



VALUE STREAM MAPPING & ANALYSIS


In 5 minutes...

About Me

 John W Spangler

- Technologist for 22 years, started in Manufacturing sector leveraging TQM
 - Database/ETL, Ops Manager, .NET / Web Developer, Project/Program Manager
- Lean Six Sigma Black Belt, Certified Agile Process Owner, ITIL Expert, PMP
- Lean, Agile, ITSM, & DevOps Evangelist
- ITSM Process Architect, DaVita (Health Care/Kidney Dialysis Provider)

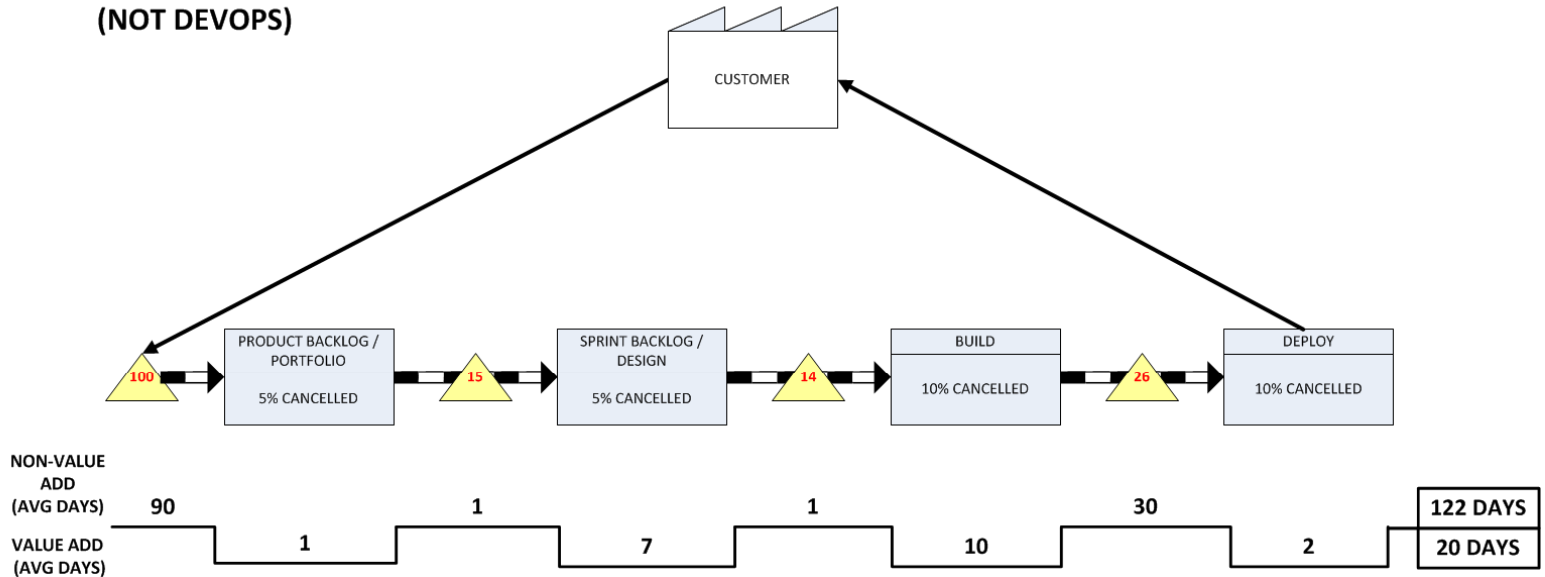
 @JWSProServices , #UnifyingIT

 UnifyingIT.net – Blog on migrating Traditional IT to Next Generation IT practices

- Additional Value Stream and other References at end of deck

What is Value Stream Mapping?

AGILE SOFTWARE TEAM EXAMPLE (NOT DEVOPS)



LEAD TIME = 142 DAYS
CYCLE TIME = 20 DAYS
PROCESS EFFICIENCY W/ PROD BACKLOG (20/122) = 16%
PROCESS EFFICIENCY W/O PROD BACKLOG (20/32) = 63%
PROCESS YIELD (95%*95%*90%*90%) = 73%

Value Stream Vocabulary (1)

- **End to End = Initial Request to Delivery**
 - “Idea / Backlog” to “Deployed”
 - “Order” to “Cash”
- **Process Activities**
- **Queues**

Value Stream Vocabulary (2)

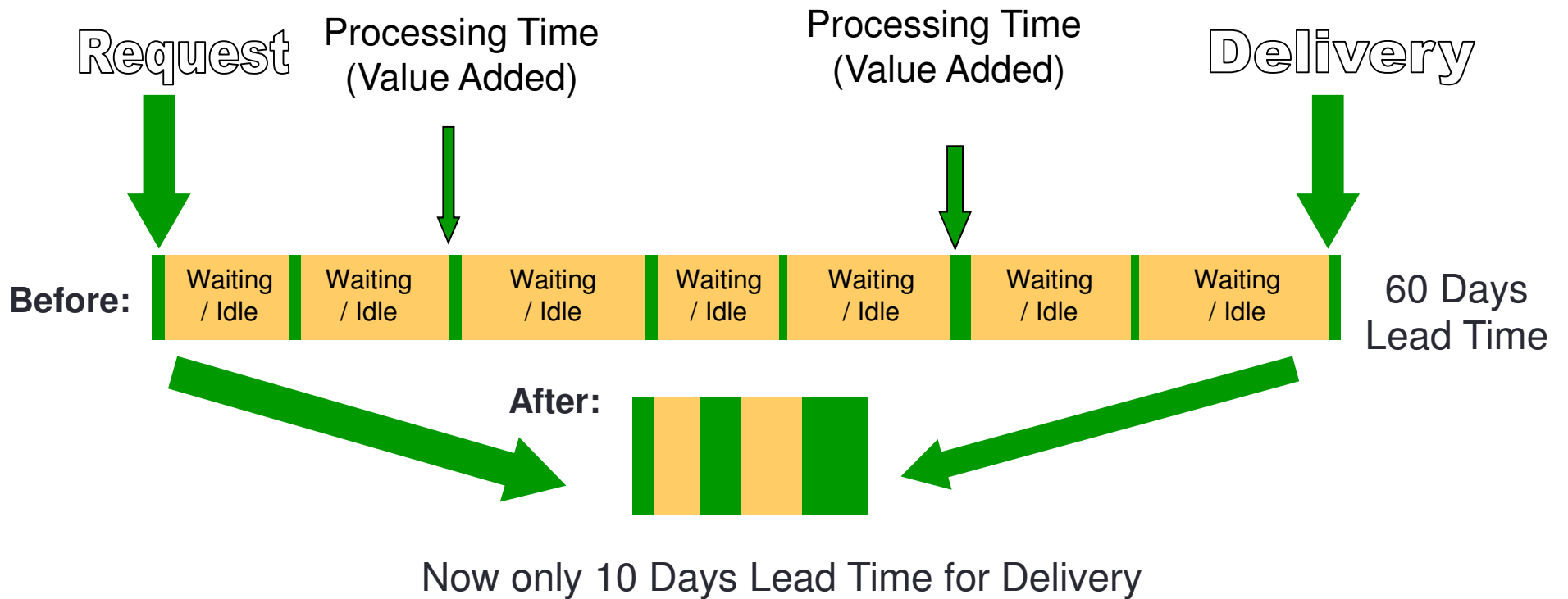
- **End to End = Initial Request to Delivery**
 - “Product Backlog” to “Deployed”
 - “Order” to “Cash”
- **Process Activities**
- **Queues**



Value Stream Vocabulary (3)

- **Work In Progress (WIP)**
- **Processing Time (aka Cycle Time)**
- **Lead Time**

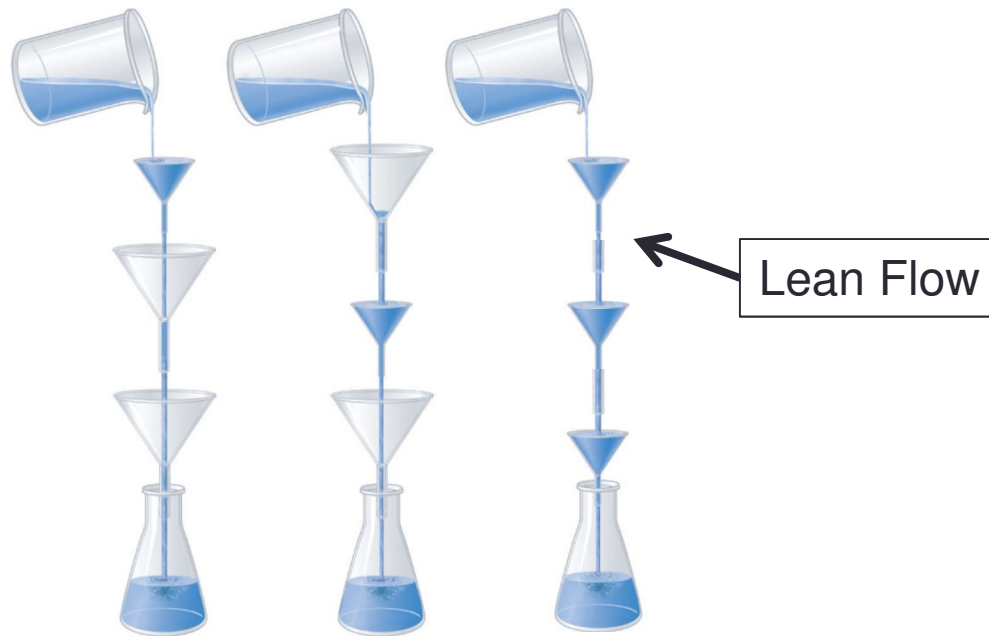
Value Add vs. Non Value Add



Typical Outcomes of VSM

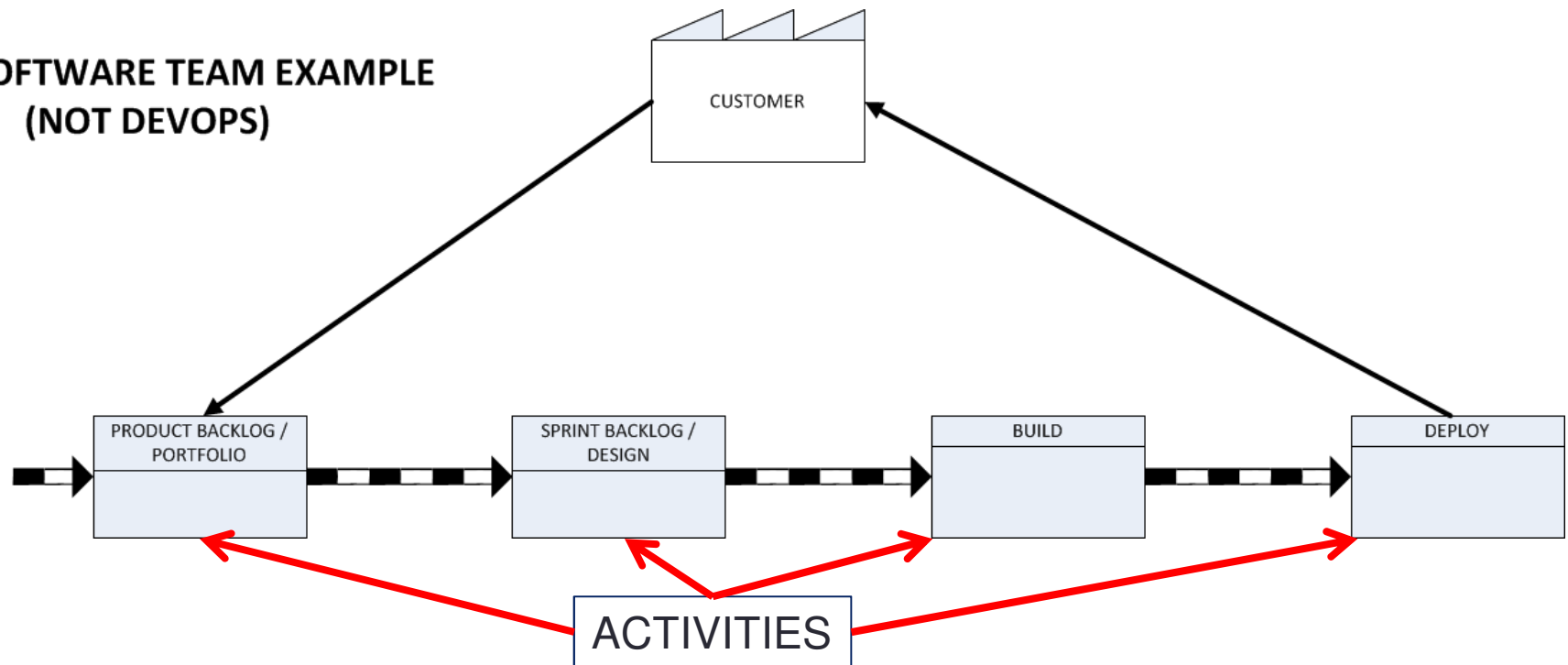


Why Value Stream Mapping?

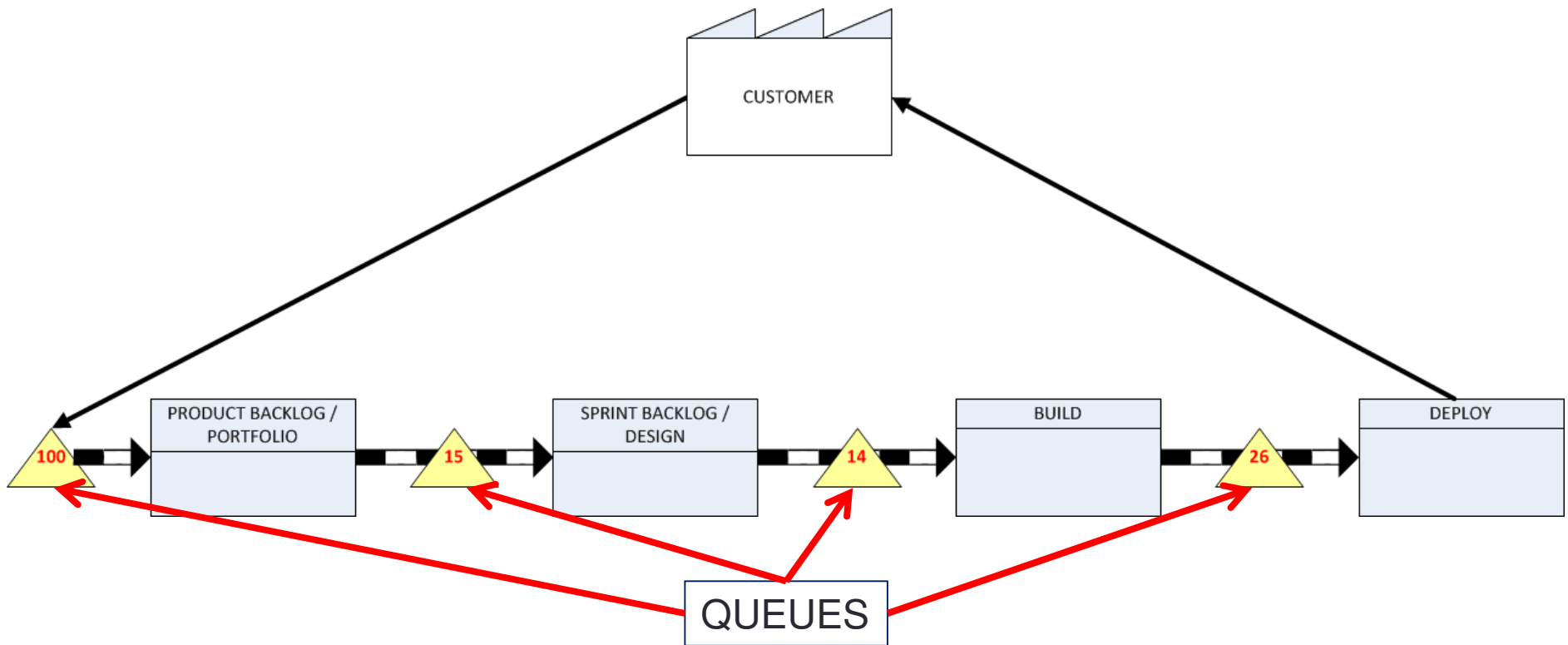


Identify your Process Activities

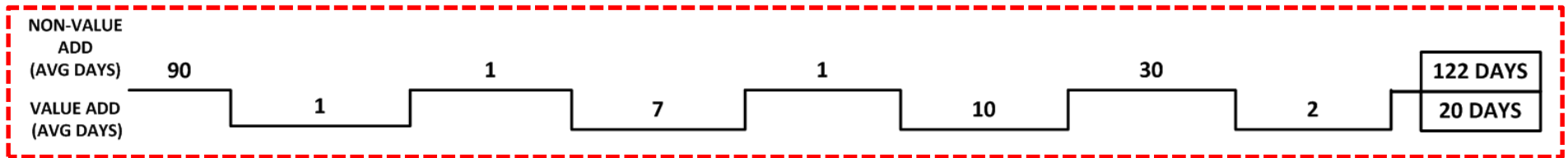
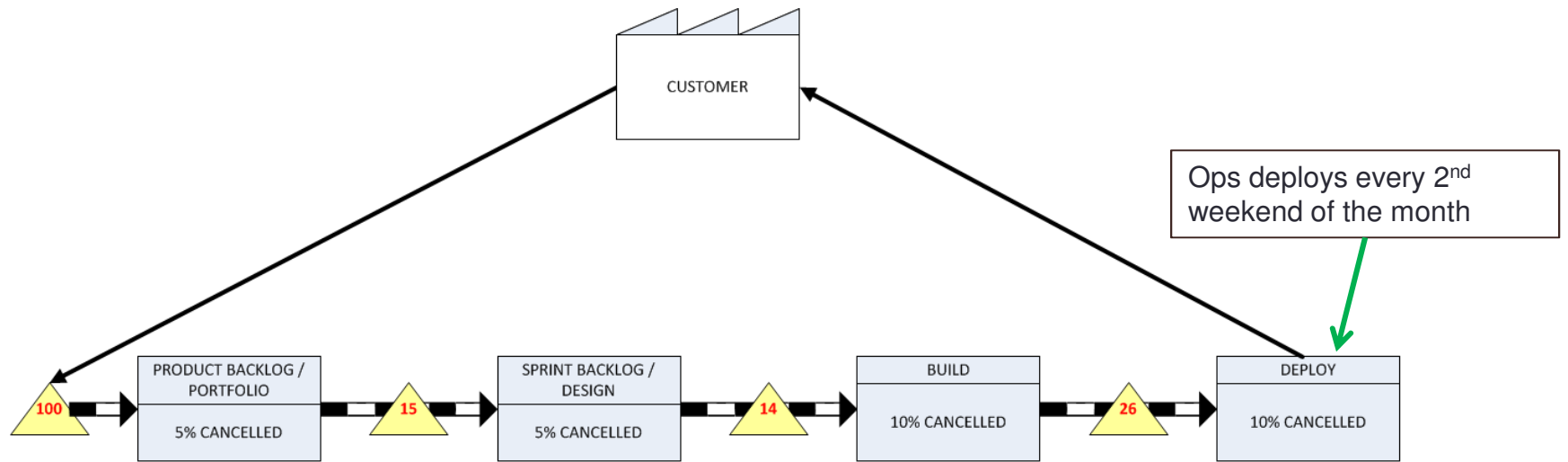
AGILE SOFTWARE TEAM EXAMPLE
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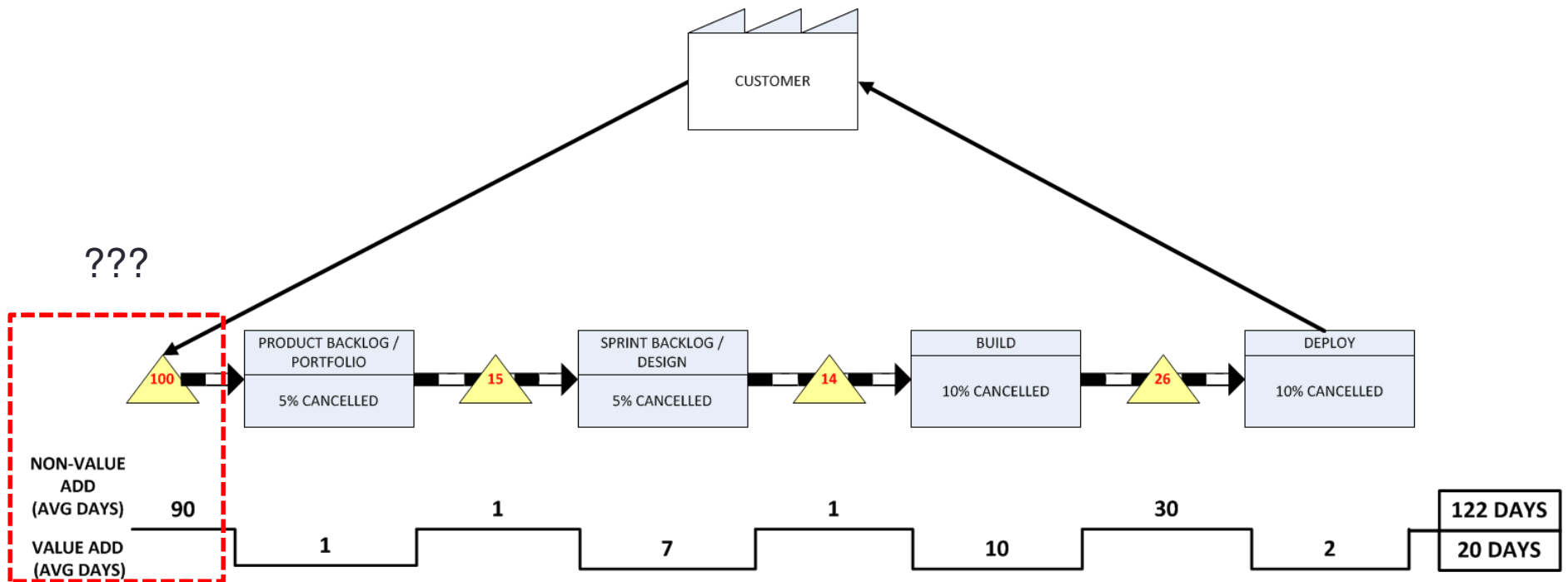
Add Your Queues and Work in Progress (WIP) Data



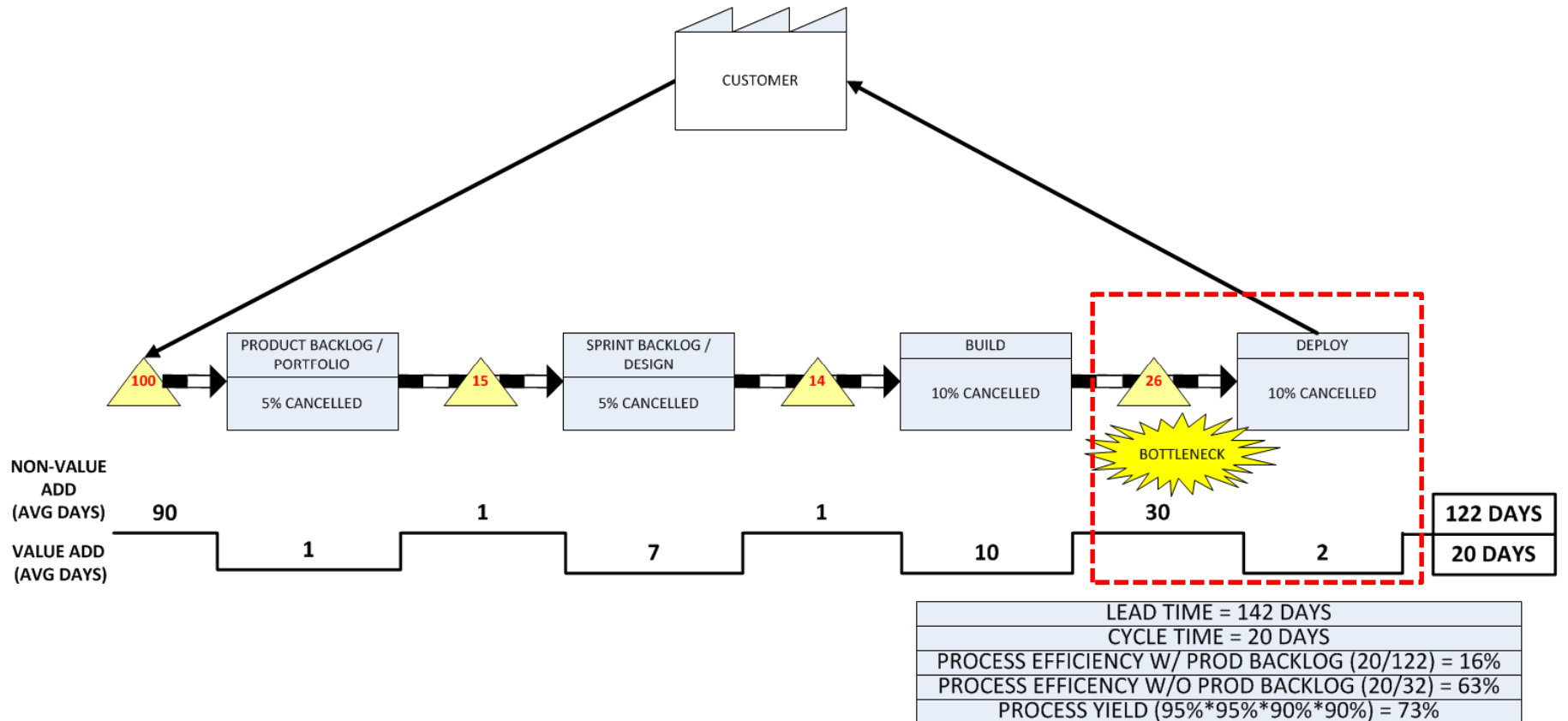
Add Time Data (1)



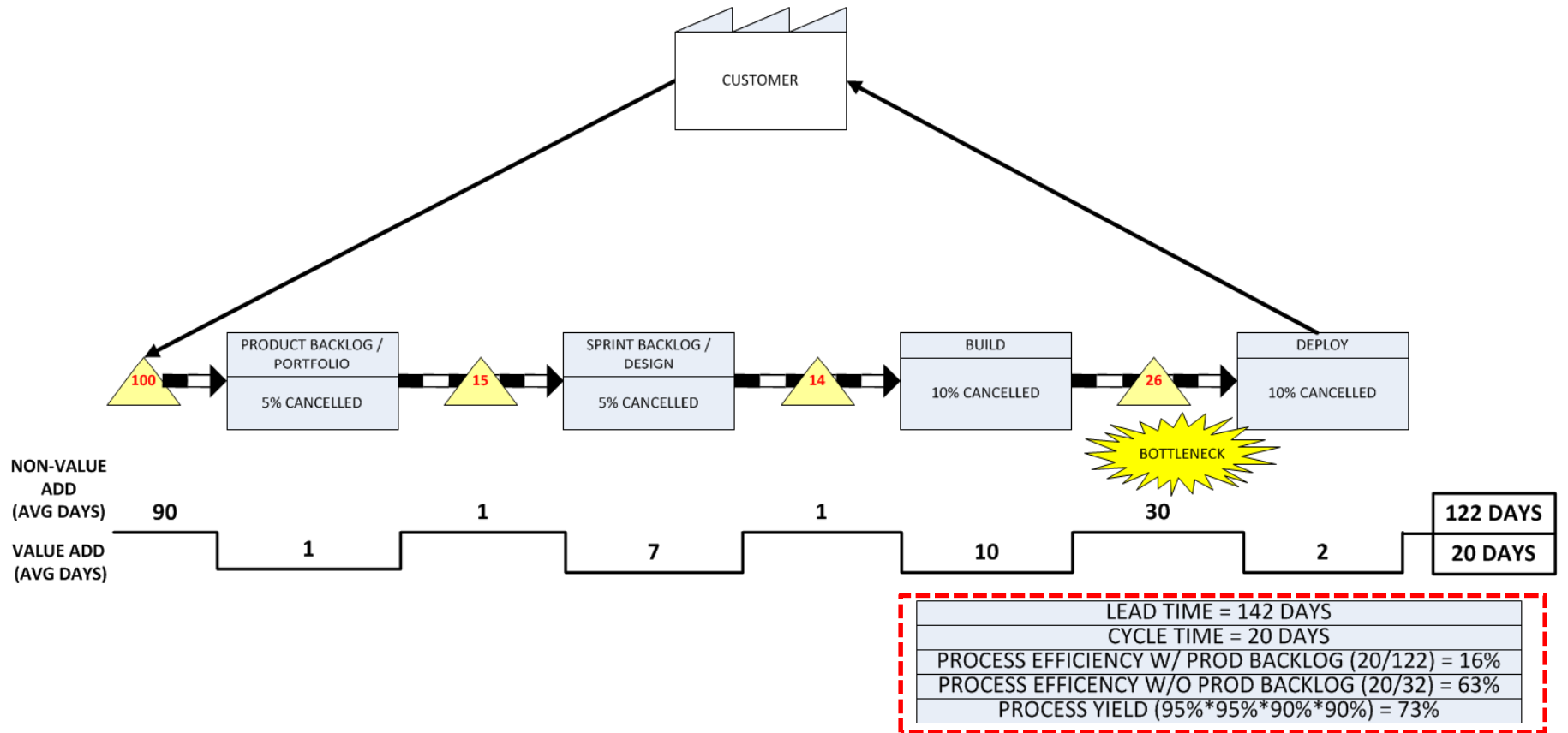
Add Time Data (2)



Add Calculations and Identify Bottleneck (1)



Add Calculations and Identify Bottleneck (2)



VSM Rules of Thumb (1)

- Always Customer's view of End to End
- Identify and improve flow at the Bottleneck
- Never Flood or Starve the Bottleneck
- Tolerate flow inefficiencies at non-bottleneck Activities
 - Work on improving Activity Yield or Quality/Value instead
- Smaller Batches are typically better (if they don't starve the bottleneck)
- DevOps Teams, don't forget to look at Retirement Activity Processing Times
- Monitor End to End Flow over time using a "Cumulative Flow Diagram"
 - Many ALM and DevOps Tools have this Report (e.g. JIRA, VersionOne, Rally)

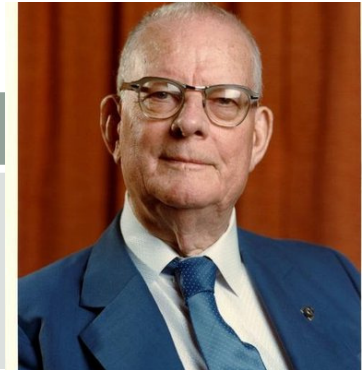


VSM Rules of Thumb (2)

- Always Customer's view of End to End
- Identify and improve flow at the Bottleneck
- Never Flood or Starve the Bottleneck
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Recommended References



W. Edwards Deming

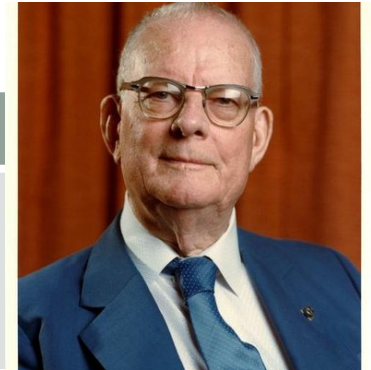
Topic	References
Value Stream	<ul style="list-style-type: none"> • <i>Learning to See</i>, J Shook / M Rother (Manufacturing Focus) • <i>Value Stream Mapping</i>, Karen Martin (Service Focus) • <i>Value Stream</i>, M Kennaley (IT Pipeline Focus) • "IT4IT Reference Architecture" (The Open Group Website)
Portfolio and Flow Management	<ul style="list-style-type: none"> • <i>Lean Enterprise</i>, J Humble • <i>Principles of Product Development Flow</i>, D Reinertsen • #NoProjects, http://allankelly.blogspot.com/
Organization Design	<ul style="list-style-type: none"> • <i>Agile Organization Design</i>, Sriram Narayan • "Smart Simplicity Approach" Slideshare, "As Work Gets More Complex, 6 Rules to Simplify" TED Talk • "Larman's Laws of Organizational Behavior" (CraigLarman.com)
Lean IT	<ul style="list-style-type: none"> • <i>The Lean IT Field Guide</i>, Orzen • <i>Run, Grow, Transform: Integrating Business and Lean IT</i>, Betz, Bell • Lean IT, Bell & Orzen
Lean Six Sigma / TQM / Systems Thinking	<ul style="list-style-type: none"> • <i>Out of the Crisis</i>, W.E. Deming • <i>The Fifth Discipline</i>, P Senge • John Willis @botchagalupe YouTube: DevOps and Dr. Deming's 14 Points"



Final Recap

1. Always Map Customer End to End to avoid sub-optimization
2. Tackle the biggest bottleneck
3. Reduce Queues and WIP first
4. Create and maintain Lean Flow (aka Pull vs. Push)
5. Then focus on reducing Processing Times

Recommended References



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