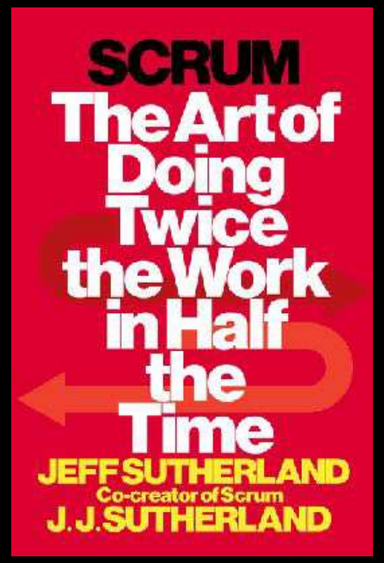
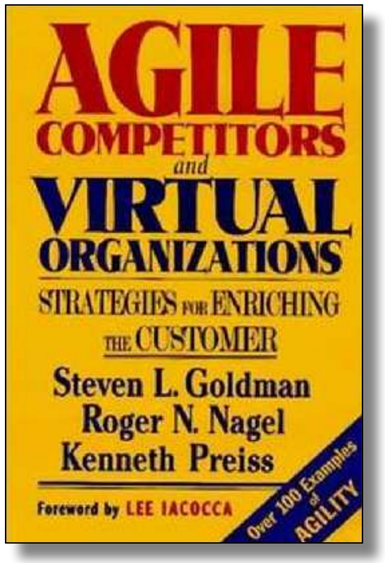
The Shu Ha Ri of Scrum @ Scale

GTFS 22 Nov 2016



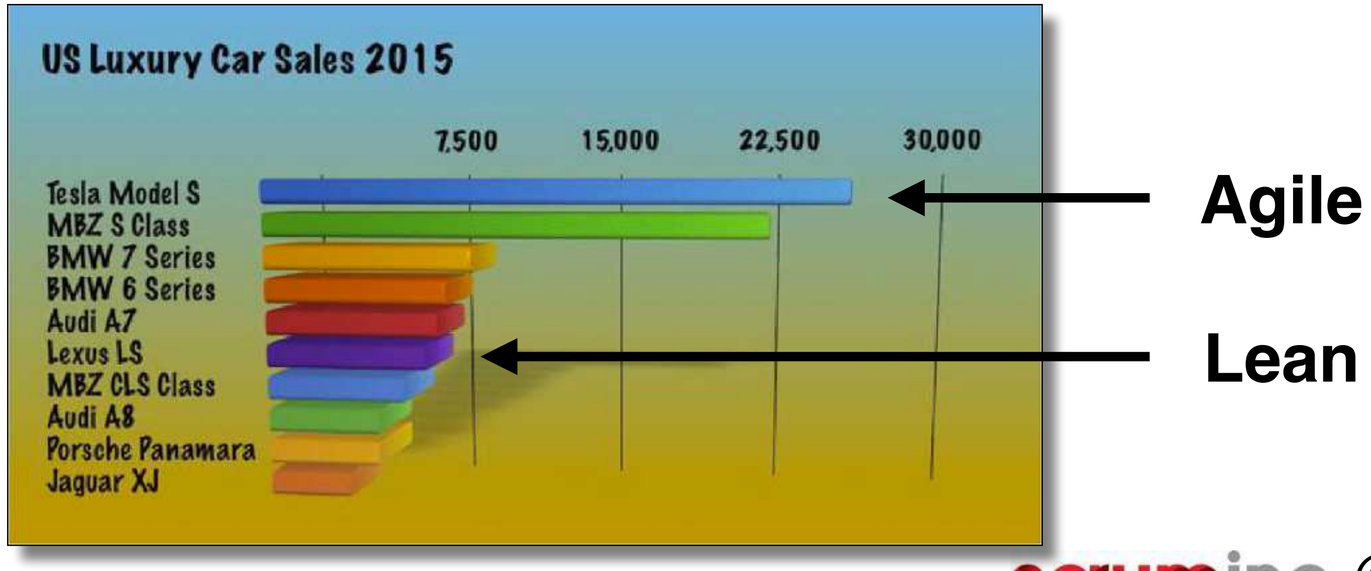
2001 Agile Manifesto

In 2016 lean is not enough …

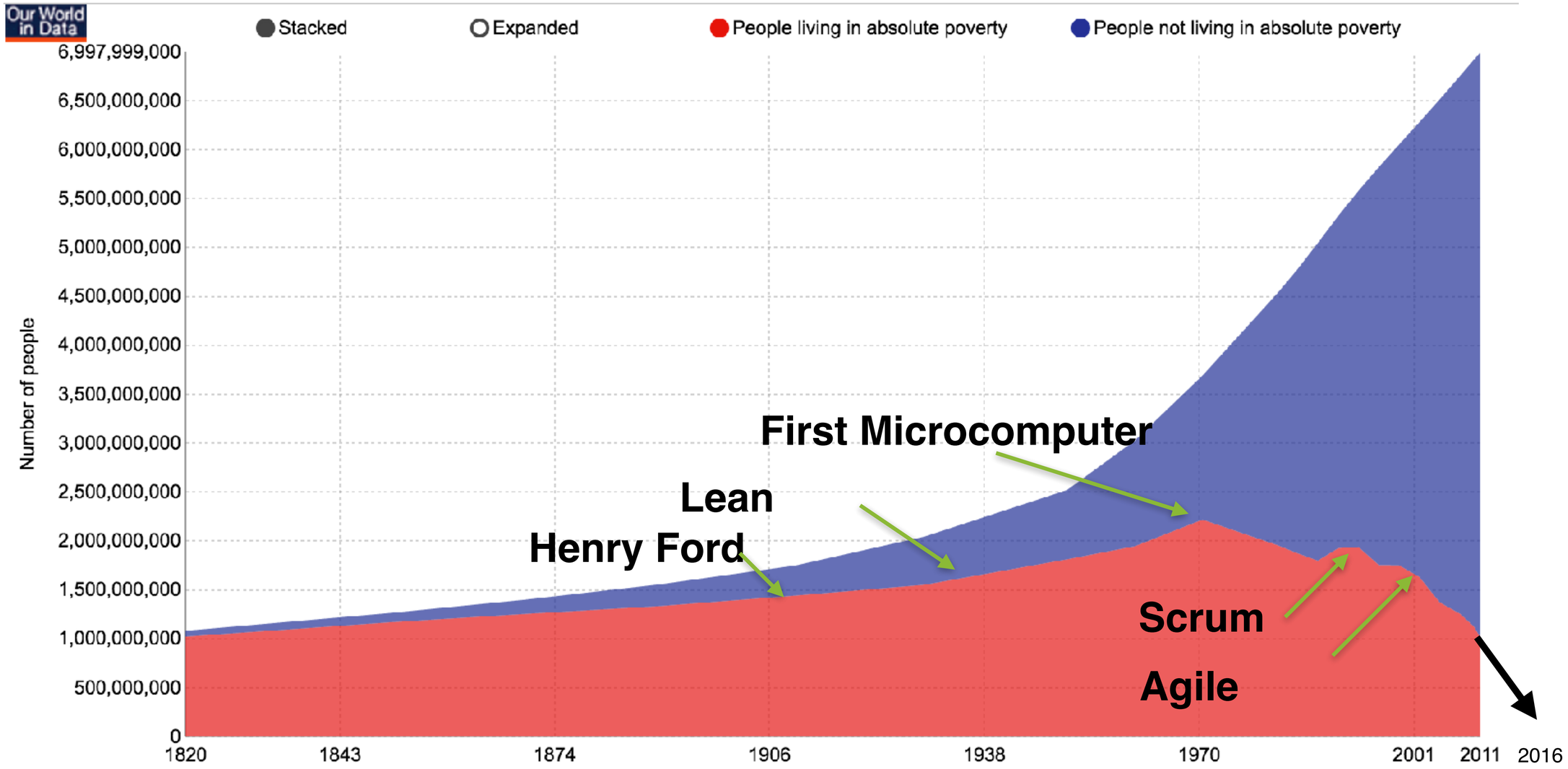


Agile competition goes beyond lean manufacturing by permitting the customer, jointly with the vendor or provider, to determine what the product will be.

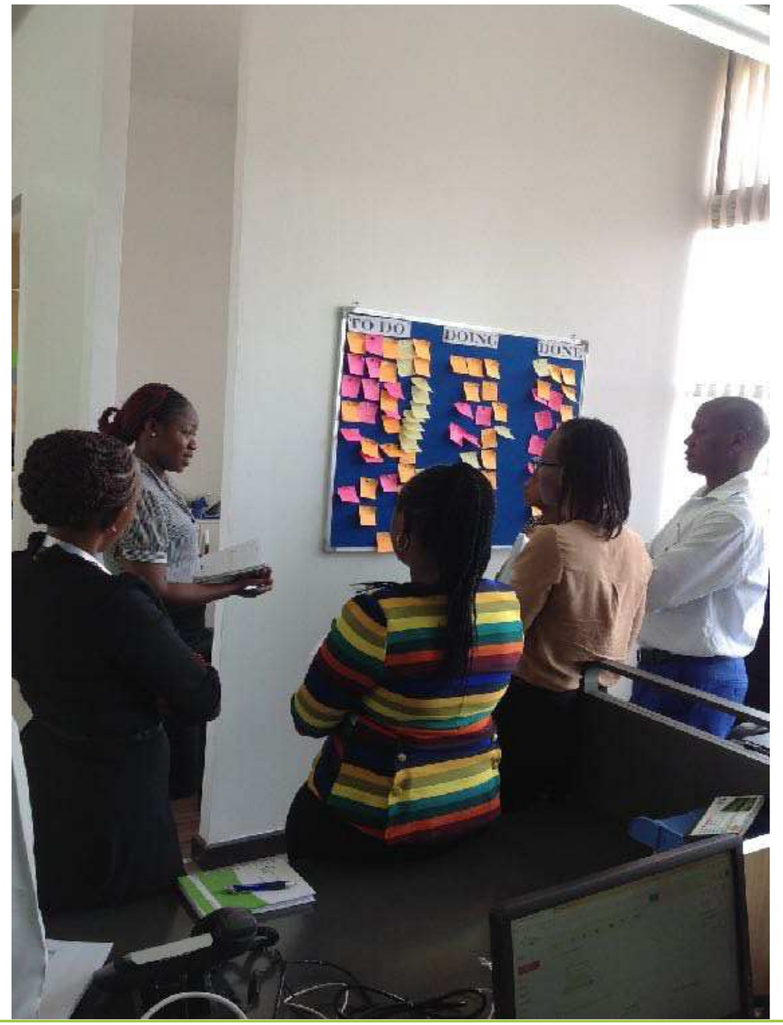
It requires major changes in organization, management philosophy, and operations.

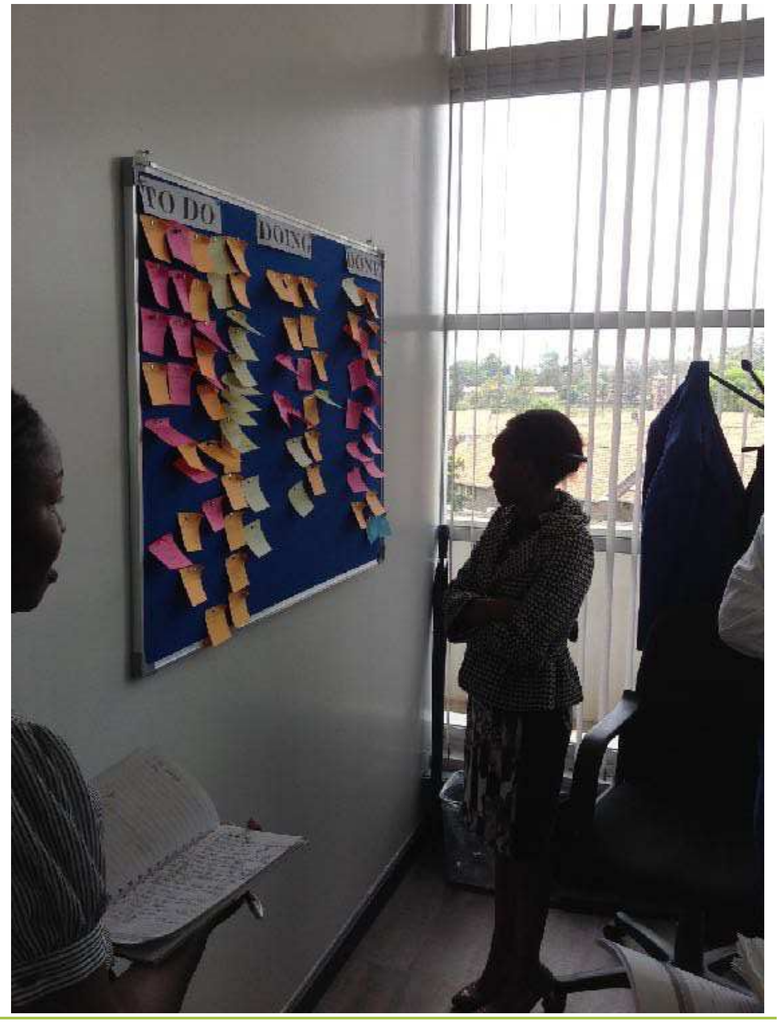


World Bank Data - Global population vs. global poverty

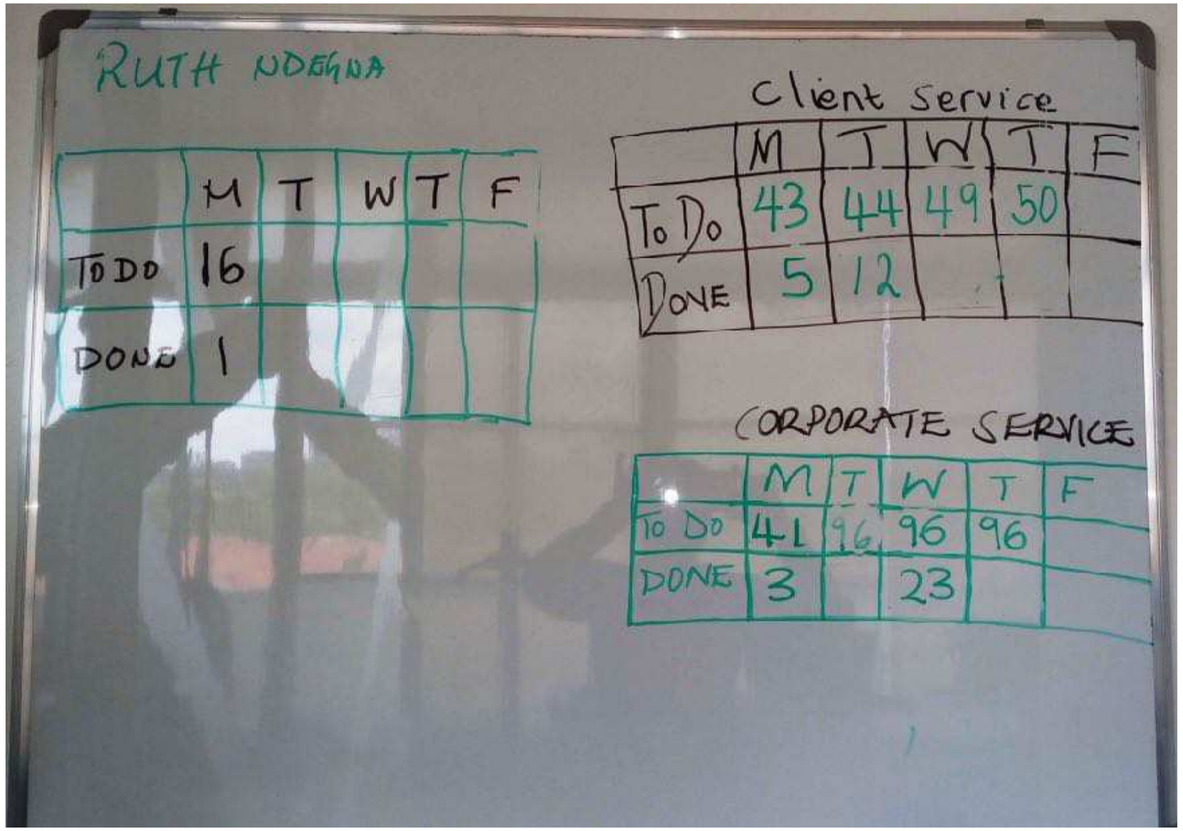


Edward Mungai, CEO Kenya Climate Innovation



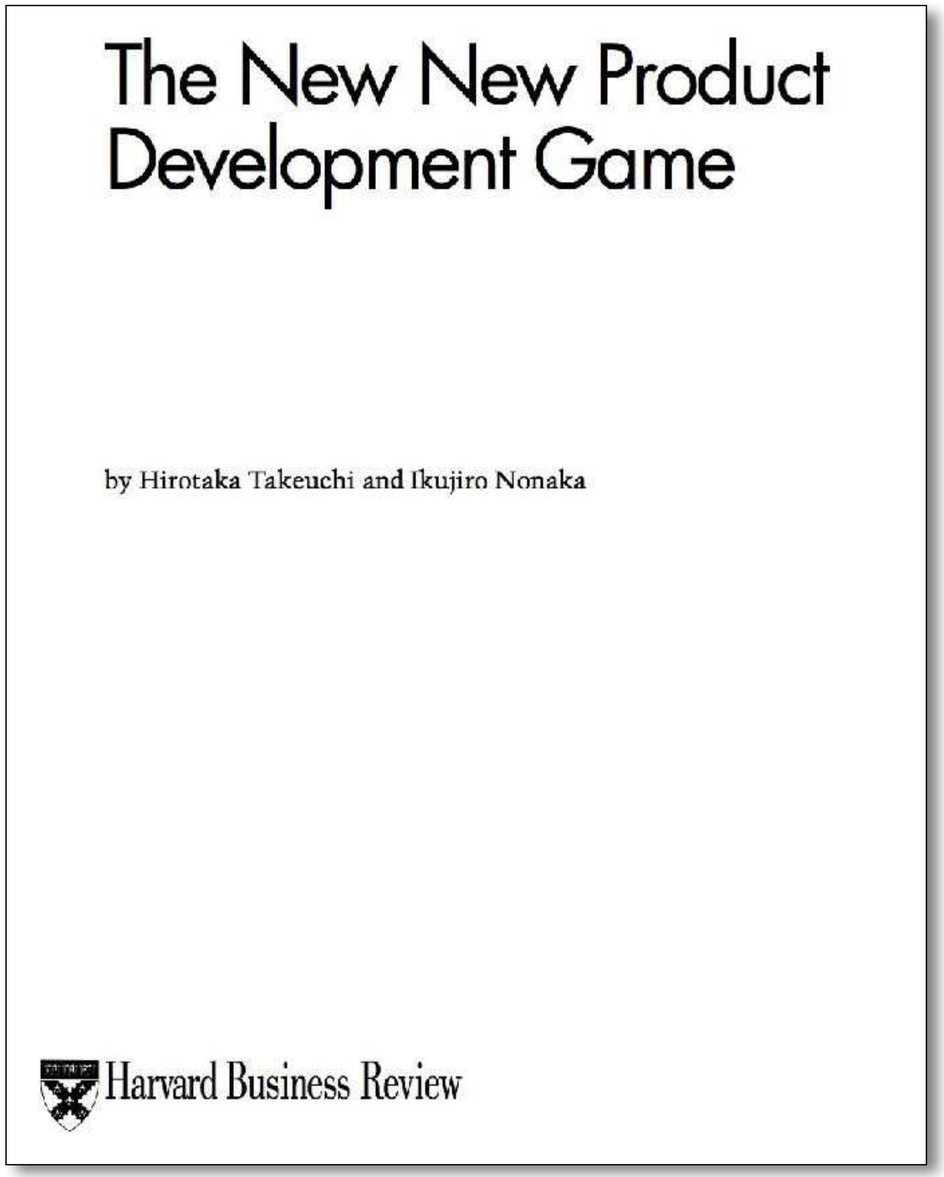


To Do - Doing - Done



“You.ve got to come and help me train 10,000 Africans. It will change everything! *Edward Mungai*

Scaling Scrum from 1986 to 2016



Different Companies Have Different Needs

A Large Defense Contractor

Name Classified

- Top-down agile transformation motivated by perceived external market pressure
- Company vision to halve the cost of projects

Key Context:

- Complex, integrated multi-year hardware/software projects
- Each project has <u>one</u> customer
- Reliability a key priority
- Must deliver to detailed contract requirements

B Mid-size Software Company

Autodesk

- Opportunistic agile implementation triggered by acquisition of a small Scrum company
- Market leader Looking to stay ahead of competition

Key Context:

- Redeploying a legacy software product to cloud-based SaaS model
- Goal to increase pace of innovation
- Historically, releases a disruption for customers

C Growing "Agile Native" Company

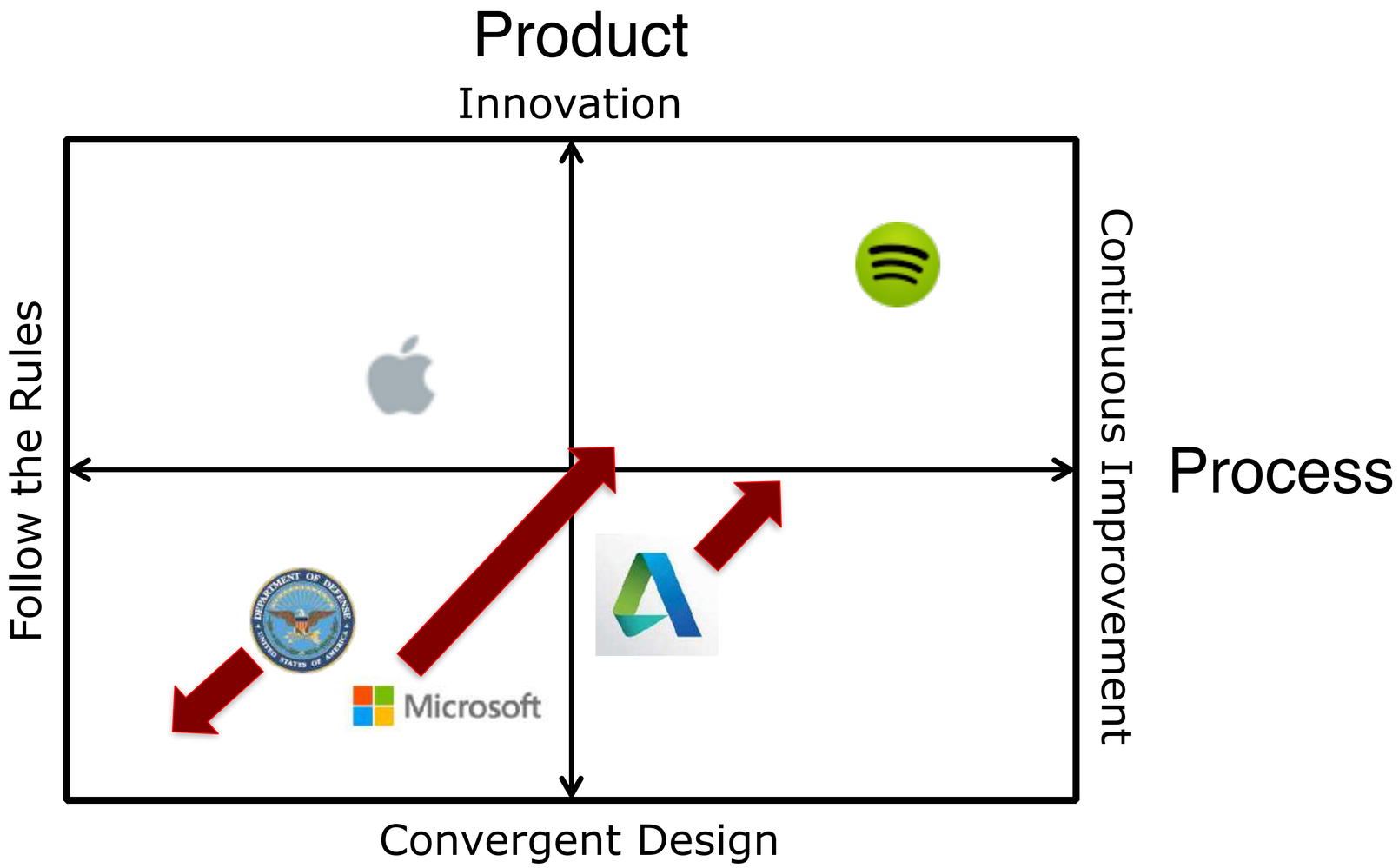
Spotify

- Disruptive technology innovator with successful product looking to scale to keep up with demand
- Leadership are steeped in agile principles

Key Context:

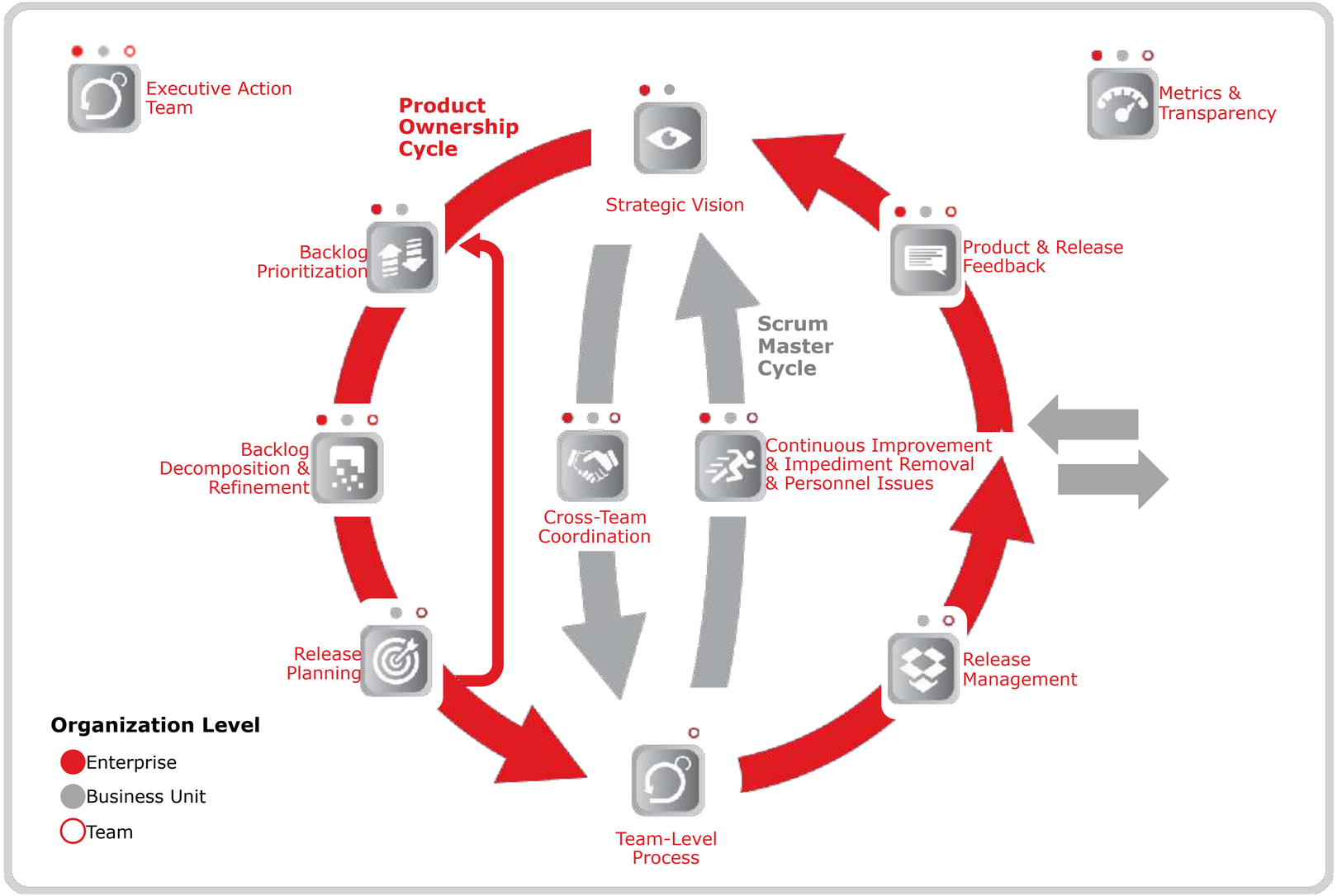
- Web/app-based product
- Product and company set up modularly
- Allows teams to work independently with minimal coordination
- Teams co-located

1 Strategic Objectives Determine Scaling Approach



Adapted from Michael Cottmeyer

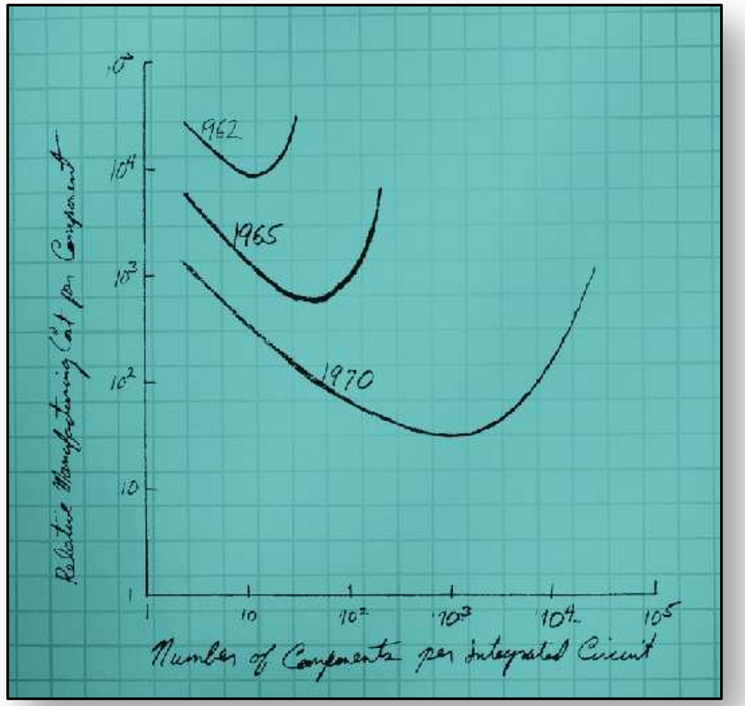
Modular Framework for Scaling Scrum



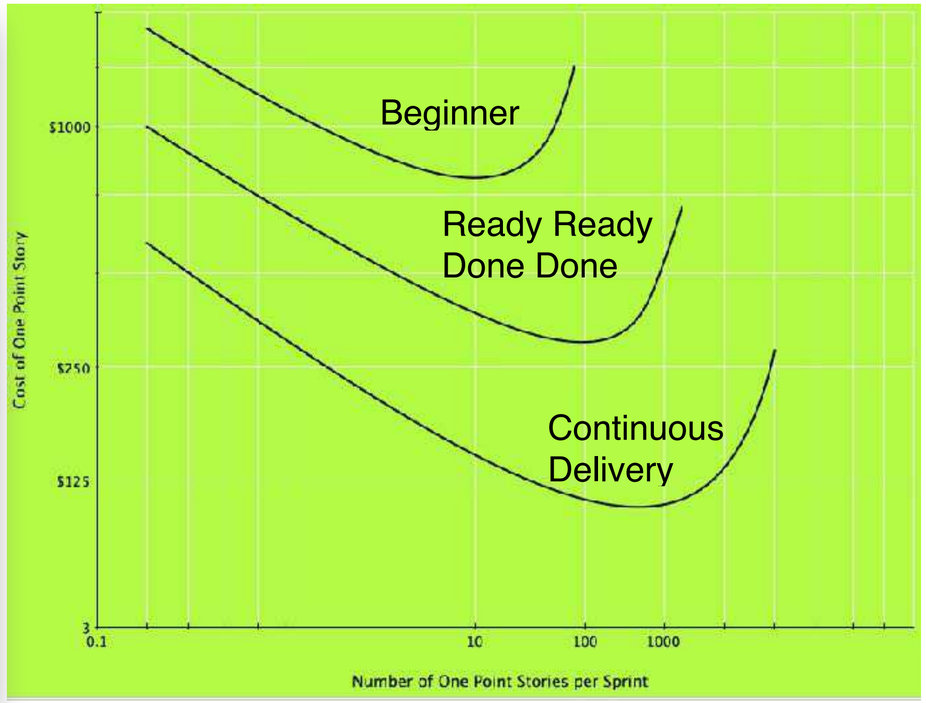
Scrum@Scale starts with understanding Moore's Law

Moore's Law Applied to Software

Transistors on a Chip



Stories in a Sprint



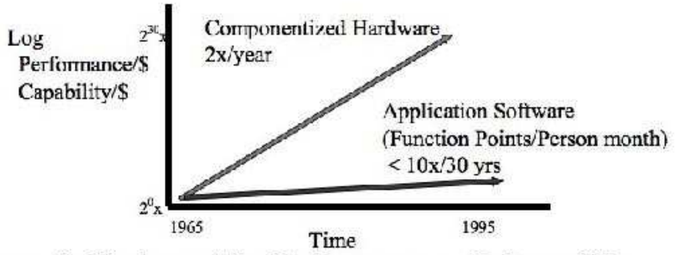


Figure 1: Hardware Price/Performance vs. Software Price Performance[9]

The emergence of a Business Object Component Architecture

Sutherland, J.

Enabling Technologies: Infrastructure for Collaborative Enterprises, 1999. (WET ICE '99) Proceedings. IEEE 8th International Workshops on

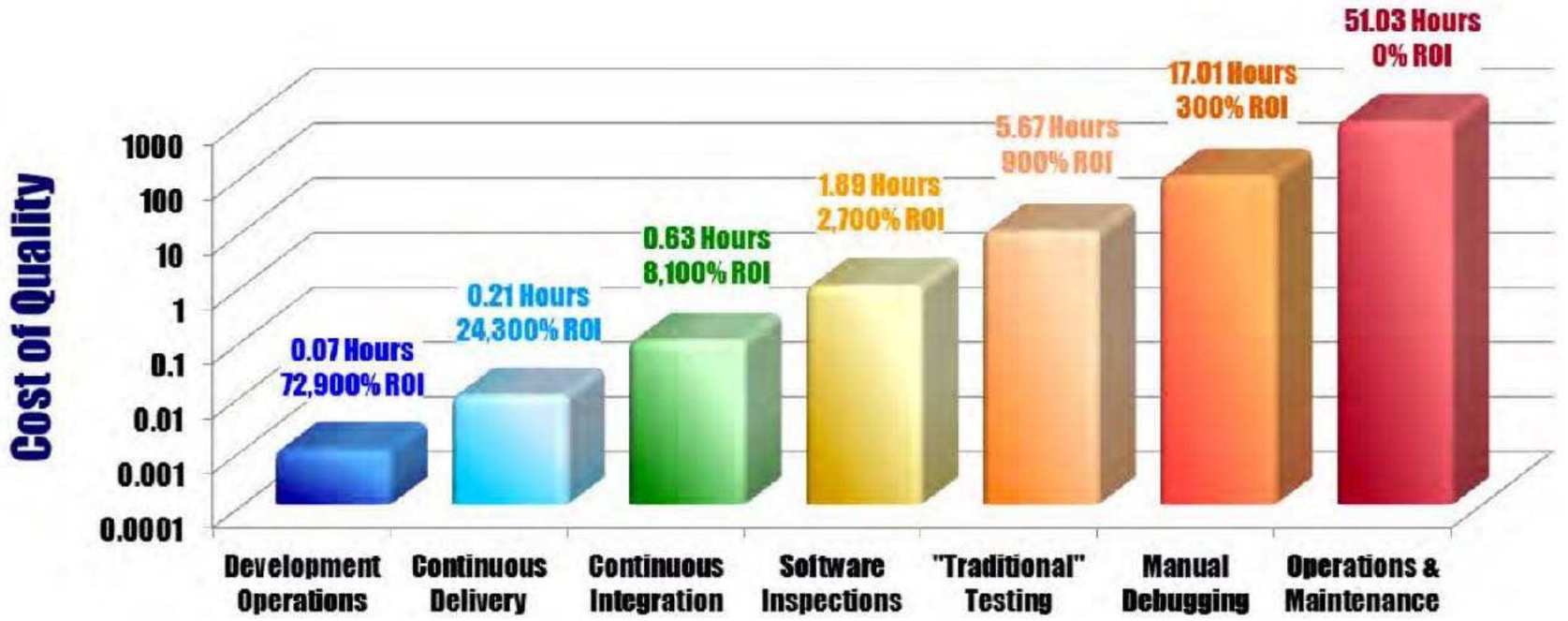
Year: 1999

Pages: 330 - 340, DOI: 10.1109/ENABL.1999.805223

Cited by: Patents (3)

IEEE Conference Publications

Activity	Def	CoQ	DevOps Economics	Hours	ROI
Development Operations	100	0.001	100 Defects x 70% Efficiency x 0.001 Hours	0.070	72,900%
Continuous Delivery	30	0.01	30 Defects x 70% Efficiency x 0.01 Hours	0.210	24,300%
Continuous Integration	9	0.1	9 Defects x 70% Efficiency x 0.1 Hours	0.630	8,100%
Software Inspections	3	1	2.7 Defects x 70% Efficiency x 1 Hours	1.890	2,700%
"Traditional" Testing	0.81	10	0.81 Defects x 70% Efficiency x 10 Hours	5.670	900%
Manual Debugging	0.243	100	0.243 Defects x 70% Efficiency x 100 Hours	17.010	300%
Operations & Maintenance	0.073	1,000	0.0729 Defects x 70% Efficiency x 1,000 Hours	51.030	n/a

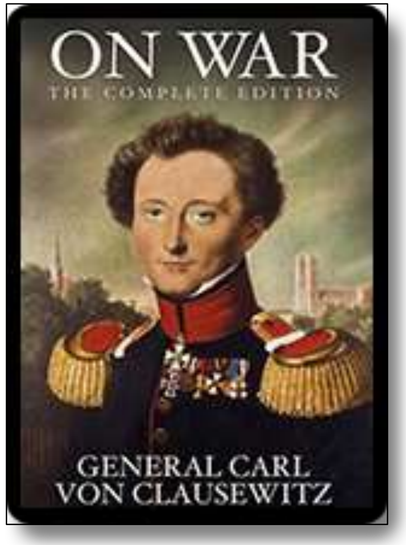


DevOps automates the final, cost and labor-intensive step of delivering … products and services to billions of global end-users in fractions of a second, transparently recalling them if necessary without penalty or cost, and ever so gradually refining, optimizing, and repairing them in real-time without interrupting the operation or daily lives of global end-users.
David Rico, Business Value, ROI, & CoQ of DevOps, 2016

Transformation Requires Leadership

Sun Tzu

Miyamoto Musashi



Colonel John Boyd

Without Agile Mindset in command, there will be no Agile Execution by the body!

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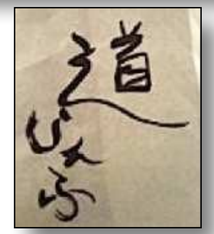
Martial Arts are Simple but Not Easy

Sifu Avi Schneier, Scrum Master
Tai Chi champion

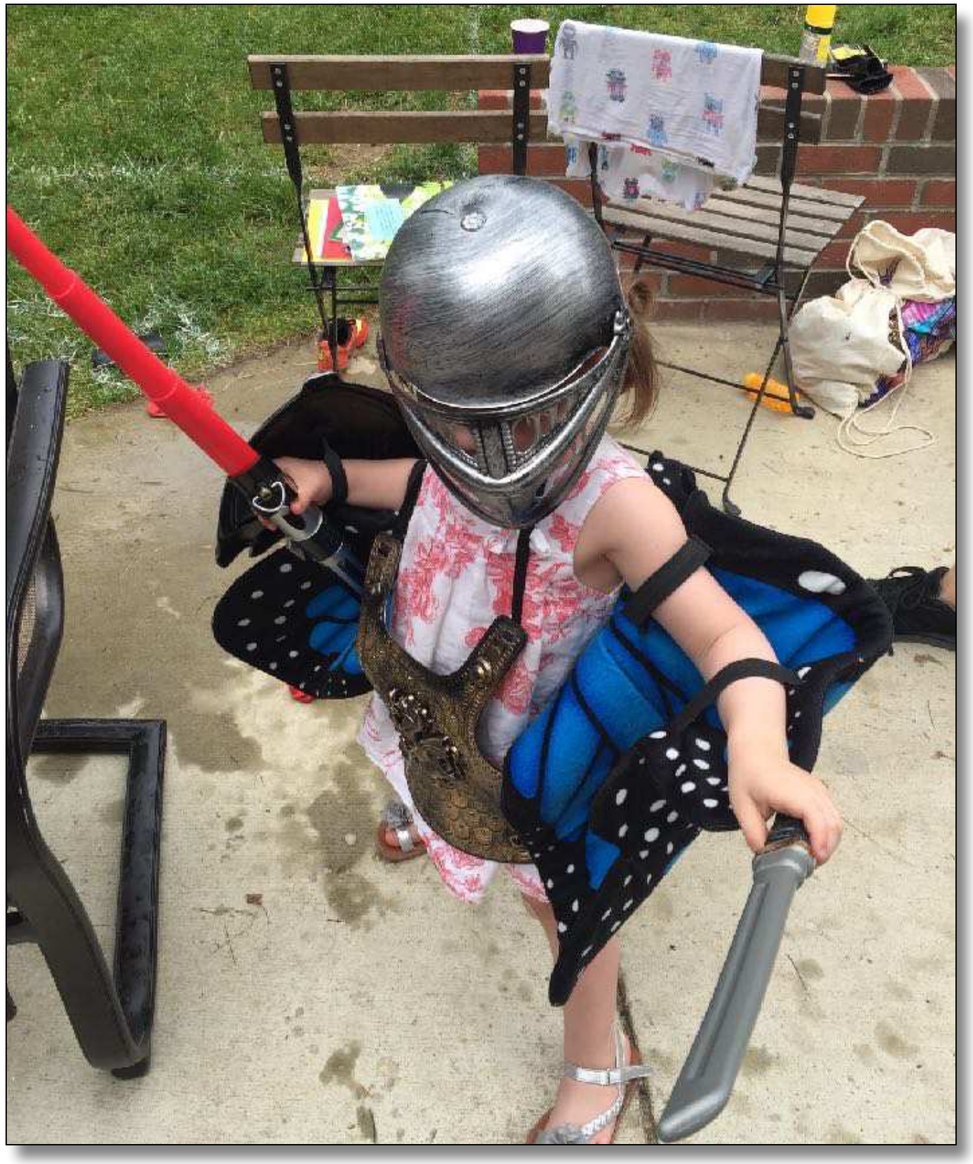
師傅

Willy Wijnands, Eduscrum.com
Aikido master

守破離

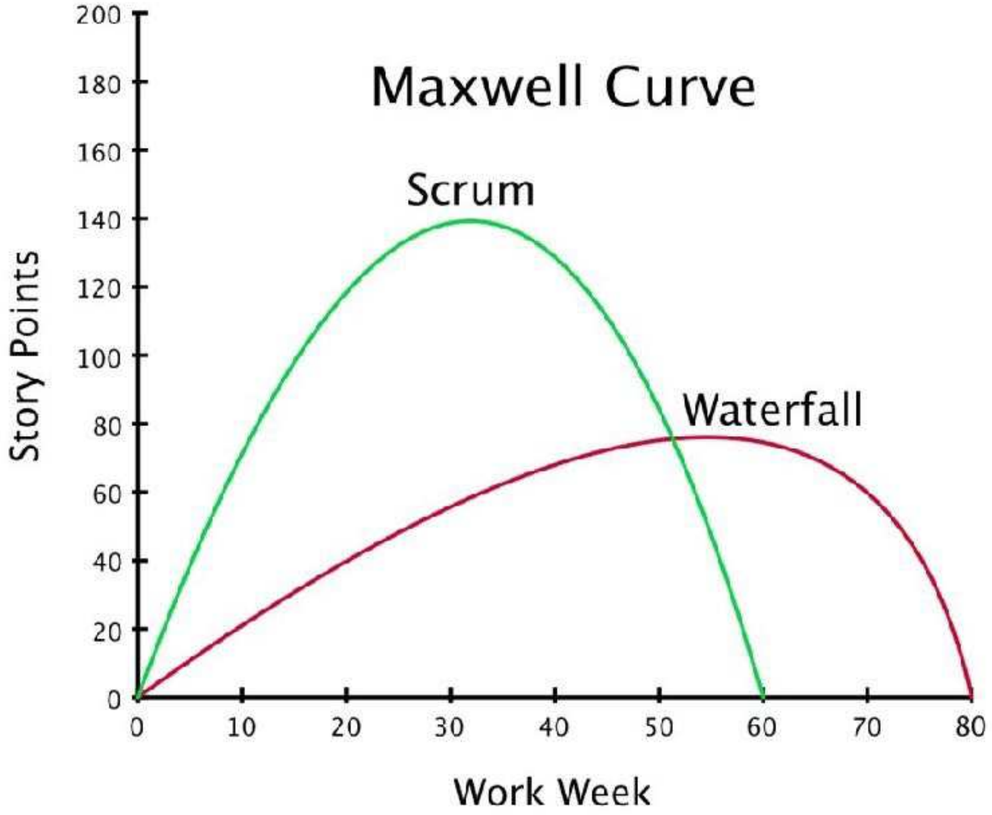


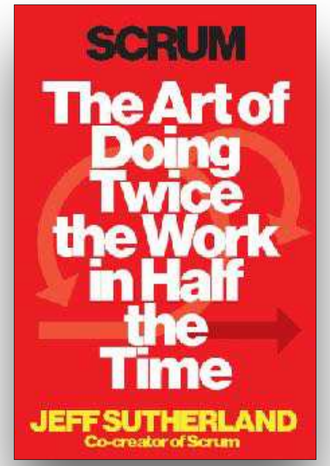
Agile Mindset - Female Variant



Alelu Sutherland

Agile Leadership can Scale Three Times the Work in a Third the Time





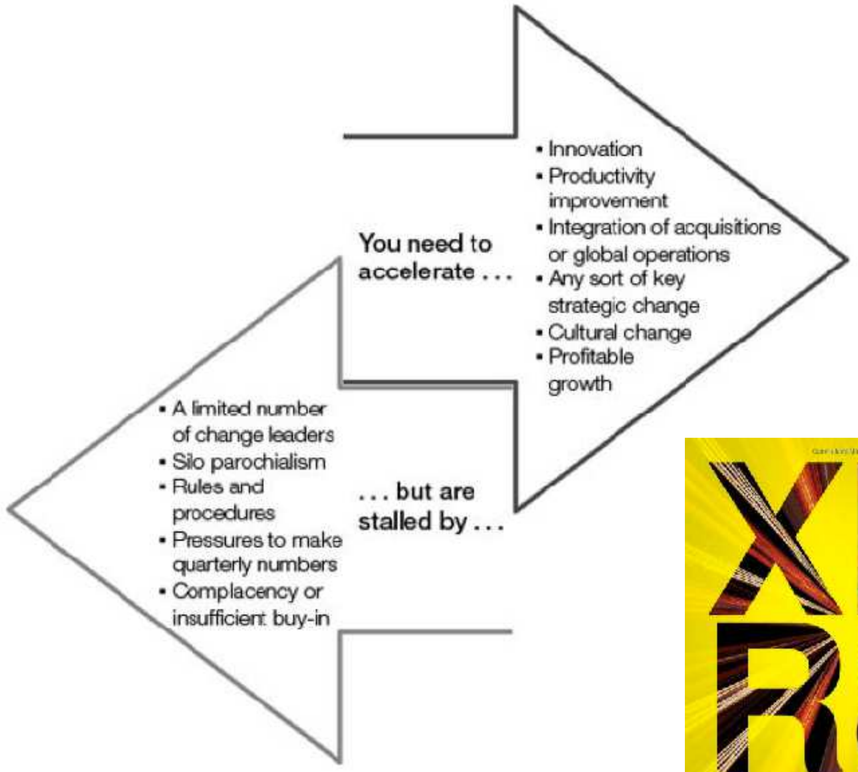
Take No Prisoners: How a Venture Capital Group Does Scrum
Sutherland, J. ; Altman, I.
Agile Conference, 2009. AGILE '09.
DOI: 10.1109/AGILE.2009.29
Publication Year: 2009 , Page(s): 350 - 355
Cited by: Papers (4)
IEEE CONFERENCE PUBLICATIONS

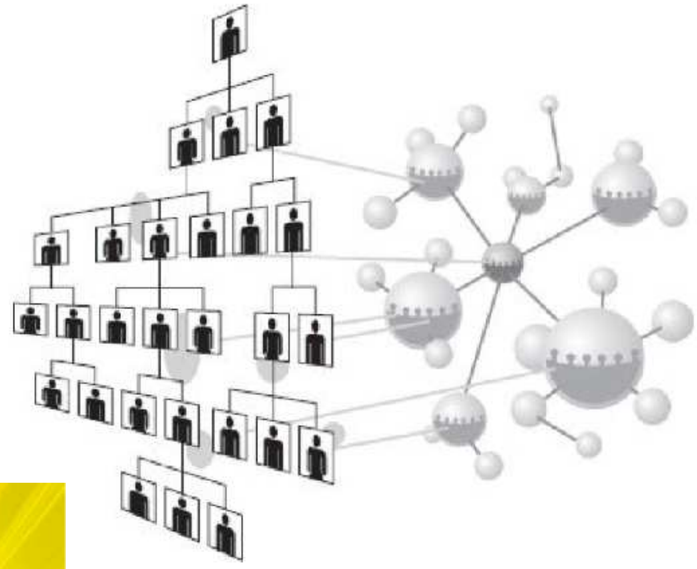
"Jeff Sutherland is the master of creating high-performing teams… If you don't get three times the results in one-third the time, you aren't doing it right!"
--Scott Maxwell, Founder & Senior Managing Director, OpenView Venture Partners

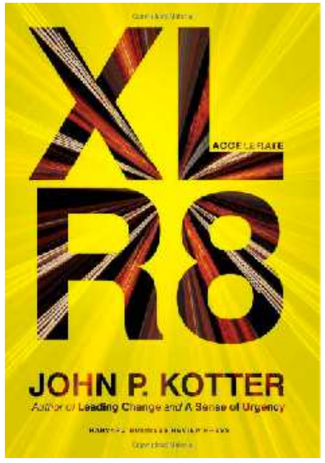
Understanding Dual Operating Systems

John P. Kotter. Accelerate: Building Strategic Agility for a Faster Moving World. HBR Press 2014.

Acceleration stalled







stackoverflow

Questions

1. Question

I'm a Windows (native, not .NET) programmer and I'd like to port an application to the Mac. Actually, I believe it will be more of a rewrite, as the original depends on many ActiveX controls.

As I have never used a Mac in my entire life, I'll need some guidance. O:-)

Thanks in advance

2. Answer

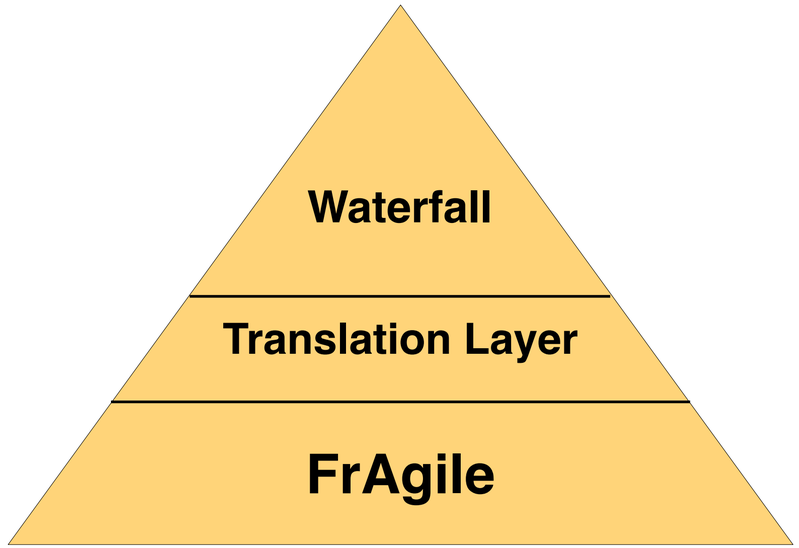
Cocoa [Mac framework] is a very different way of thinking then MFC and its kin [Windows framework] …It is possible to write MFC-style code for Mac, but you will always be fighting the framework if you do.

You would be amazed how fast Objective-C can be to code once you understand the patterns. It really can be stunning compared to C++ in my experience…

FrAgile - Shu State

CEO does not have Agile Mindset

- Traditional management hierarchy creates project teams
- "Scaling frameworks" are often used to provide scaffolding for the legacy organization until it can evolve
- **This is a translation layer that provides insulation and must ultimately be removed to get high performanc**e
- Usually get 20-30% improvement in production although bureaucracy or changes in management often cripple and/or destroy agile implementation



"Scrum in name only" vs Scrum@Scale

At John Deere they tried this…

SAFe™

- Field issue resolution time: down 42%
- Warranty Expense: down 50%
- Time to production: down 20%
- Time to market: 20% faster
- Employee engagement: Up 9.8%

Then they tried this!

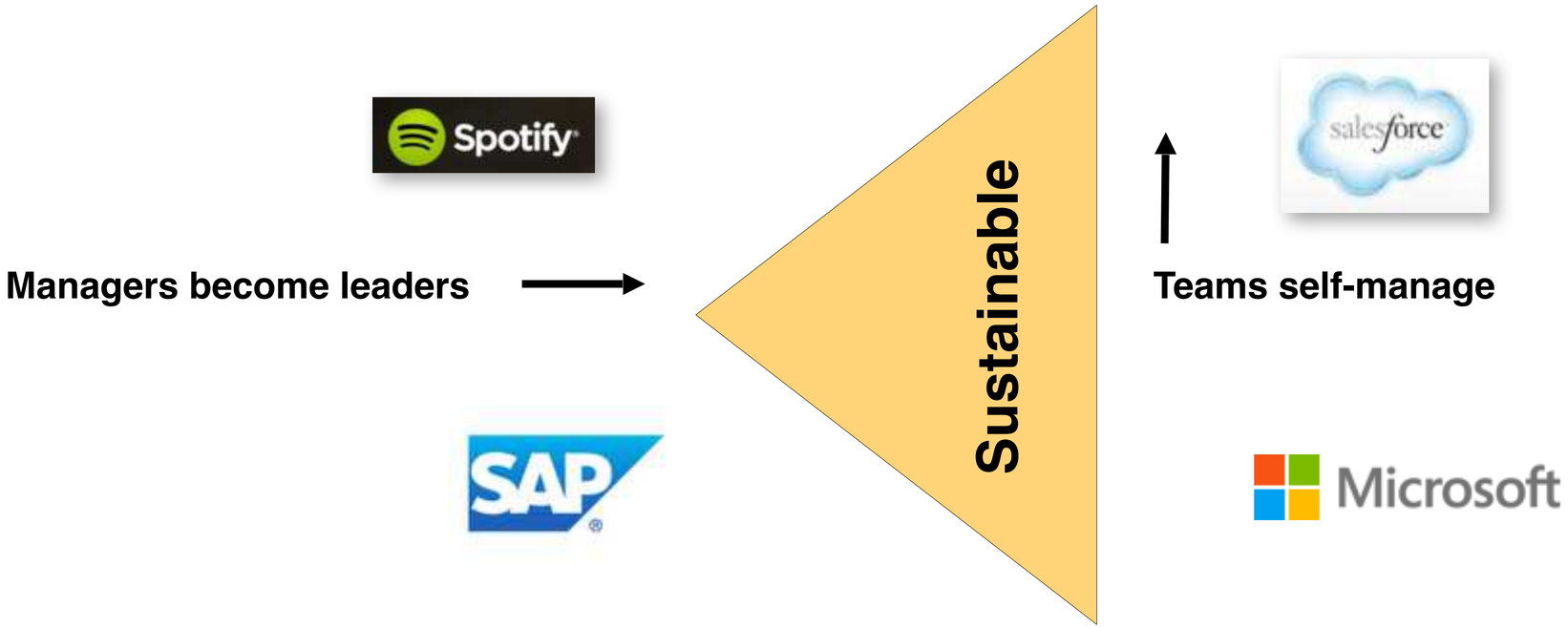
scruminc.

- **Velocity of all teams up 200% across the board in 2 months.**
- **Peak Velocity was up 7.2x in 16 months.**
- **Employee engagement & management effectiveness up over more than 69% (from the bottom 1/3 to the top 1%)**

Data published on SAFe website http://scaledagileframework.com/john-deere/

Agile - Ha State
CEO changes management roles

- Management coaches the teams to self-organize and self-manage. Managers become leaders.
- Teams self-form against a prioritized backlog to maximize production.
- Leaders create virtual teams that drive communities of practice across company.
- Leadership refactors the organization - target is minimum 200-400% increase in production and reduction in time to market



Managers become Leaders

- Provide challenging prioritized goals for the teams
- Eliminate organizational debt
  - Create a business plan/organization that works
  - Provide all resources the teams need
- Identify and remove impediments for the teams
  - Assure teams are set up to maximize velocity
  - Remove waste - eliminate technical debt
- Hold Product Owners accountable for value delivered per point
- Hold Scrum Masters accountable for process improvement and team happiness
- Hold Development Teams accountable for quality increase and technical debt remediation


Virtual Reality Meets Scrum: How a Senior Team Moved from Management to Leadership

pp-1-7

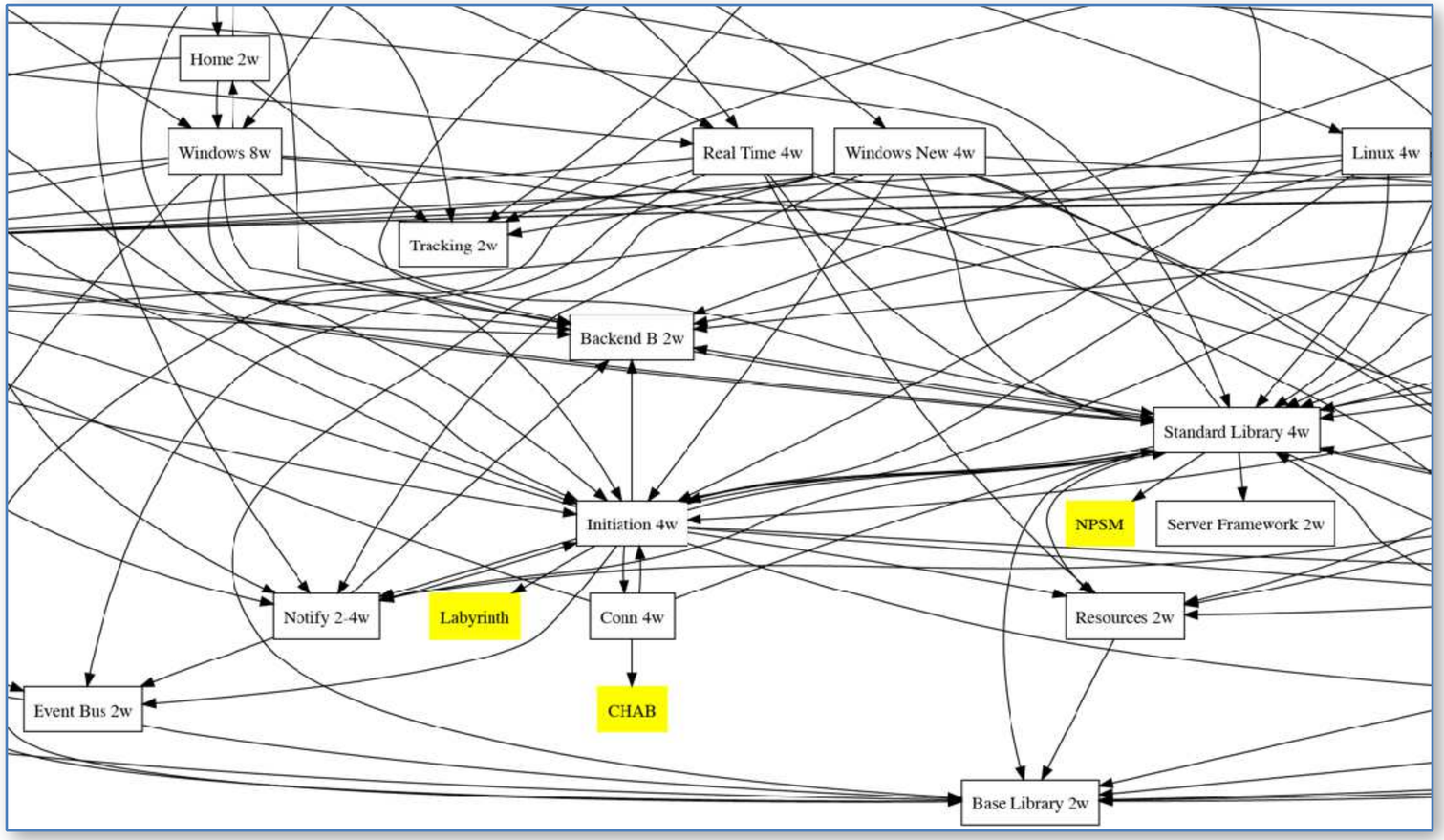
Found in 2011 44th Hawaii International Conference on System Sciences

By *Dina Friis, Jens Ostergaard, Jeff Sutherland*

Issue Date: *2011-12*

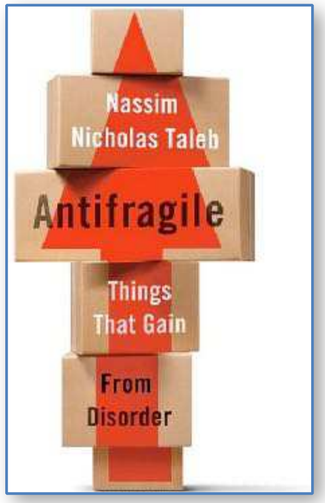
The role of managers in a Scrum organization is a topic of high interest with almost no research. Changes in management roles and behaviors were evaluated in a rapidly growing, social entertainment and gaming company in Finland. Sulake introduced Scr.....

Generative Organization Can Deal With Organizational Debt

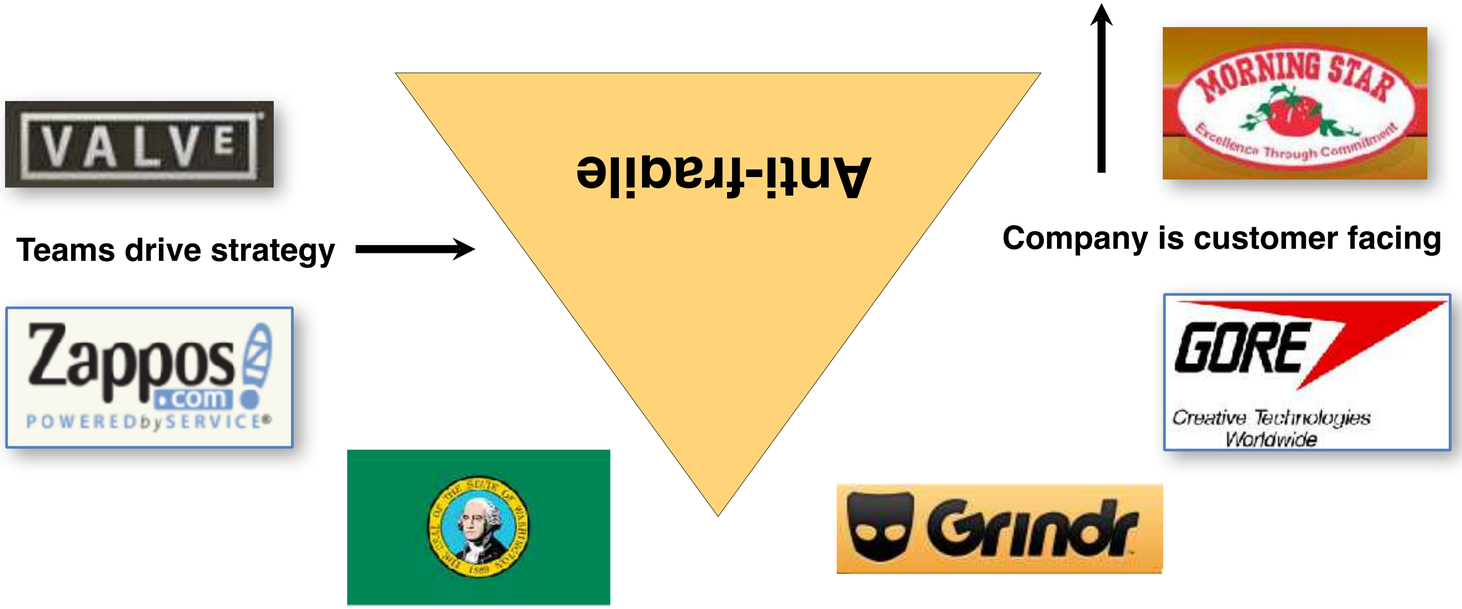


Agile Enterprise Metrics - 2015 48th Hawaii International Conference on System Sciences
Daniel R Greening, Senex Rex
dan@senexrex.com

Anti-Fragile - Ri State
The Leading Edge of Organizational Development

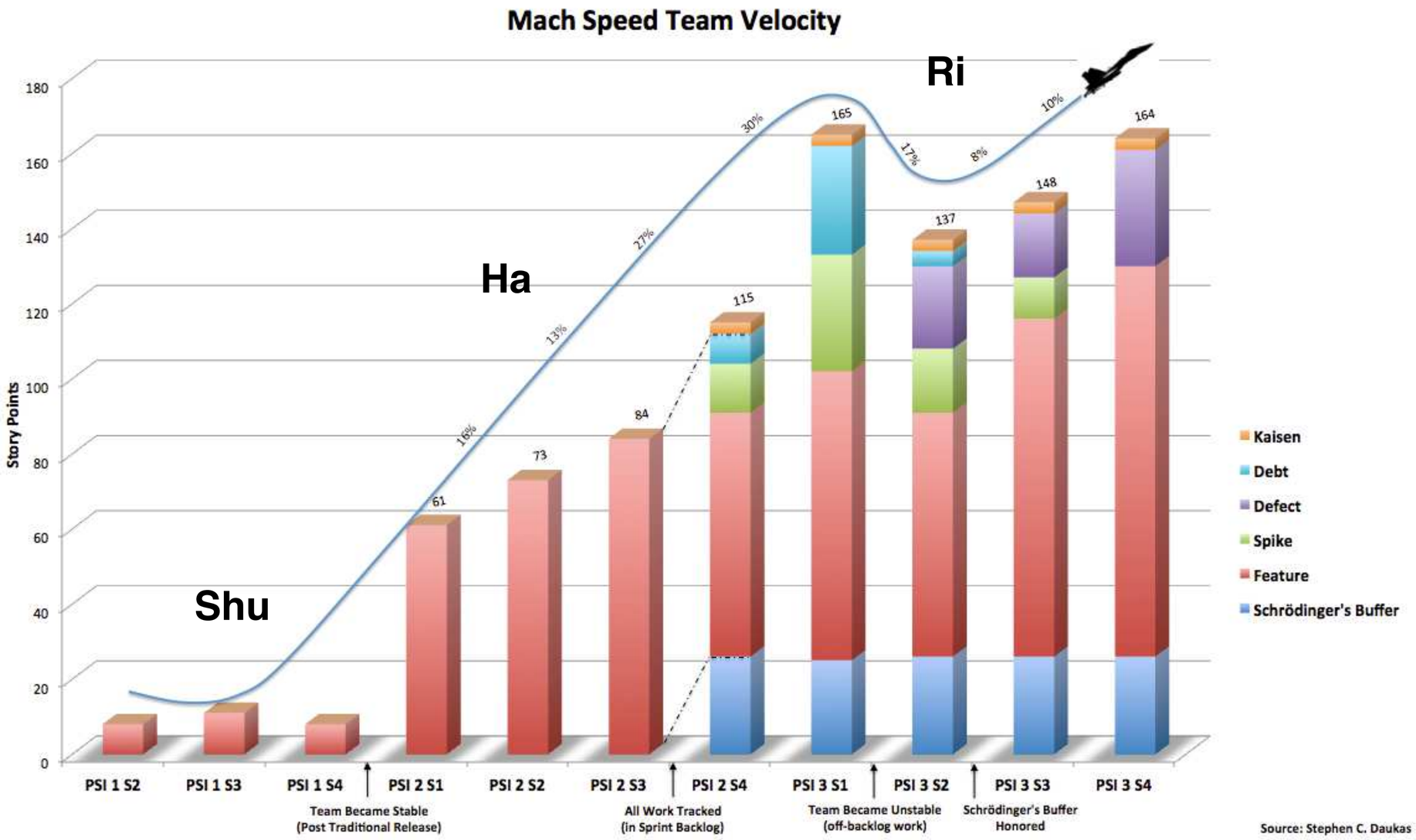


- Hierarchy still exists but becomes competency based and enabling
- Teams self-organize product direction and refactor the organization
- Leadership supports wherever their skills are needed
- Swarming makes organization stronger under stress and can generate 500-100% increase in production

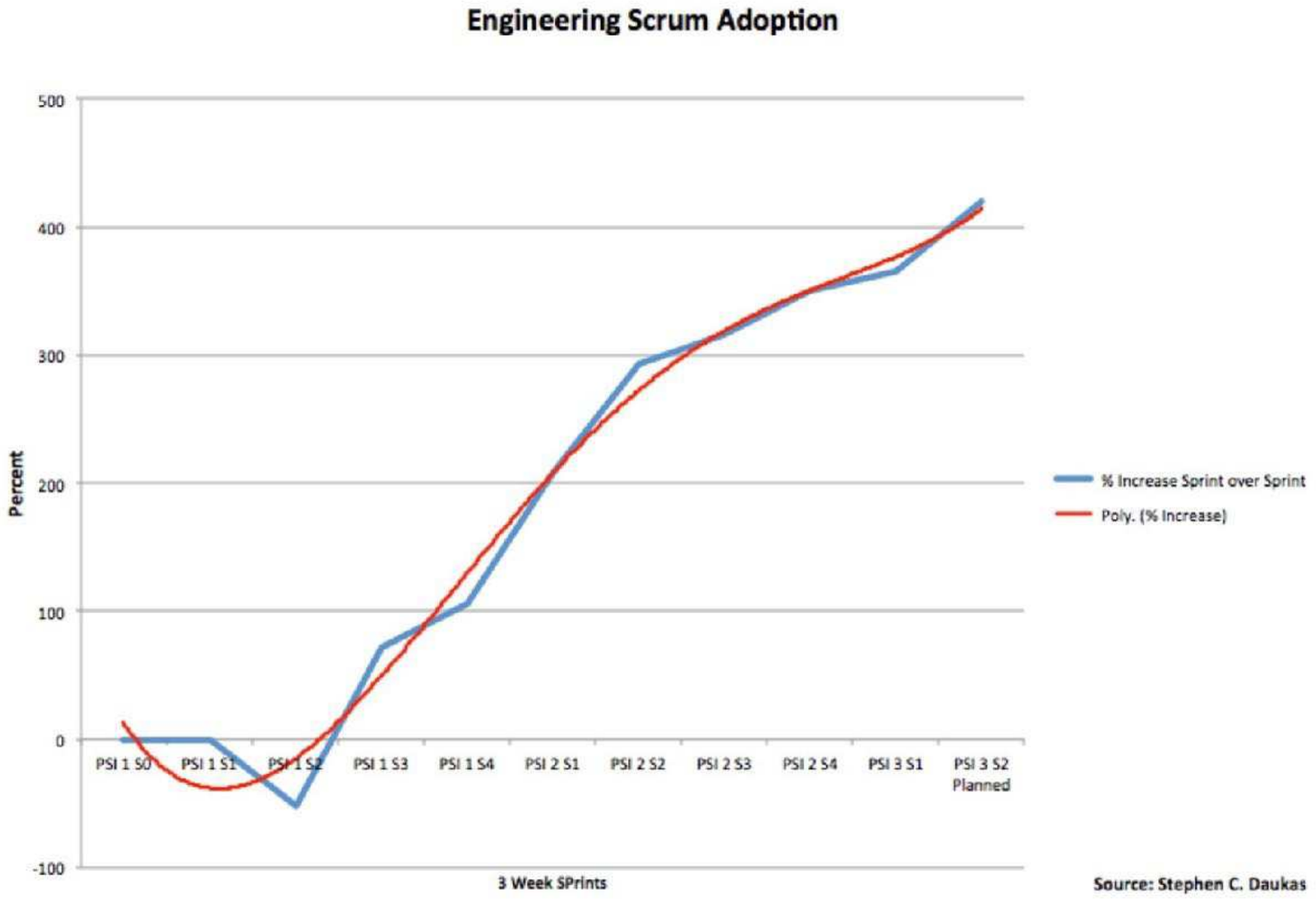


Descale the Organization First

Evolving Scrum



9 Teams, 10 3-Week Sprints



Why "Agile" ?

SimpliVity experience:

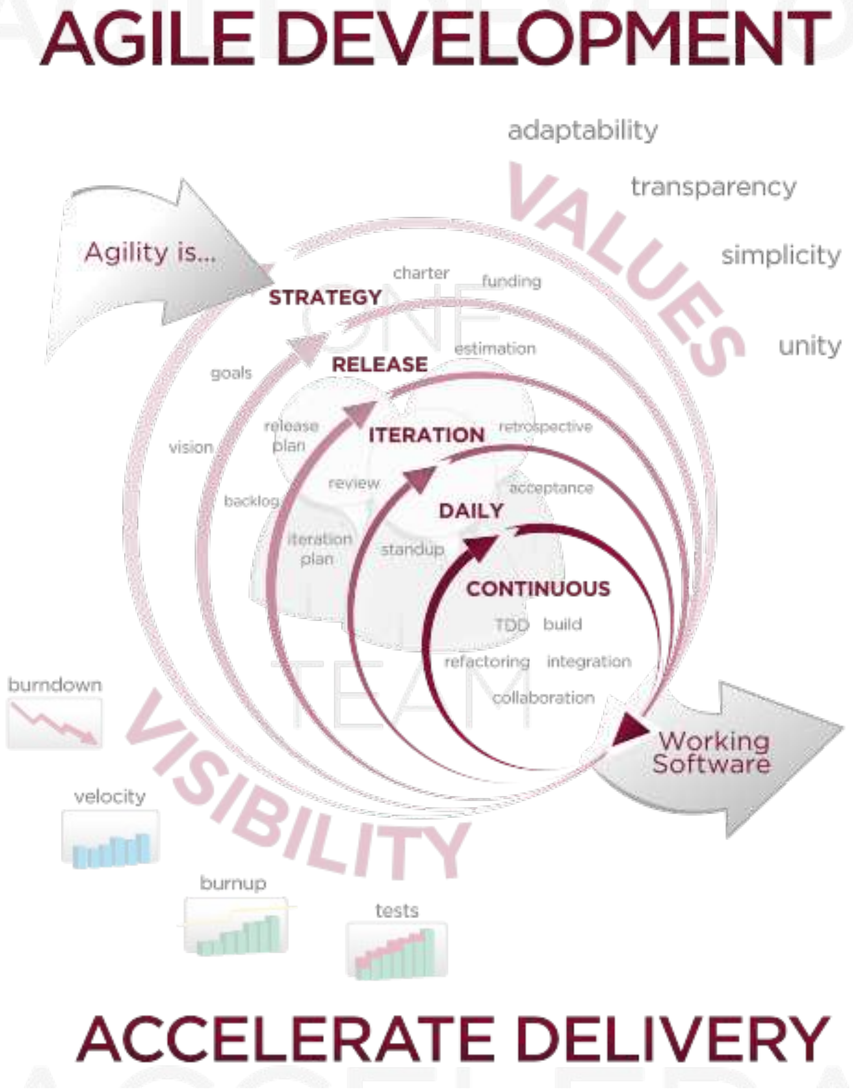
Cycle Time ↓ 87% in 18 months (~24m to 3 m)

Last 4 releases on time:

- Himalayas
- 2016 Q2 Himalayas PSI
- Half Dome
- Q3 PSI

Team survey-based feedback: We have much improved along the following dimensions:

- Our ability to continuously deliver working software to our customers every few months
- The level of collaboration with product management
- The amount of continuous improvement, through PARs/Retrospectives/etc.
- Our ability to respond to changing requirements
- The amount of productive face-to face conversations



Faster, Cooler, Cheaper

- **Scrum@Scale** team is equivalent to 5 Scrum teams
- **Faster** - only takes a few sprints to boot up
- **Cooler**
  - Product Owner is removing technical debt
  - Points are allocated to innovation
  - Teams are more motivated to produce better product
- **Cheaper**
  - Product is produced at 20% of the cost of competitors products.

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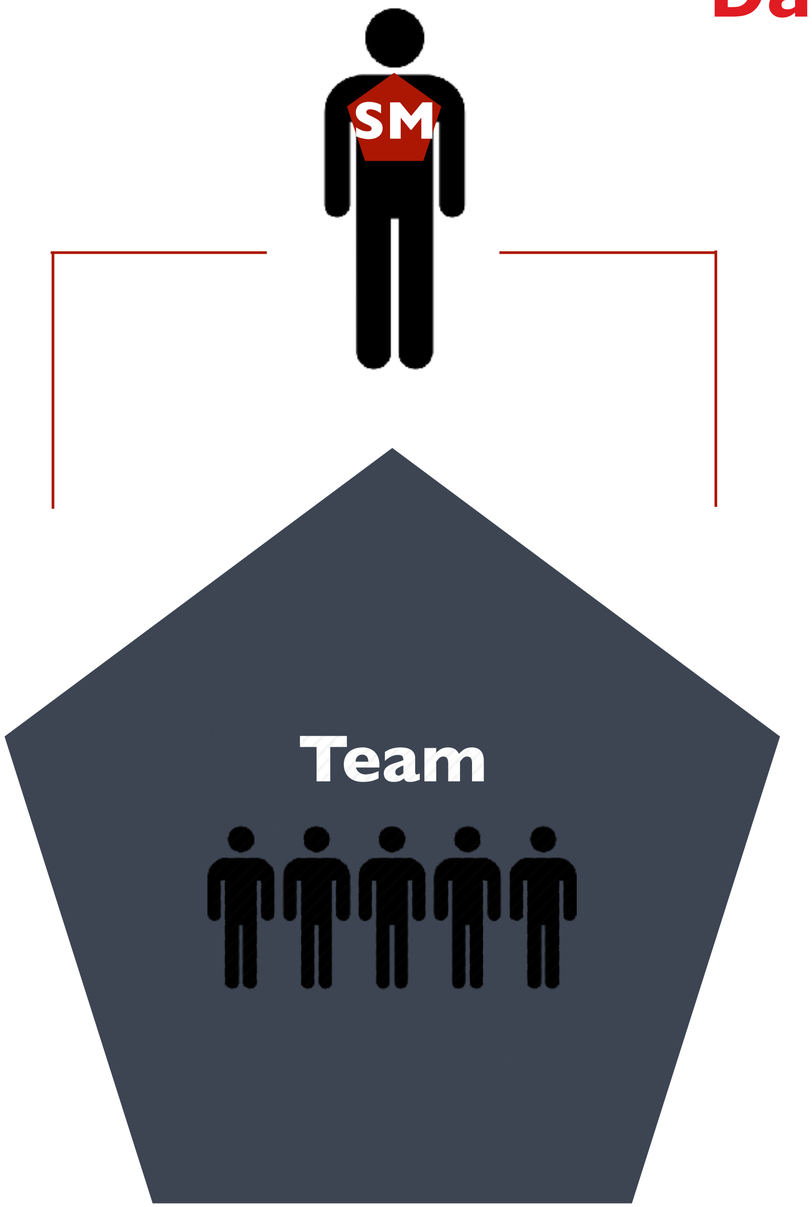
Scrum@Scale

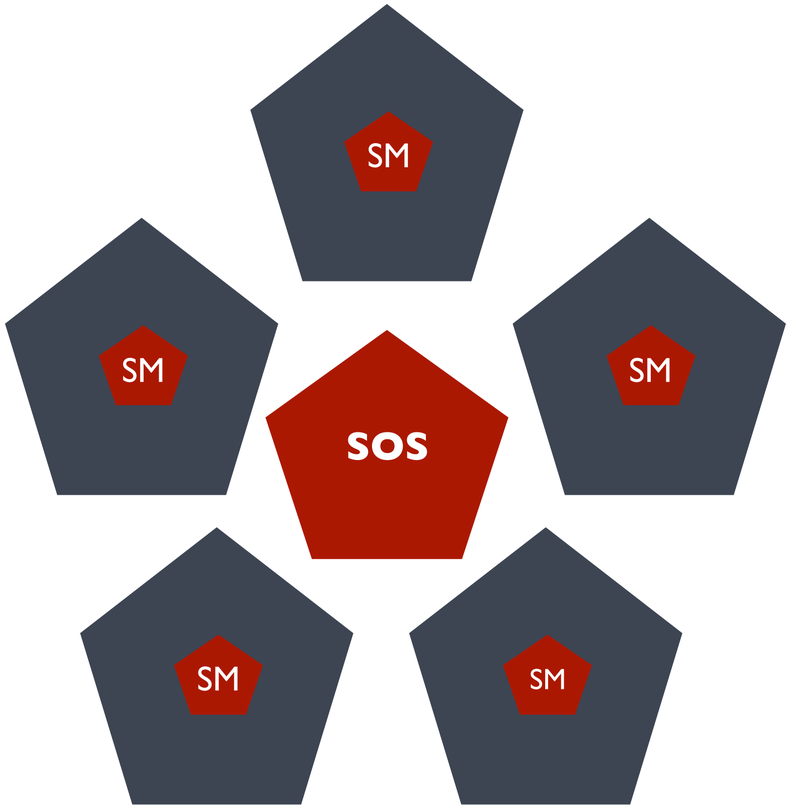
Theory of Transformation

Single Team Scrum
Daily Scrum



- **SM - Protects The Team**
- Visualizes progress, impediments, burn down
- Servant leader.
- Complete Responsibility Through Trust
- Coaches the Team & Product Owner in Scrum.
- Implements the values of the Agile Manifesto.
- Facilitates Scrum ceremonies.
- Ensures work & impediments are made visible.
- Maintains external radiators of team progress.
- Encourages openness & transparency.
- Identifies and ensures impediments are resolved.
- Promotes Kaizen thinking and waste reduction.

Scaled Scrum Level 1 - 5 Teams of 5
Scrum-of-Scrums



- **Scrum of Scrums Scales the SM**
- Surfaces & Removes Impediments
- Mirrors Daily Scrum
- Limits Communication Pathways
- Achieves Communication Saturation
- Cross-Team Coordination

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Scaled Scrum Level 2 - 25 Teams of 5
Scrum-of-Scrums-of Scrums

- **Scrum of Scrums of Scrums**
- Surfaces & Removes Impediments
- Mirrors Daily Scrum
- Limits Communication Pathways
- Increases Communication Saturation
- Cross-Team Coordination
- Surfaces Impediments

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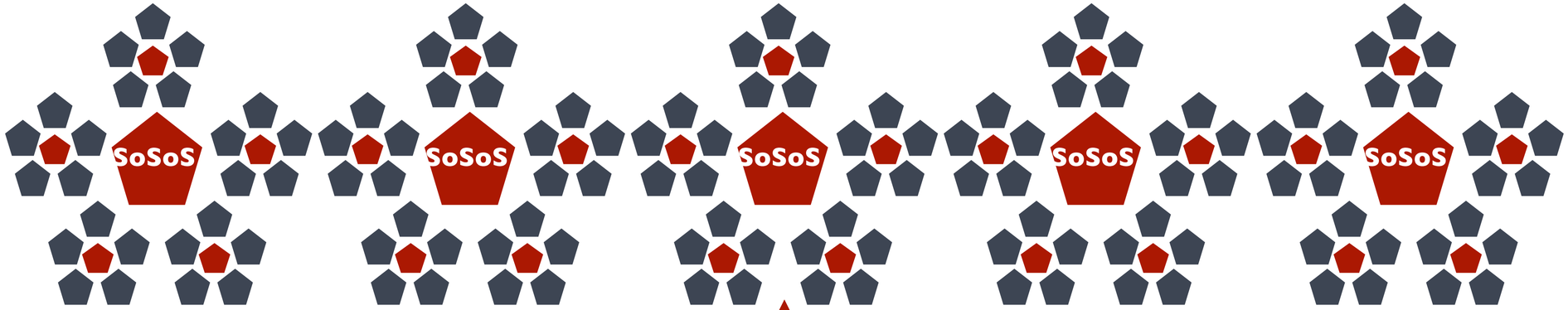
Scaled Scrum Level 3 - 125 Teams of 5
Executive Action Team



- EAT - Eats Impediments
- Surfaces & Removes Impediments
- Mirrors Daily Scrum
- Limits Communication Pathways
  - (300 vs. 195,000)

- Increases Communication Saturation
- Cross-Team Coordination
- 125 People Coordinate in 60 min.

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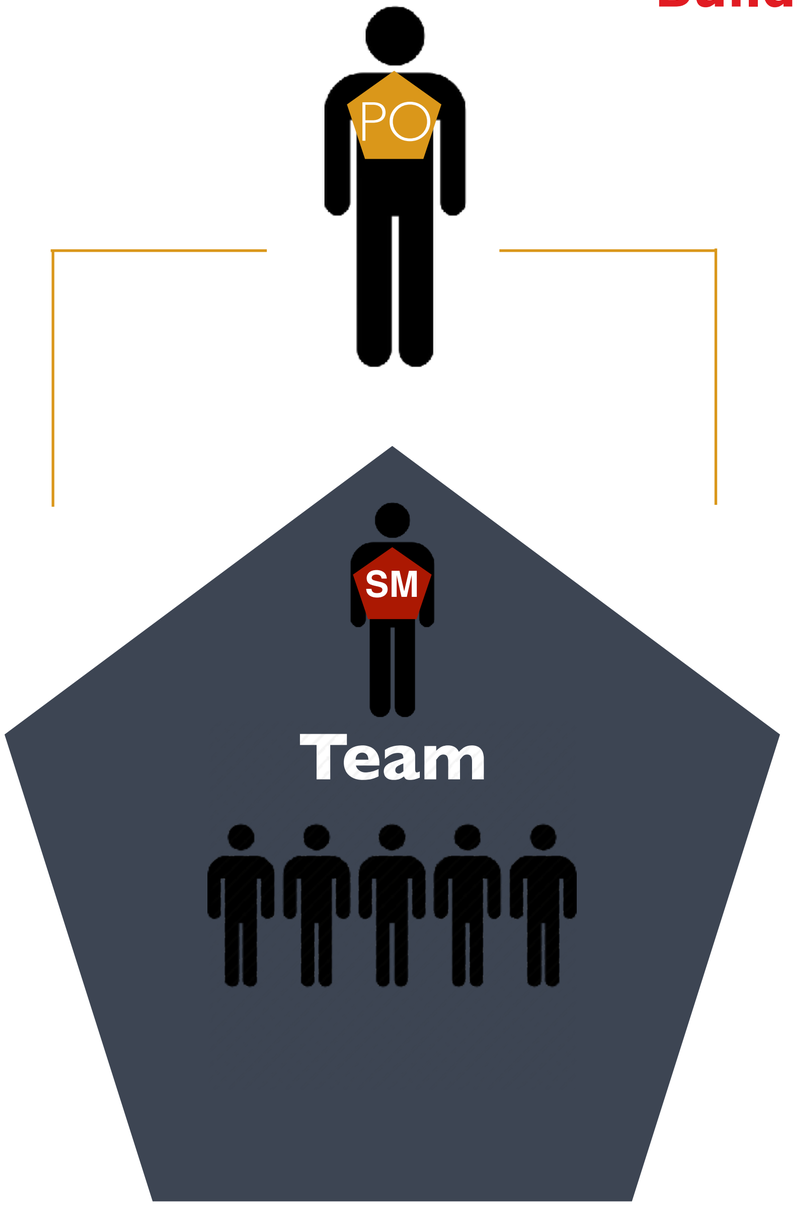
Scaling the PO

The Team PO

Builds, Refines, Plans



- PO - **Sets Team Priorities**
- Servant Leader
- 50% w/ Customer, 50% w/ Team
- Single Backlog
  - **Stories**
  - **Epics**
- What not How
- Systems Thinking - Oversees the Whole
- Sometimes referred to as Line PO
- Complete Responsibility Through Trust
- Known-Stable-Interface to the Enterprise

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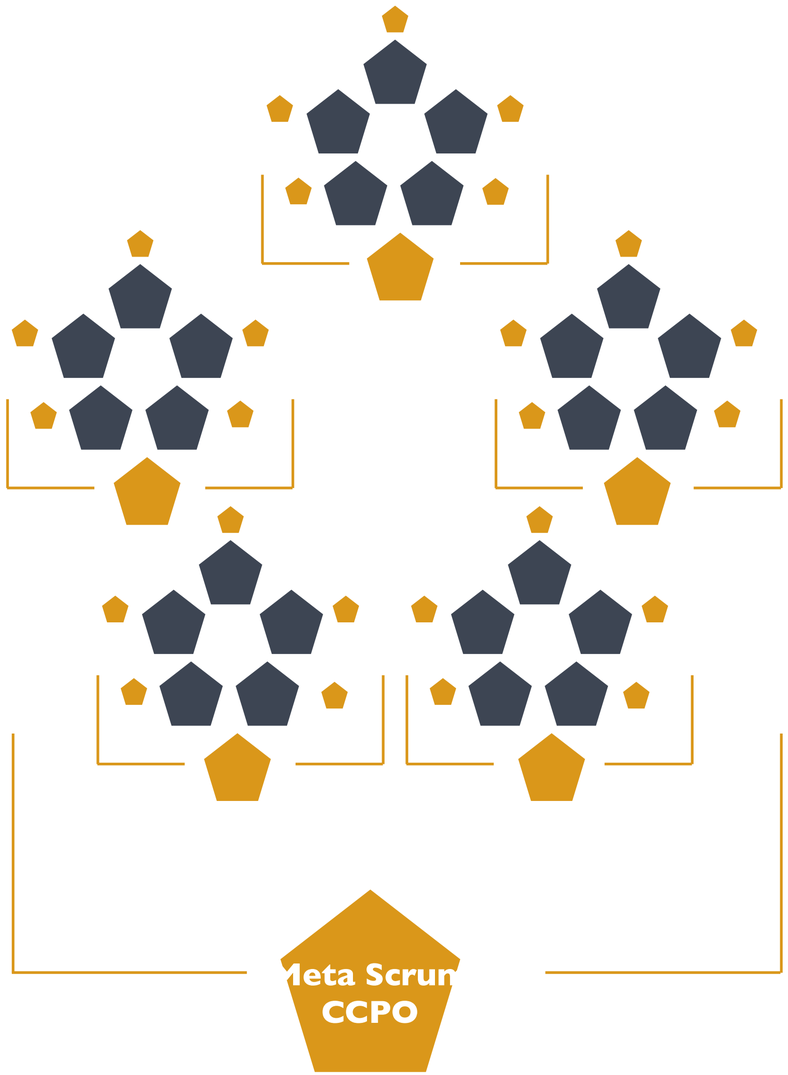
Meta Scrum at 1 Level

Aligns, Refines, Plans

- **Sets Priorities for MultipleTeam**
- Mirrors Refinement and Planning
- Single Backlog Pulled by Line POs
  - **Epics**
  - **Features**
- Cross-Team Coordination & Alignment
- Systems Thinking - Oversees the Whole
- Level 3 PO - Servant Leader

Meta Scrum at Level 2

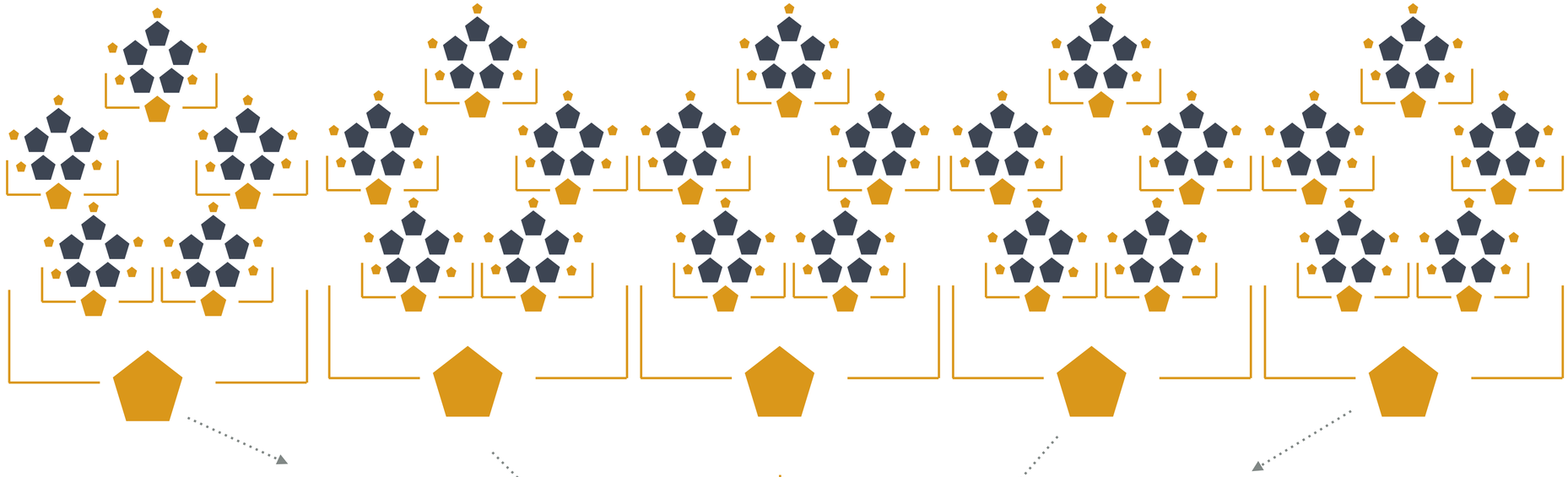
Aligns, Decomposes, Refines



- **Sets Priorities for MultipleTeam**
- Mirrors Refinement and Planning
- Single Backlog Pulled by Level 3 POs
  - **Features**
  - **Value Streams**
- Cross-Team Coordination & Alignment
- Systems Thinking - Oversees the Whole
- Level 2PO - Servant Leader

Executive Meta Scrum

Aligns and Sets Strategic Priorities for the Organization



- Owns Organizational Vision
- Lead by the Level 1 PO
  - Servant Leader
  - CEO
  - SVP
- Single Backlog Pulled by Level 2 PO
  - Value Streams
  - Initiatives
- Sets Organizational Priorities

Executive Meta Scrum*

- Inhales Technical Priorities
- Exhales Organizational Priorities
- Mirrors Refinement & Planning

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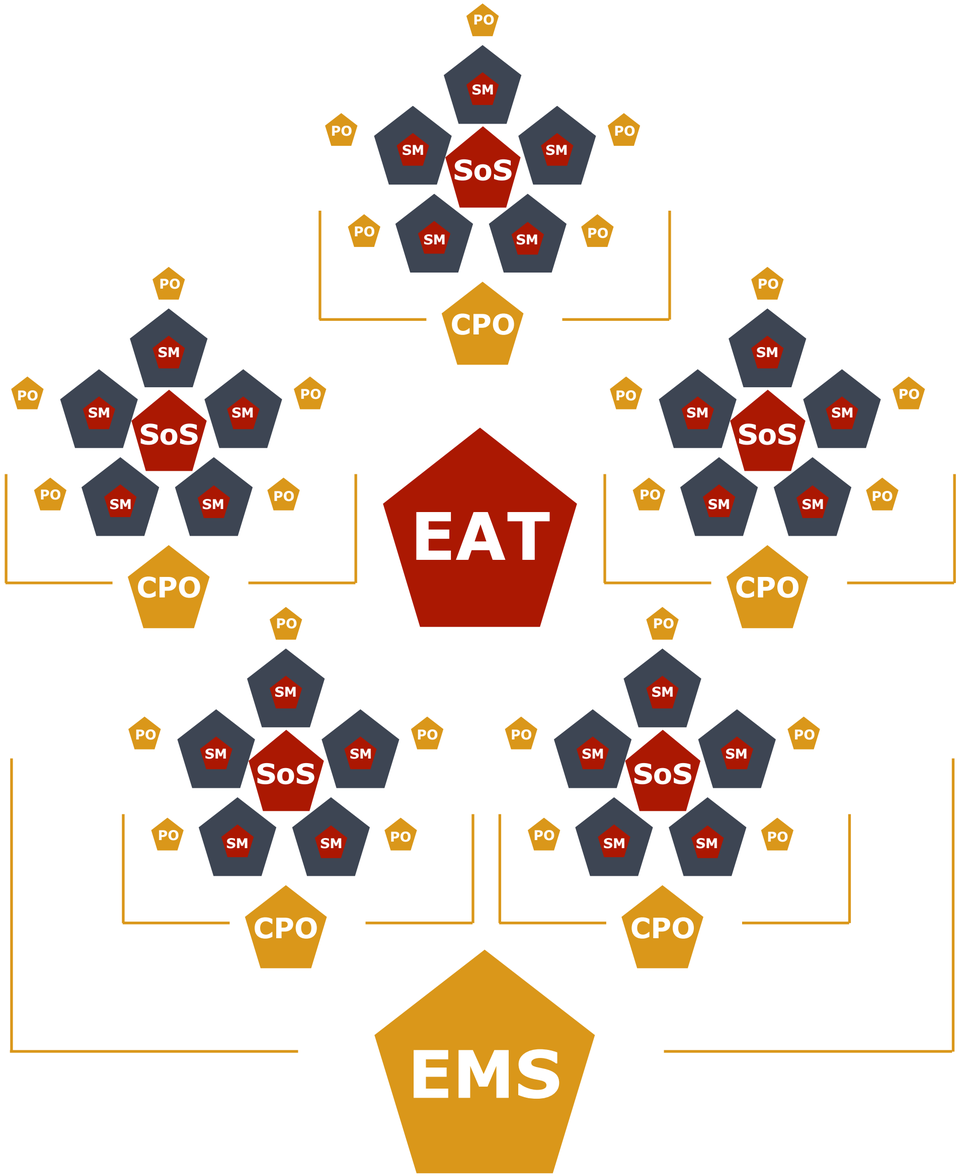
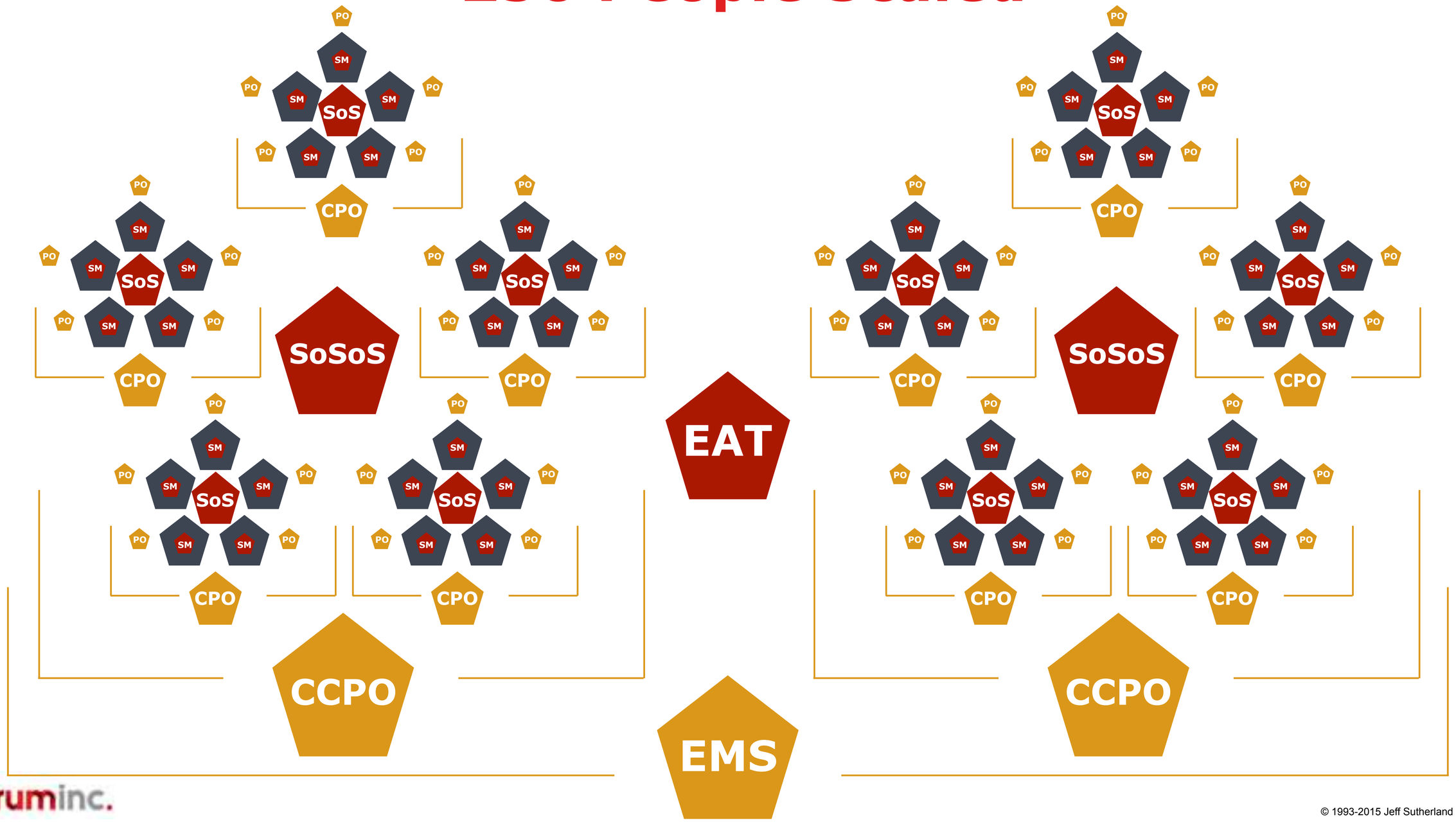
Scrum@
Very Large Scale

125 People Scaled



250 People Scaled



SAAB Defense - 5000 people scaled

- 8:30 Executive Action Team
- 8:15 Scrum of Scrum of Scrum of Scrums
- 8:00 Scrum of Scrum of Scrums
- 7:45 Scrum of Scrums
- 7:30 Daily Scrum

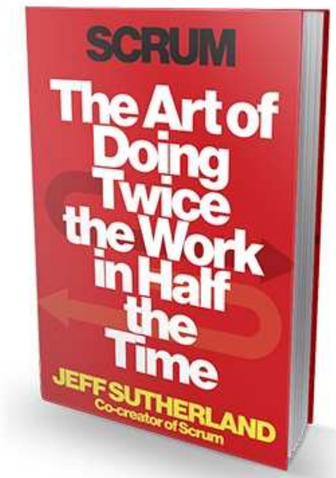
SAAB can turn a test in air within 45 minuites.

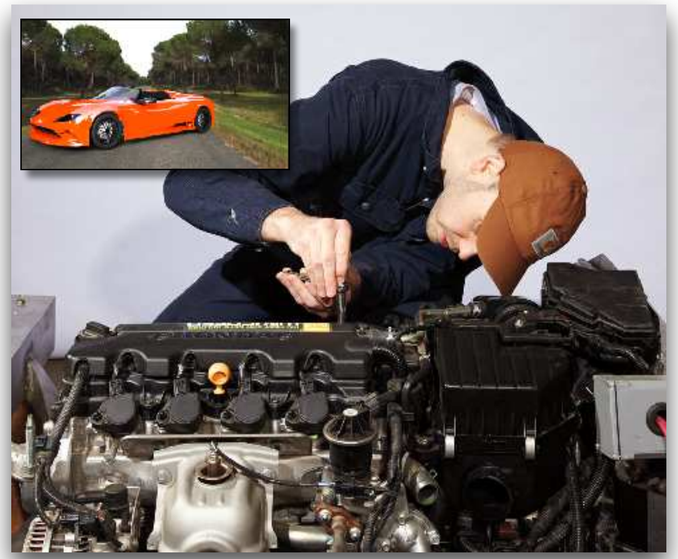
Scrum@Scale Certification

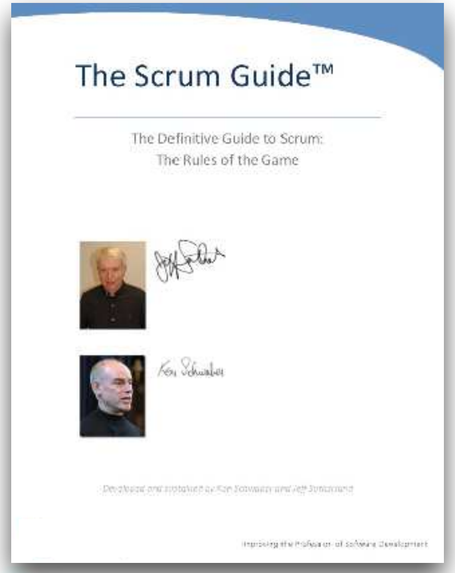
The Scrum Alliance has approved Scrum@Scale as a Continuing Education course. You can get up to 16 Scrum Education Units (SEUs) in addition to 16 Project Management Institute PDUs by participating in a two day course.

The Scrum@Scale framework is a minimal extension of the core Scrum framework created at Scrum Inc. that allows you to scale a Scrum implementation tailored to the unique needs of your company without introducing anti-Scrum patterns or unnecessary waste. For example, Scrum@Scale can help you implement the Spotify model or improve your SAFe implementation and is compatible with LESS and NEXUS.

scruminc. Who We Are







A living laboratory on the cutting edge of "Enterprise Scrum"