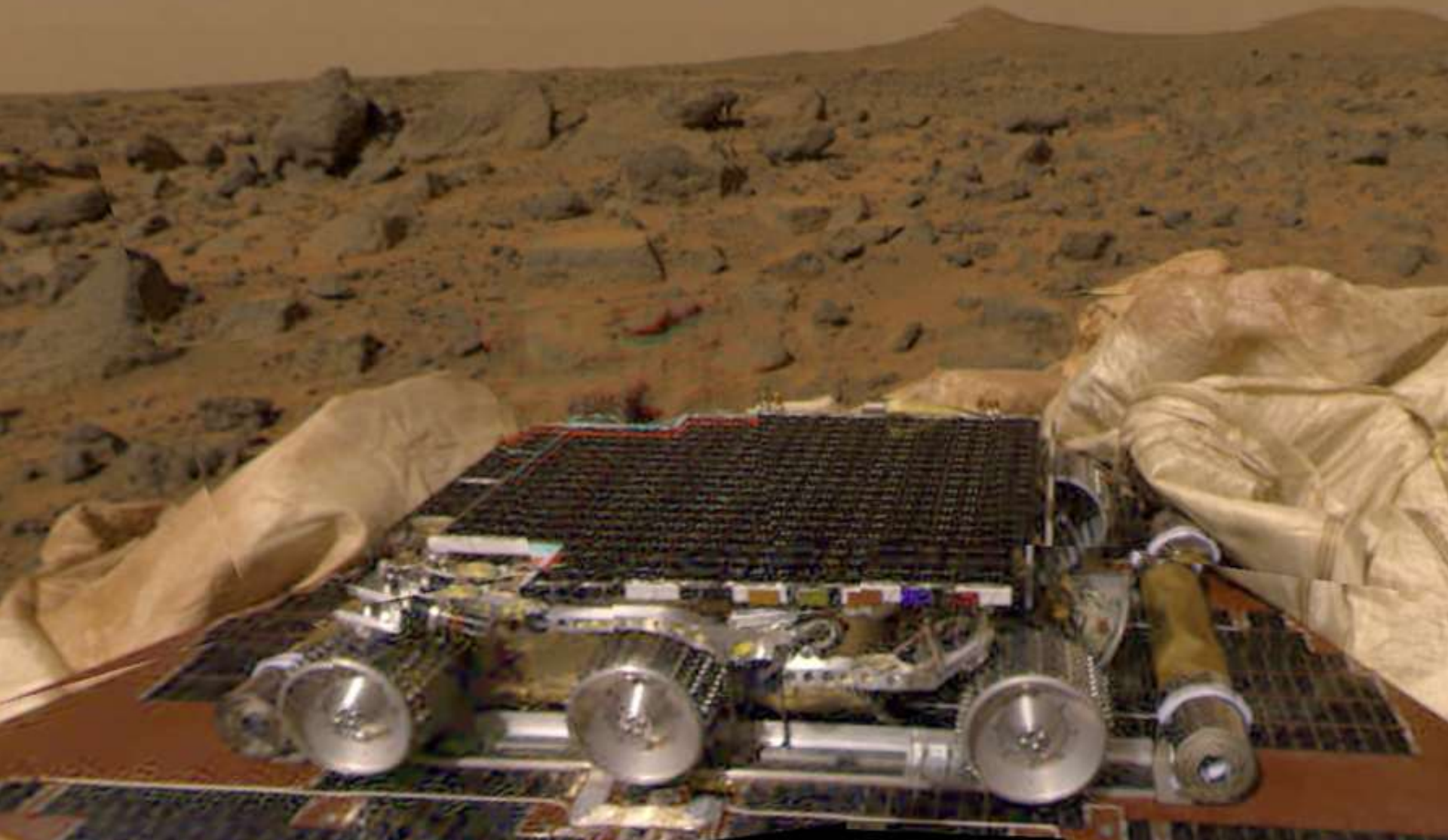
- Story cards
- Pair programming
- Daily standups
- Design white boarding
- Team meetings
- Coaching

# Distribution Changes Your Product

*“Organizations which design systems ... are constrained to produce designs which are copies of the communication structures of these organizations.”*

- Melvin Conway

# TYPES OF DISTRIBUTION



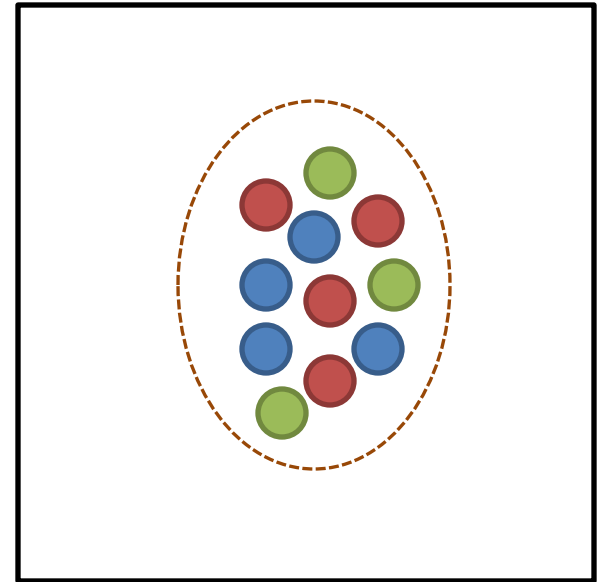
# THE EVILS OF ASYMMETRY

Sharing is good...

Asymmetry makes it hard to share evenly

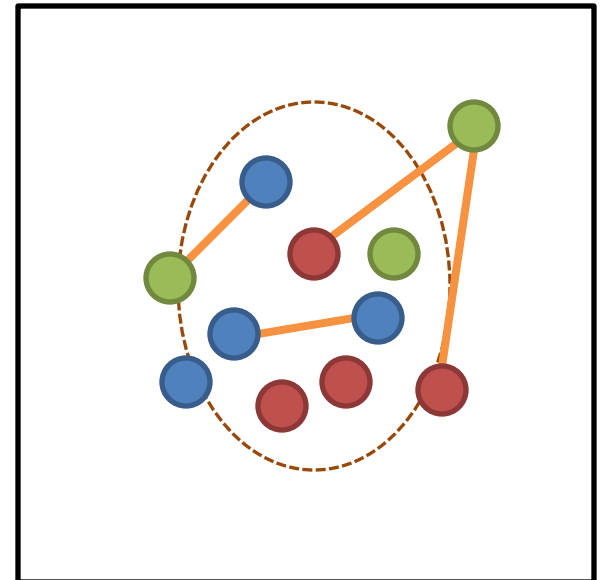
## Not distributed

- Everyone in the same room
- High bandwidth
- Symmetric communication



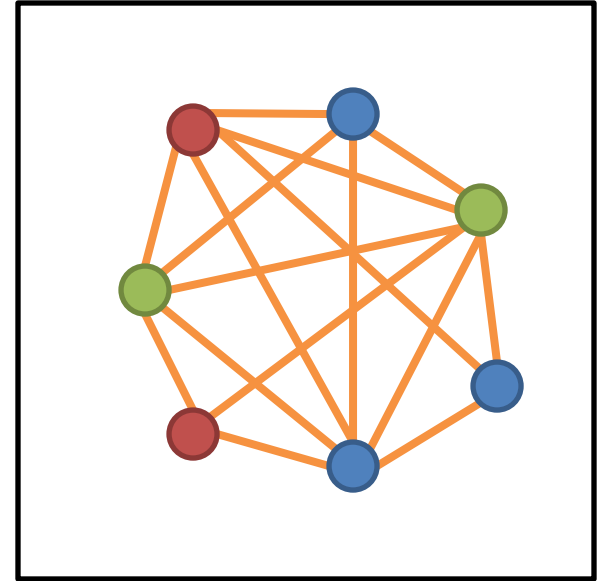
## Distributed but in denial

- Team thinks it's together
- But acts distributed



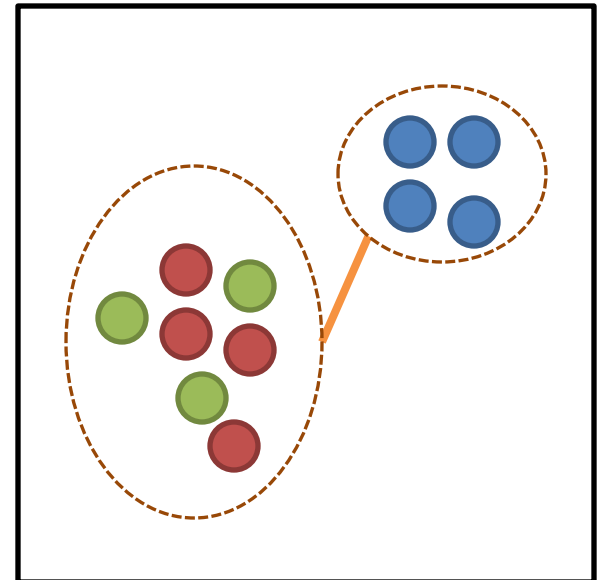
## Completely distributed

- Symmetric communication barriers



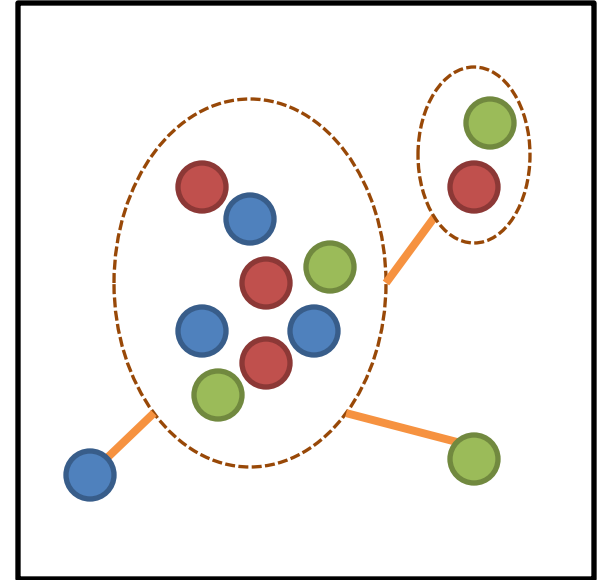
## Distributed by function

- Asymmetric communication barriers
- Builds walls between disciplines



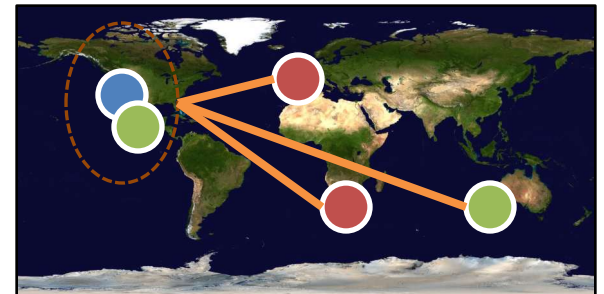
## Ad-hoc distribution

- Asymmetric communication barriers



## Distributed across time zones

- Adds temporal asymmetry
- Lowers bandwidth



# FOCUS ON COMMUNICATION



# What Works @ p&p...

- Daily cadence around team standup
  - Shared conference call
  - Live meeting to view backlog
- Involve everyone:
  - Conference phones
  - Live meeting (bandwidth permitting)

# PLAN TO TRAVEL



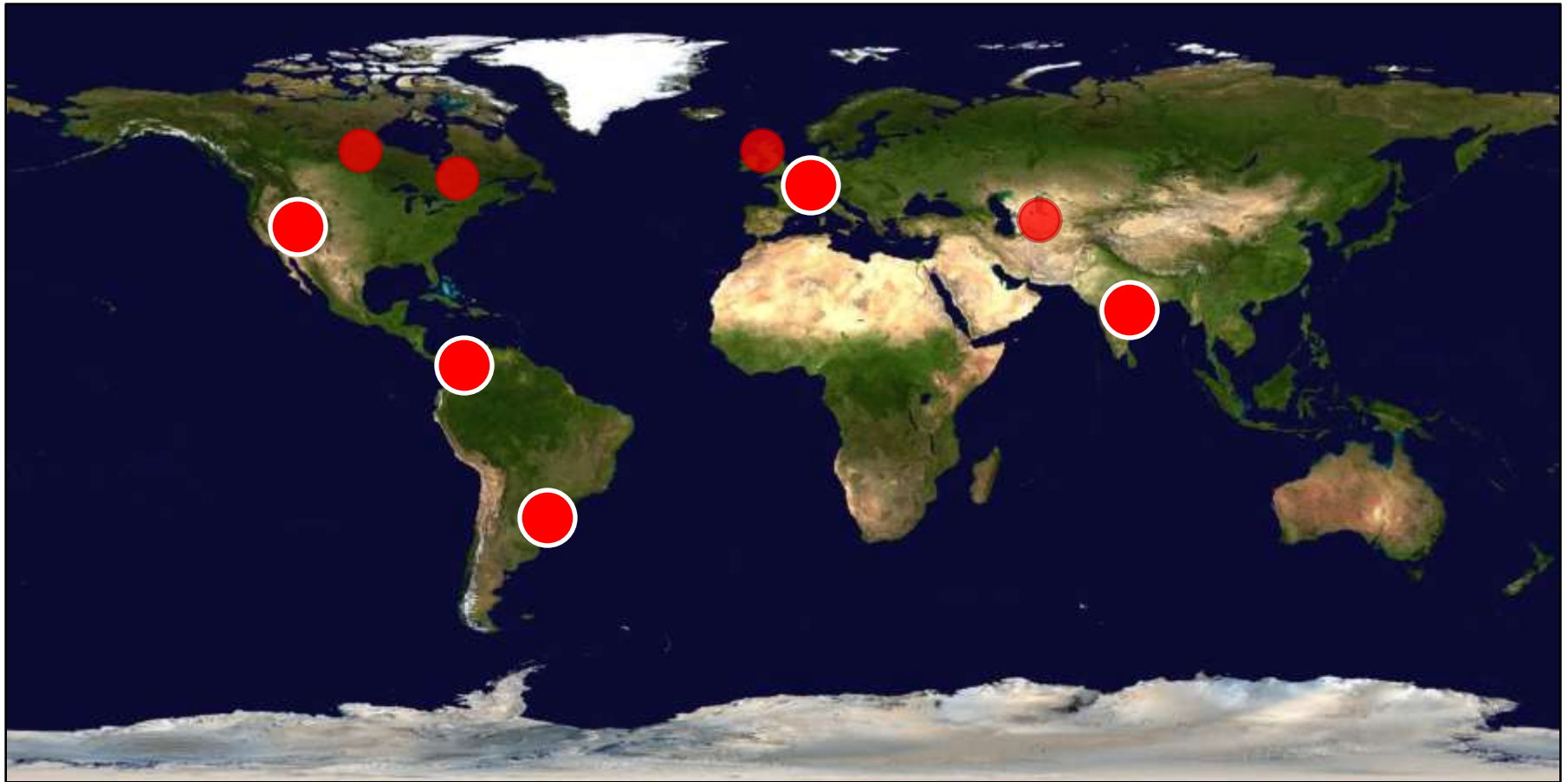
# What Works @ p&p...

- Try and get most of the team together for:
  - Project startup
  - Key milestones/events
  - Final ship
- Factor travel into the budget

# UNDERSTAND YOUR DISTRIBUTION



# p&p Typical Team Distribution



# What Works @ p&p...

- Core team in Redmond
- Developers in Argentina
  - Periodic visits to Redmond 1-2 weeks in 6
  - 4 hour overlap in working day
- Testers in India
  - Test team representative in Redmond
  - No overlap in working hours
- Avoid individuals located on their own

# Team Room Representative



# What Works @ p&p...

- Not ideal
  - Builds silos
  - Isolates portion of team
- Test Representative in Team Room
  - Rest of testers in India (in different day)
  - Mitigates many of the issues
  - Redmond team talks to the “uber tester”



**COACHING THE TEAM**

# What Works @ p&p...

- Have someone on the hook for coaching
- Make time for it



# What Works @ p&p...

- Focus on the user stories
- Involve everyone in the problem
- Don't allow silos of knowledge to build up
  - “The UI is developed in Buenos Aries”

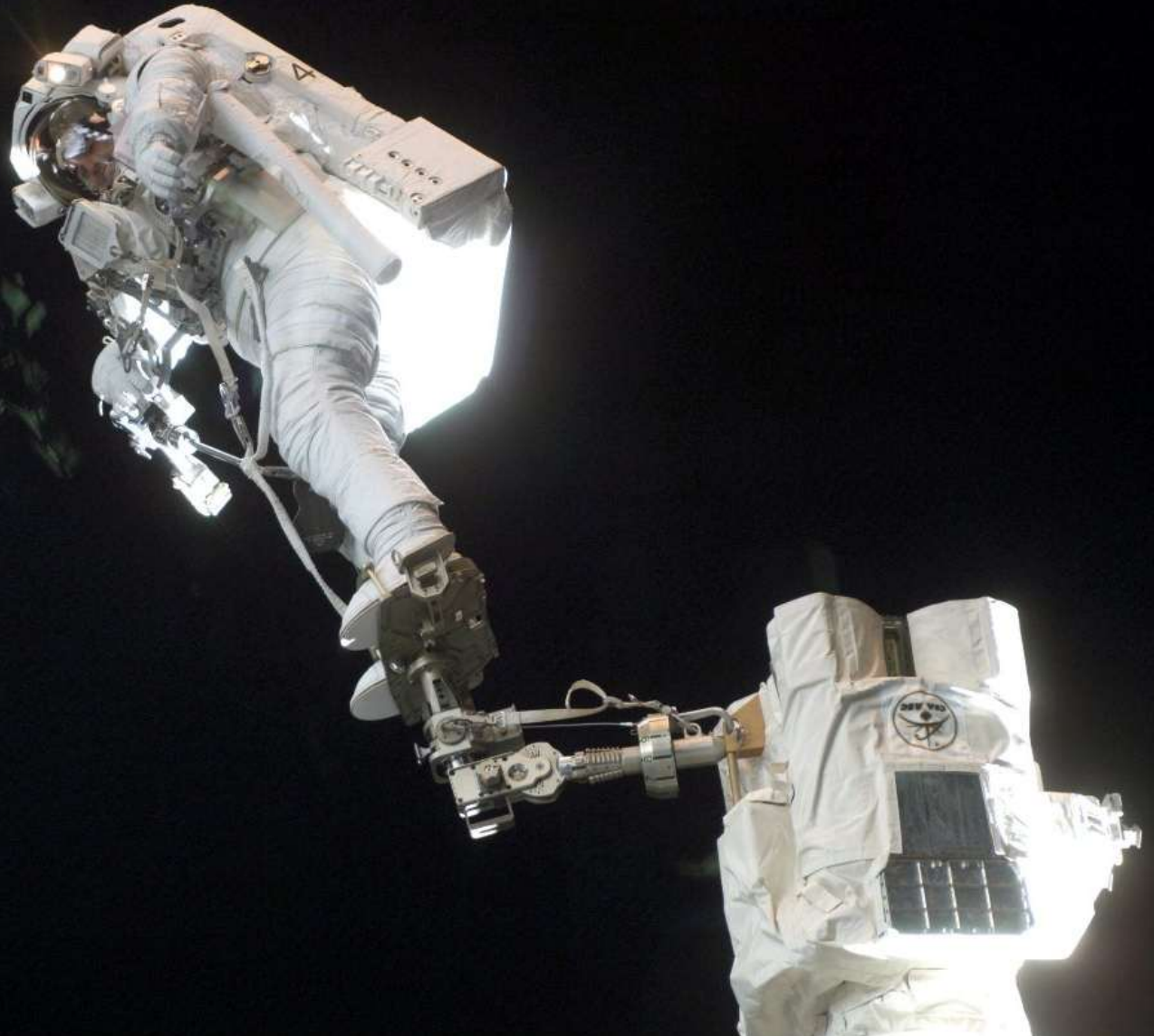
# BUILD THE TEAM OVER TIME



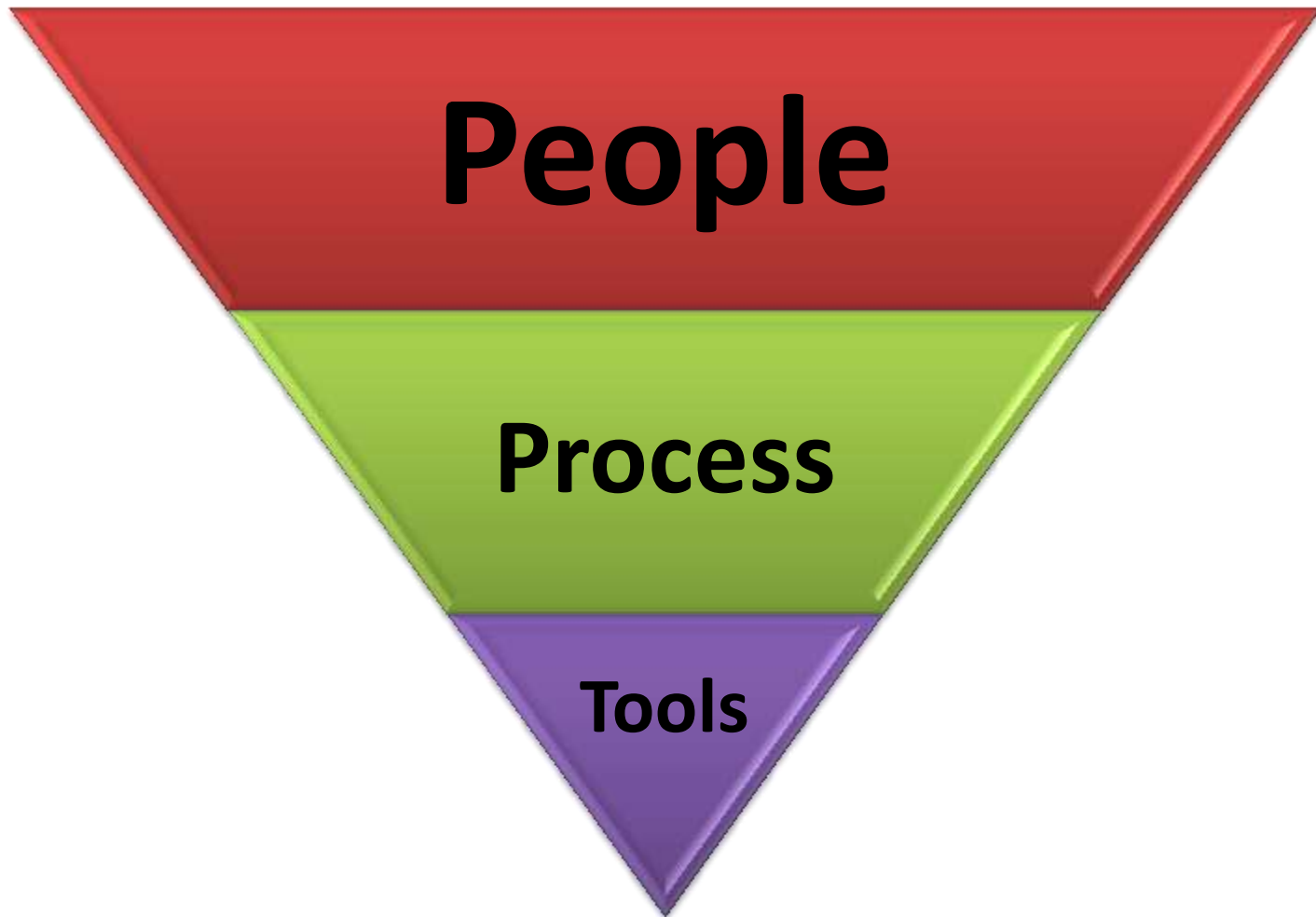
# What Works @ p&p...

- Try and keep teams together
  - Over multiple projects
  - Not just Microsoft people, vendors too
- Educate new hires
  - Team and project Wikis
- Focus on improvement
  - Retrospectives (via conference call)

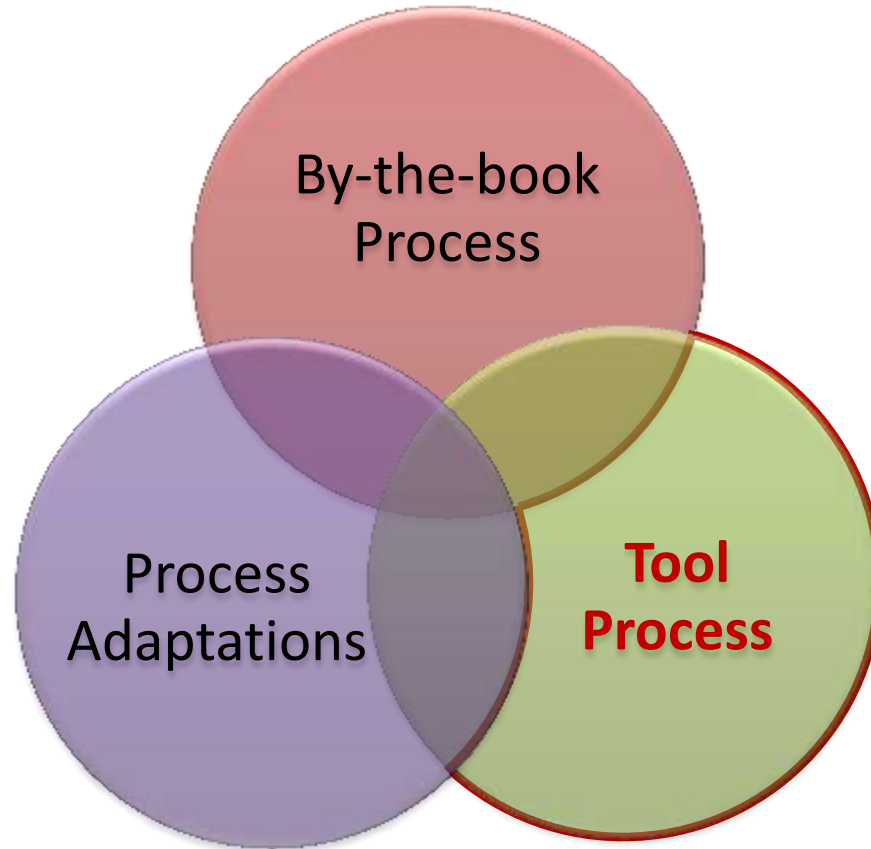
# PROVIDE THE RIGHT TOOLS



# Tools... A Third Order Effect



# Tooling Driven Process



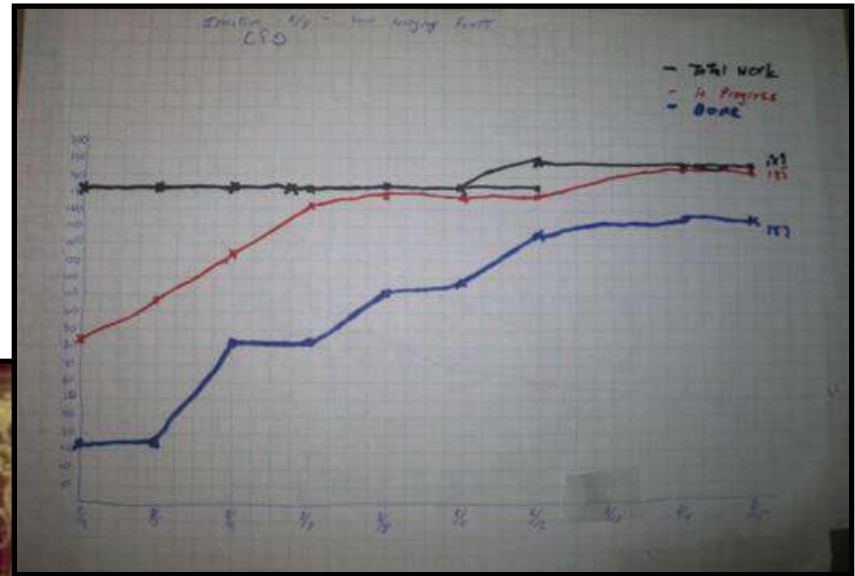
# What Works @ p&p...

- Visual Studio Team System
  - Scrum templates for Team System
- Live Meeting & Shared View
- Live Messenger
- WebCams
- Tools can provide “Big Visible Charts”
- CI is a great tool

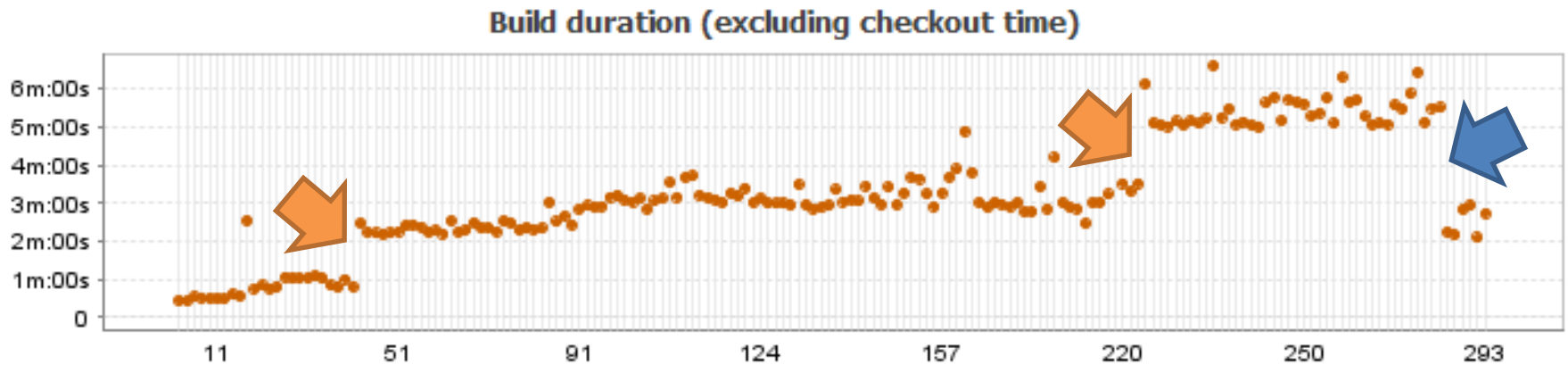
# HOW WE USE CI



# Big Visible Charts

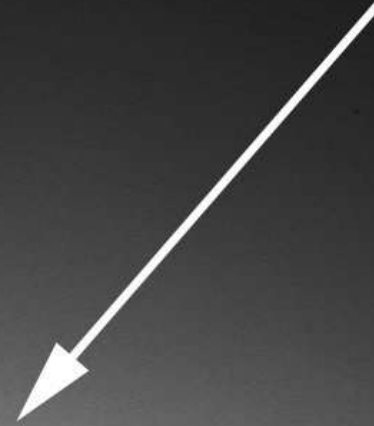


# Big Visible Charts and CI



- Charts are transient
  - Remove them when the problem is solved
  - Move on to the next problem area
- Track trends over time

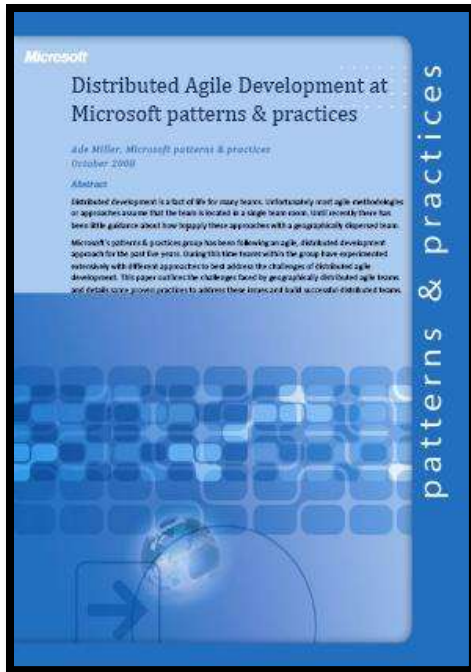
**You are here**



**AND OTHER CONCLUSIONS...**

# More Distribution Not Less





# Resources

Full slide deck available here:

<http://www.ademiller.com/tech/talks>

Download the white paper & video here:

<http://msdn.microsoft.com/practices>

Microsoft patterns & practices

<http://msdn.microsoft.com/practices>

Ade Miller's blog

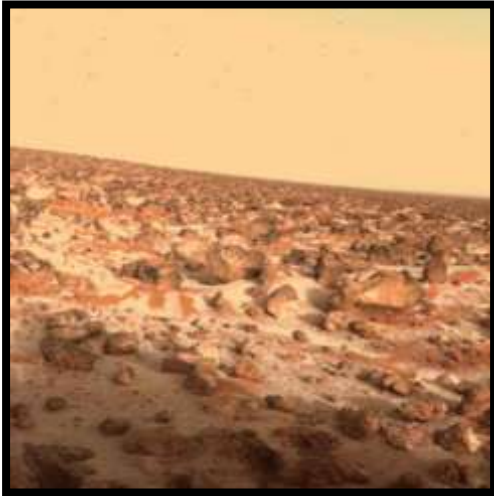
<http://www.ademiller.com/tech>

Stock photos in this presentation

<http://www.nasaimages.org>

# Other Resources

- The One Minute Commute – Zack Grossbart  
<http://www.zackgrossbart.com/blog/toc/>
- Agile Software Development with Distributed Teams - Jutta Eckstein  
<http://www.jeckstein.de/distributed-teams/>
- Practices for Scaling Lean & Agile Development – Bas Vodde  
<http://www.craiglarman.com/>



**QUESTIONS?**