

Continuous Deployment, and #NoEstimates, and DevOps... Oh My!



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LEAN AGILE

KANSAS CITY



#LAKC2015
@leanagilekc



Sample Tweets/Posts

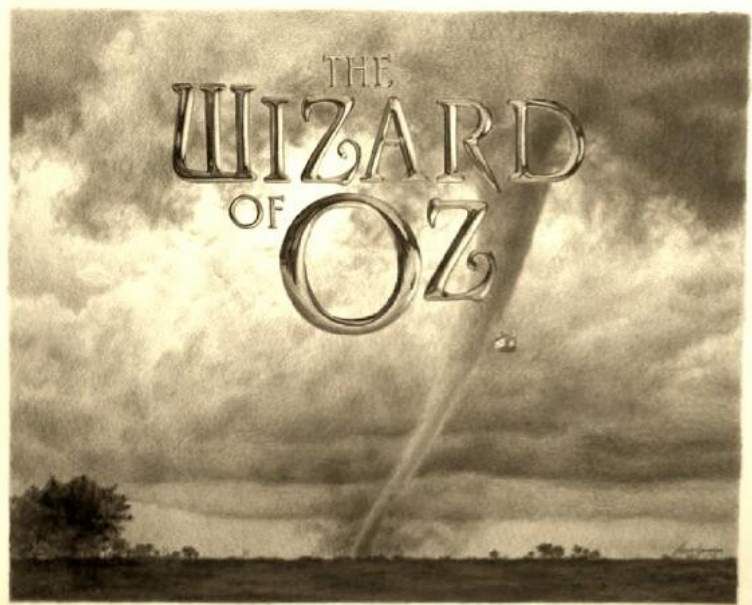
#LAKC2015 is the bomb!

Dan Vacanti Rocks #LAKC2015

Thanks #LAKC2015 Sponsors

*Great conference but who planned this
on the day of Game 1 of the World Series?
#LAKC2015 #GoRoyals*

Disruptions in IT



Welcome to the Land of “Ozile”



Ding, dong the Waterfall is dead!

Dorothy the Technologist



Glinda the Agile Coach

**“It’s always best to start at the beginning,
and all you do is
follow the yellow brick road”**



Starting the Journey

- ✓ **Shoes**
- ✓ **Road**
- ✓ **Purse**
- ✓ **Dog**
- ☐ **Map**



The Crossroads



Dorothy the New Agilist



The Scarecrow the Agile Coach

“Some people without brains do an awful lot of talking”



Using Your Brain

- Principle driven decision making
 - Agile
 - Lean
- Pragmatic Adoption
- Education
- Coaches
- Communities



AGILE HOODKC



Connect

Connect practitioners in search of Lean and Agile information for community collaboration.



Inspire

Inspire the evolution of Agile practices and techniques which enable the realization of Lean and Agile principles.



Give back

Give back to the community through the Agile clearinghouse service provided via our website, face-to-face conversations and public forums.



Foster

Foster Lean/Agile growth in the Kansas City region.



The Dark Forest



The Tin Man the Agile Coach

**“There’s Lions
and Tigers and
Bears ...”**



Dorothy the Practicing Agilist

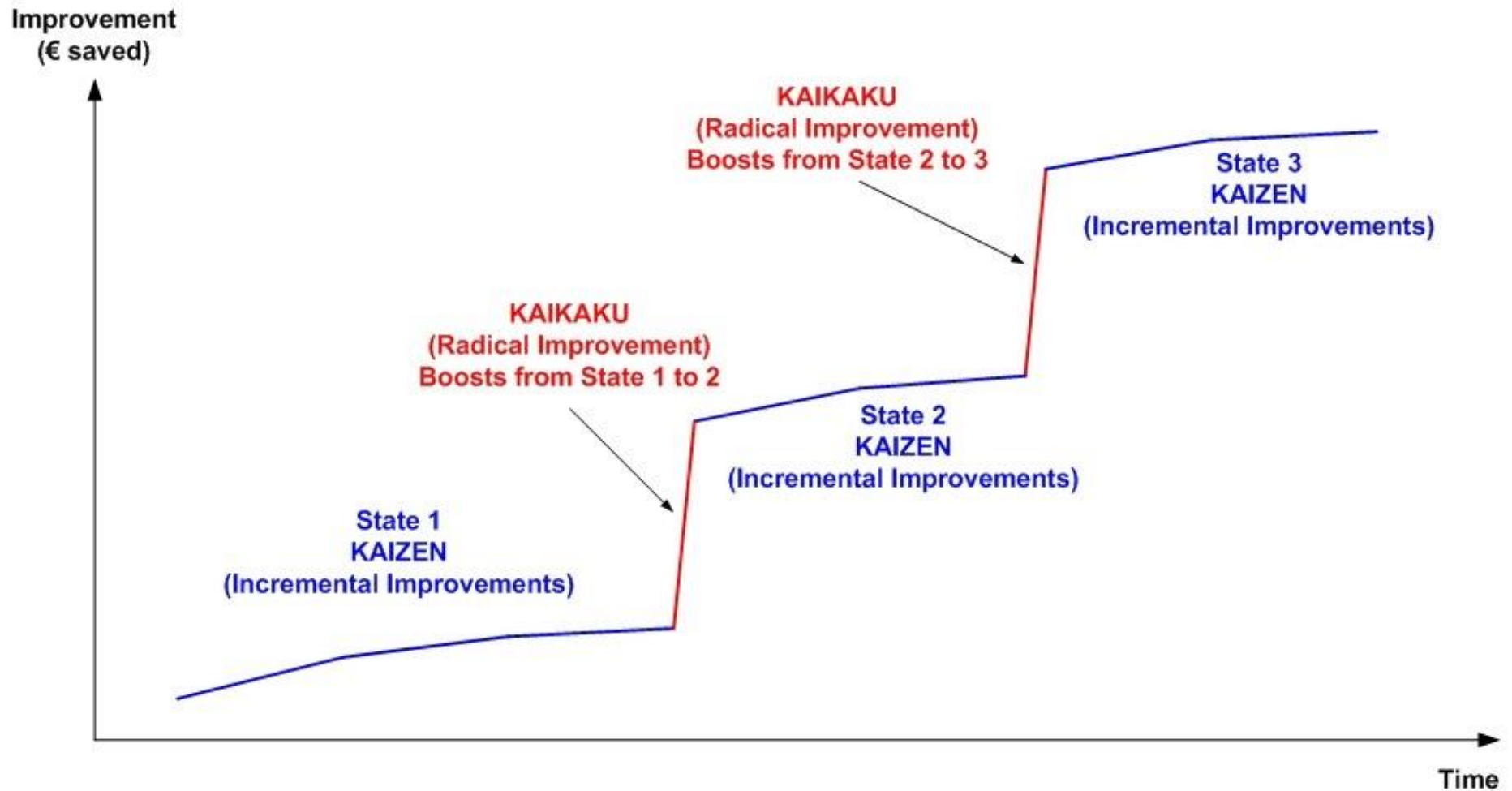


Lions, Tigers and Bears = Fear



- Fear is driven by the unknown (a.k.a. Change)
 - Exacerbated when the unknown has a viable potential to harm or destroy
- Reactions
 - Fight, Flight or Freeze

Kaikaku and Kaizen



Eastman Kodak – A Cautionary Tale

- Invented the first digital camera in 1975
- Didn't pursue it until mid-90s as they wanted to protect their physical film sales and processing business
- Fortune 500 ranking
 - #30 in 1980
 - #28 in 1985
 - #18 in 1990
 - #43 in 1995
 - #124 in 2000
 - #153 in 2005
 - #966 in 2010
- Removed from S&P 500 in 2010
- Chapter 11 in 2012



DevOps – What are we afraid of?



The Cowardly Lion the Agile Coach



Courage

- Trainers work with **deep respect** to the animals
 - The power and danger of the animal has not changed
 - Learn to read the animal to know when it is safe



'You can usually train a wild animal but never tame a wild animal, ever.'
Jack Hanna



Training a Lion

- Deep respect
 - Repetition
 - Trust
 - Encouragement
- Operant Conditioning
 - Cue → Action → Reward



The Wizard of Oz the Agile Coach

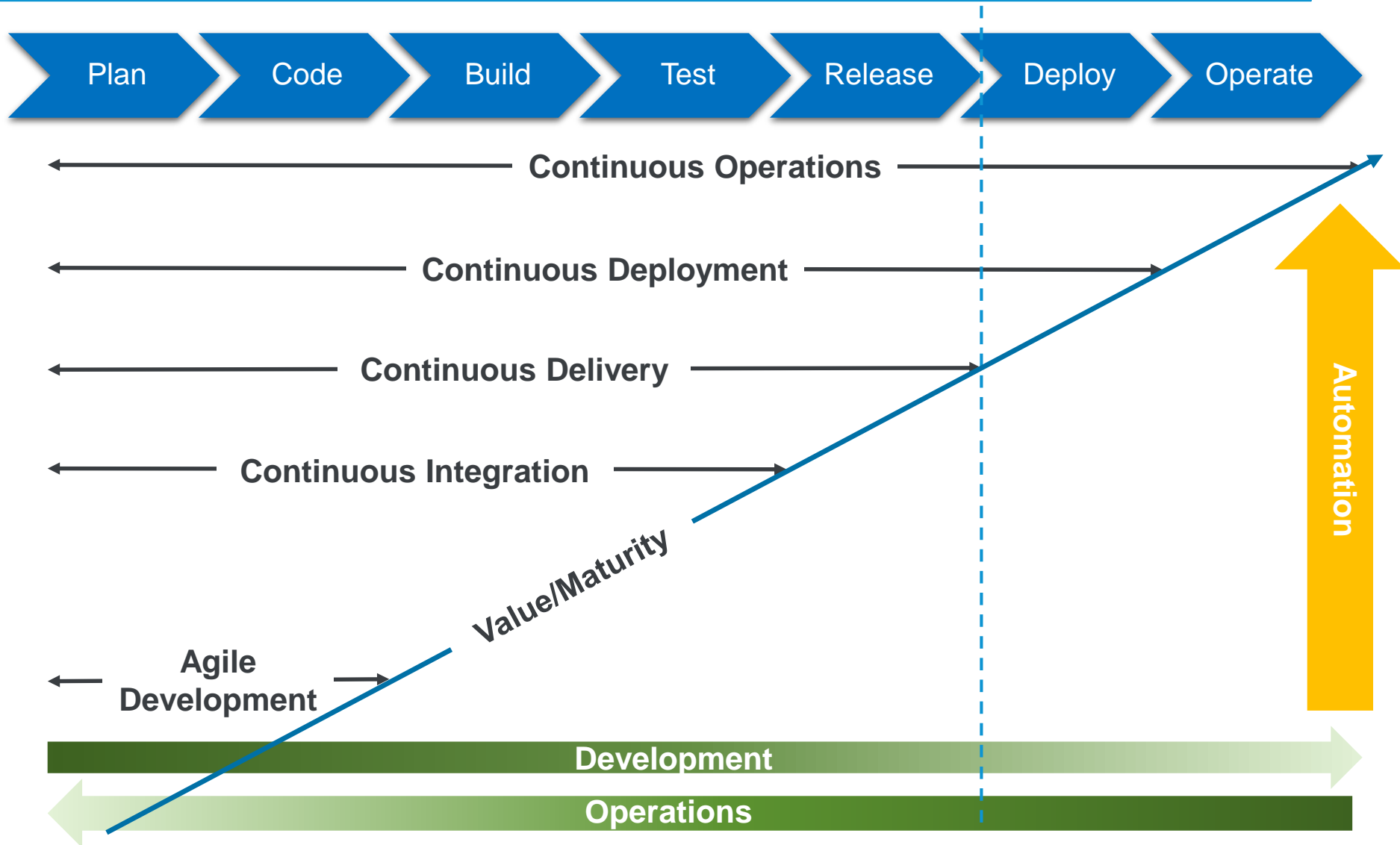
“True courage is in facing danger when you are afraid, and that kind of courage you have in plenty”



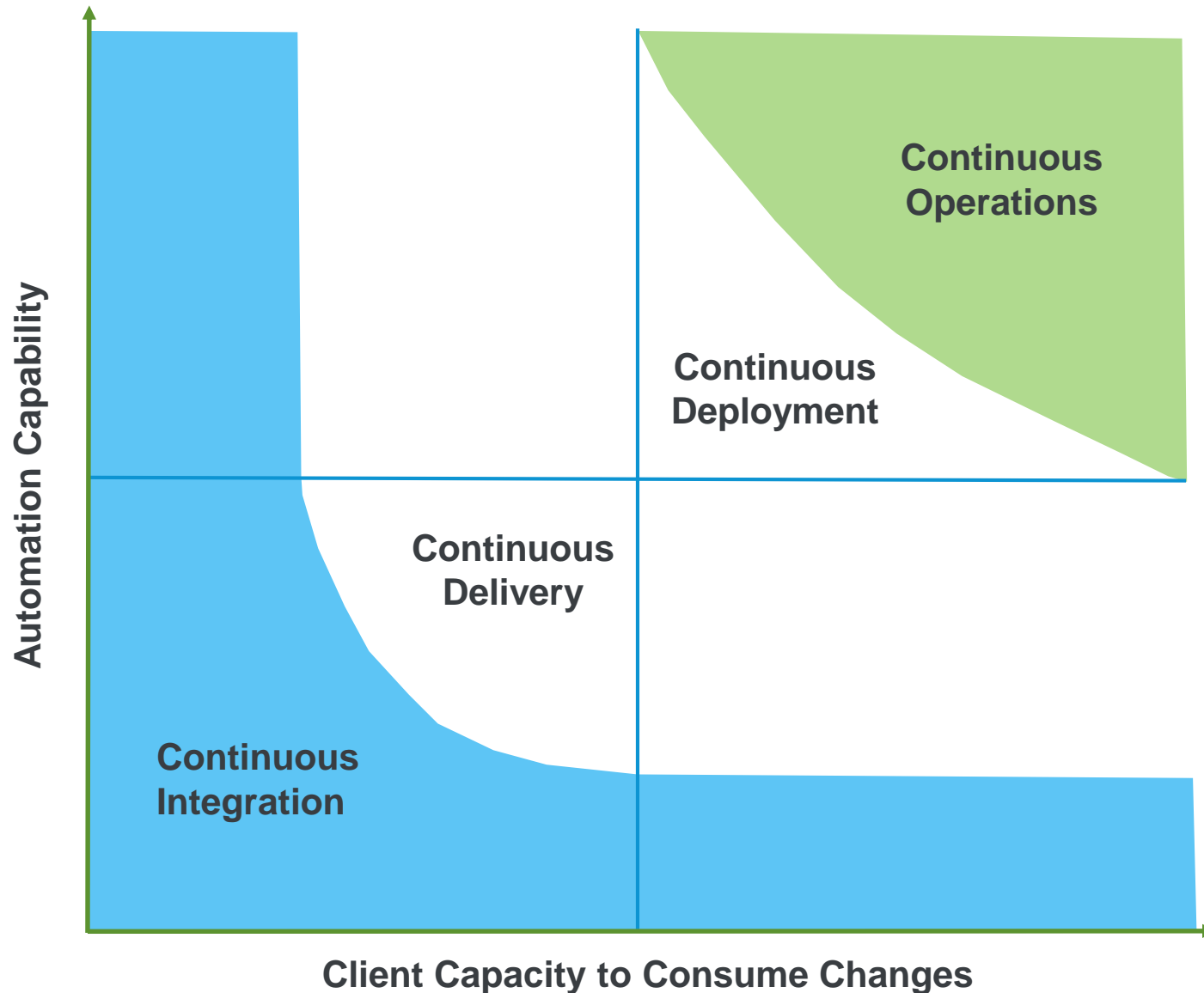
Training the DevOps Lion

1. Define your purpose – “The Why”
2. Create a DevOps strategy
 - Will vary based on market and technology
 - Cost/Benefit Analysis
3. Allow for learning – Respect
 - Repetition
 - Trust
 - Encouragement
4. Plan to mature/evolve
 - Crawl, walk, run
 - Rate limiting factors
 - Organizational change tolerance
 - Scale
 - Cost/Benefit results

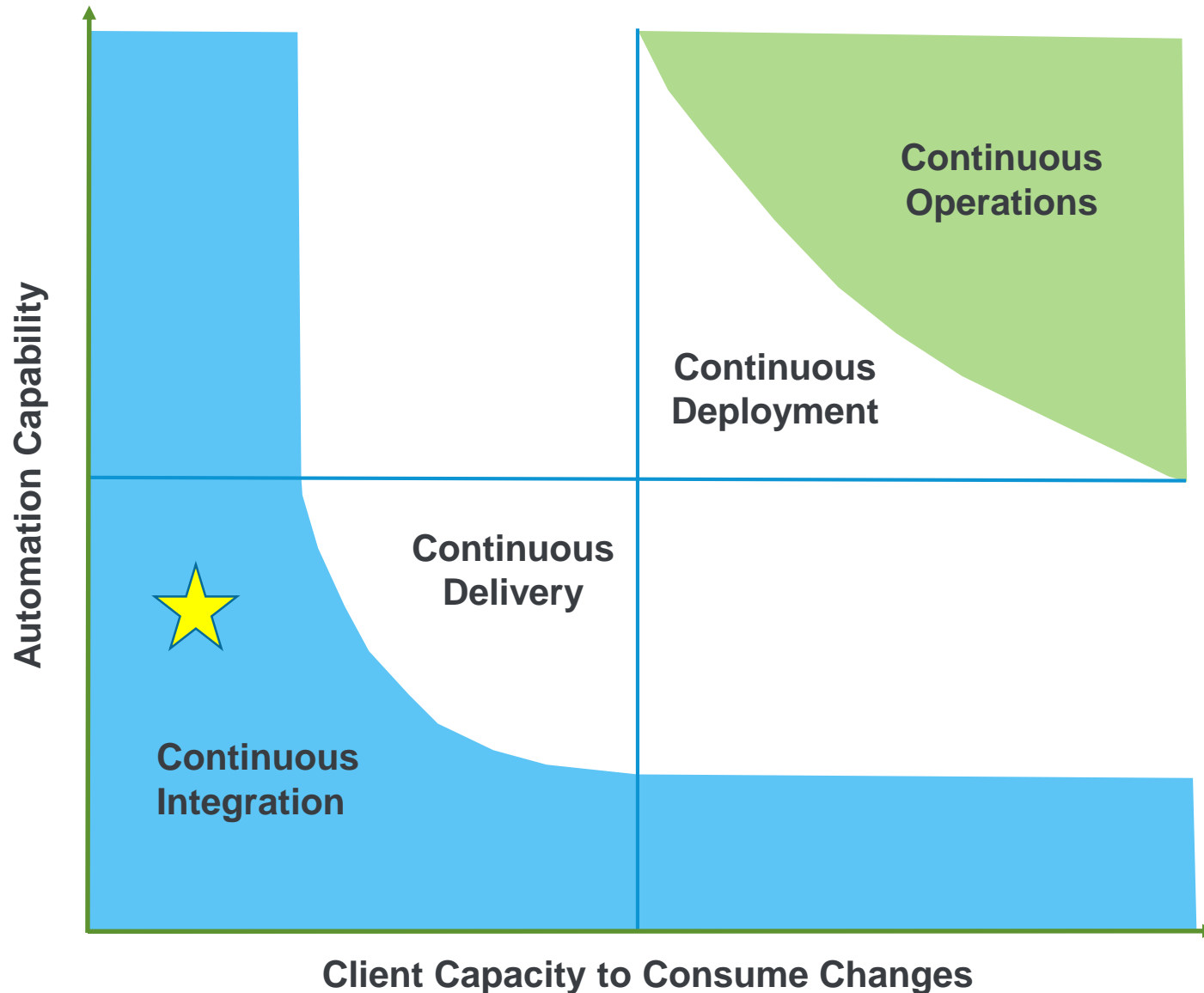
DevOps Maturity Model



DevOps Maturity Strategy



DevOps Maturity Assessment



Automation Considerations

- Automated Code Testing
 - Unit
 - Component
 - Integration/Services
 - Regression
 - Deployment
- Service Virtualization
- Test Data Management
- Orchestration
- Environment Automation
 - Provisioning
 - Virtual
 - Physical
 - Reclaim
 - Operations/Maintenance (including patching)



Automation Plan

1. Have a plan, don't just automate
 - Leads to disconnected tools and excessive rework
2. Measure and Align to Business Value
 - Focus on a workflow, tech stack, etc.
 - Business value delivered = increased investment
 - Short, Mid and Long range goals
3. Iterate
 - Pilot
 - Expand pilot
 - Standardize
 - Optimize
4. People, Process and Tools/Technology
 - Will evolve with each iteration
5. Automation Teams

Glinda the Agile Coach

**“You’ve always had the power...
(You) just had to learn it for yourself”**



There's no place like ... DevOps?

Cerner's Lean Development Proficiency Checklist

GETTING STARTED

VISUALIZE THE PROCESS

- ☐ Client Value is defined
- ☐ Value Stream Process mapped and visible
- ☐ Kanban Board created
- ☐ All work items are visible (no hidden work)

LIMIT WORK IN PROCESS

- ☐ Initial WIP Limits are explicit and visible
- ☐ New work item input sources are identified

MANAGE FLOW

- ☐ Learn to interpret and use a Cumulative Flow Diagram

MAKE POLICIES EXPLICIT

- ☐ Definition of Done for each transition
- ☐ Defect management policies
- ☐ Input/Replenishment policies
- ☐ Blocked work item policies

IMPLEMENT FEEDBACK LOOPS

- ☐ Code Review
- ☐ Other reviews per the value stream
- ☐ Client Demos

IMPROVE CONTINUOUSLY

- ☐ Daily Planning (Stand-up) focused on WIP and Flow
- ☐ Retrospectives held at least monthly

DEVELOPMENT EXCELLENCE

- ☐ Defined Product Owner
- ☐ Defined Scrum Master/Agile Coach
- ☐ Defined Team
- ☐ Time or Relative Estimation Process
- ☐ Decomposition to User Stories
- ☐ Team is co-located
- ☐ Automated Unit Testing

PROFICIENT

VISUALIZE THE PROCESS

- ☐ Classes of Service added as needed
- ☐ Kanban cards refined by work item type
- ☐ All levels of Agile Planning (Vision → Daily)

LIMIT WORK IN PROCESS

- ☐ Refined WIP Limits based on flow management
- ☐ Work Authorization system is in place
 - o Owned by Product Owner

MANAGE FLOW

- ☐ Cumulative Flow Diagrams for each Class of Service
- ☐ Bottlenecks Identified and buffered
- ☐ Cross-trained associates
- ☐ Learn to interpret and use a Scatterplot
- ☐ Learn to use Monte Carlo Simulation forecasting

MAKE POLICIES EXPLICIT

- ☐ Definition of Done for each transition including Release
- ☐ Team has policies including SLAs for
 - o Expedites
 - o Classes of Service

IMPLEMENT FEEDBACK LOOPS

- ☐ Client Demos to end client
- ☐ Throughput, Cycle time and Lead time as core metrics

IMPROVE CONTINUOUSLY

- ☐ Retrospectives with posted action items
 - o Reviewed as part of Daily Planning
- ☐ Improve the Value Stream

DEVELOPMENT EXCELLENCE

- ☐ Continuous Integration
- ☐ Pair Programming
- ☐ Automated Integration Testing
- ☐ Planning of Planning/Scrum of Scrums – Program
- ☐ Relative Estimation

EXPERT

VISUALIZE THE PROCESS

- ☐ Kanban boards for connecting all levels of Agile Planning
- ☐ Extend Kanban for entire Value Stream

LIMIT WORK IN PROCESS

- ☐ Team or Pair owned work items

MANAGE FLOW

- ☐ Advanced flow tooling to create predictability
 - o Histograms, Scatterplots and Monte Carlo Simulation

MAKE POLICIES EXPLICIT

- ☐ Policies for Predictive SLAs

IMPLEMENT FEEDBACK LOOPS

- ☐ Clients included as part of work item decomposition and prioritization
- ☐ Mean Time to Feedback as a core metric for process and sub process performance
- ☐ Profitability/Value of Throughput as a core metric

IMPROVE CONTINUOUSLY

- ☐ Predictive Analytics
 - o Ability to account for variability

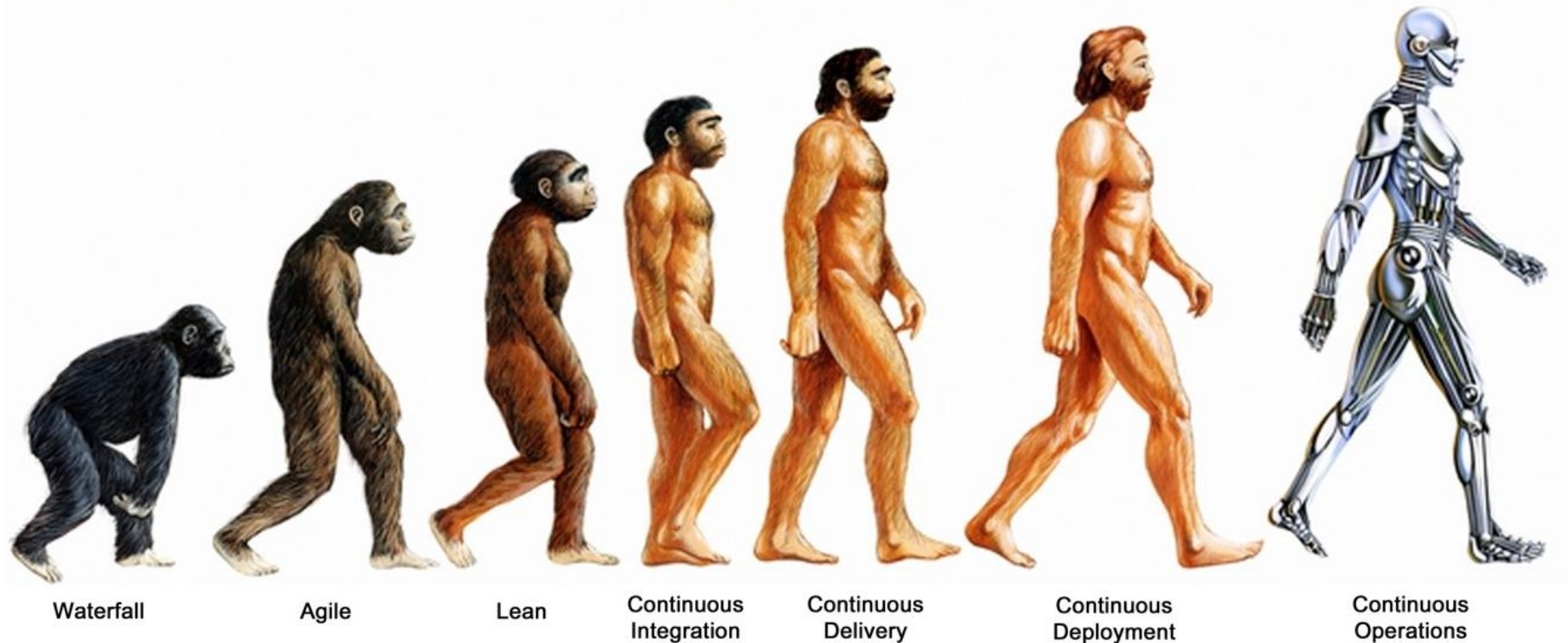
DEVELOPMENT EXCELLENCE

- ☐ Continuous Delivery or Continuous Deployment
- ☐ DevOps team
- ☐ Automated Deployment Testing
- ☐ Portfolio Management
- ☐ #NoEstimates

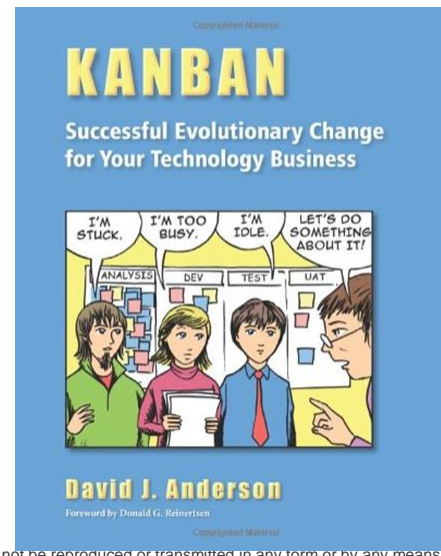
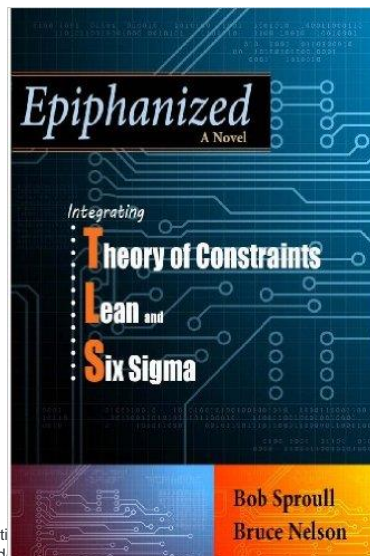
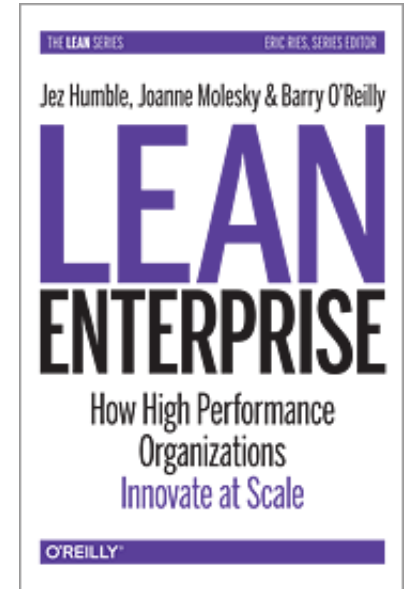
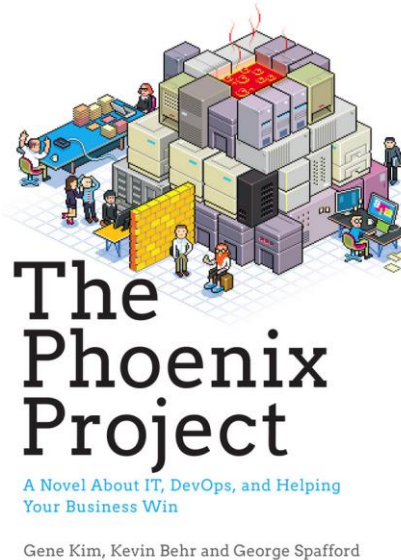
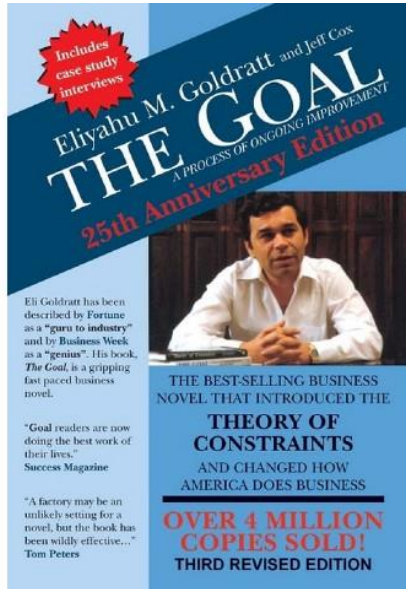
KEY PRINCIPLES

- **Value Delivery trumps Flow**
 - o Since they disrupt flow, use expedites rarely and only to deliver value
- **Flow trumps Waste Elimination**
 - o Use Buffers and Queues to prevent starving a bottleneck
- **Use Value Stream to Eliminate Waste and See the Whole**

DevOps Evolution



Additional Lean & DevOps Ideas





engineering.cerner.com

We're hiring!

Big Data
C#
Java
Python
Ruby
Web
& more!

