

Intro to Kanban-based Agile for Agile/Lean Program Offices

March 2021

SEI Agile Transformation Team



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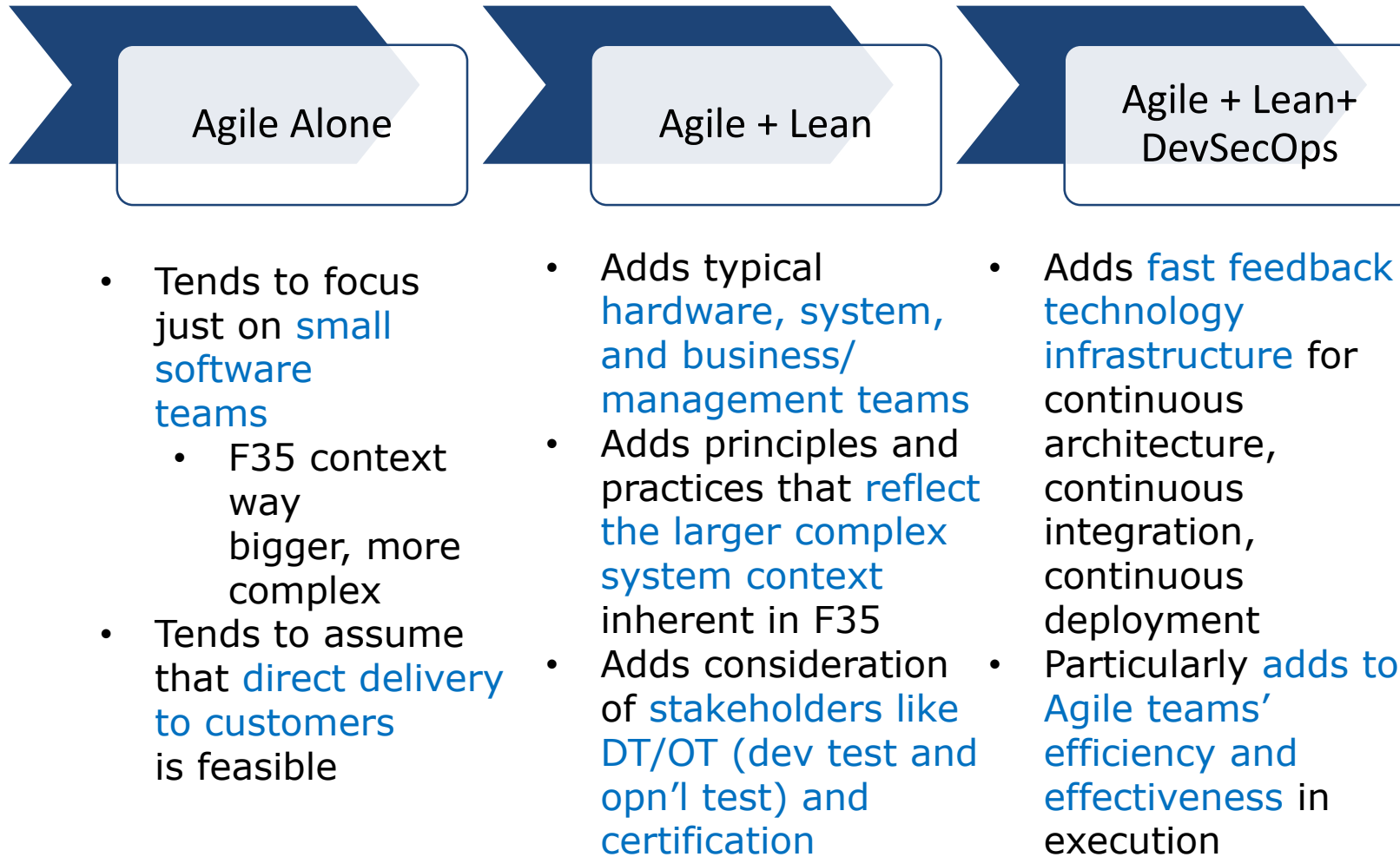
Agenda



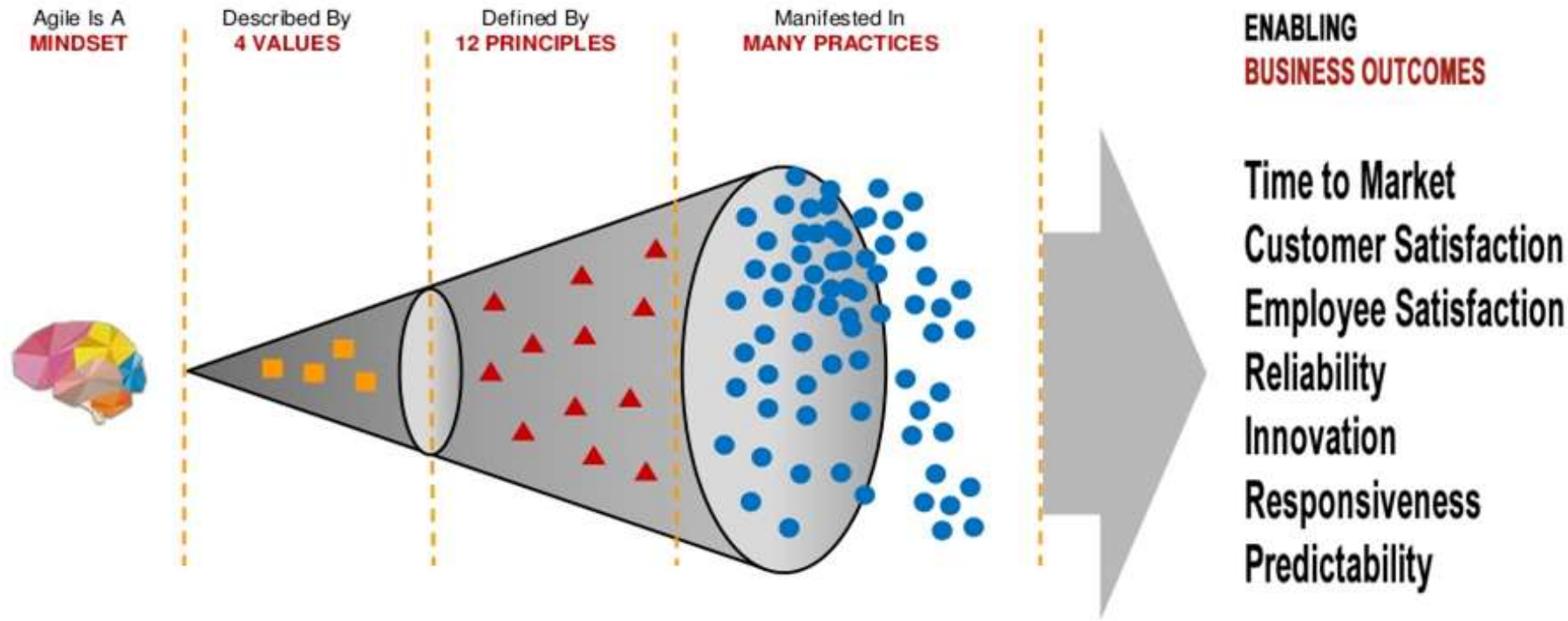
Topics the SEI will address in this module include:

- ***Lean/Agile Principles Reminder***
- Kanban Concepts and Application
- Kanban Principles and Practices
- Kanban SMC Launch Operations Example
- Starting Your Program Office Kanban System

Why Agile *AND* Lean *AND* DevSecOps at F35?



What is Agile?



Source: <https://www.slideshare.net/MichaelTarnowski/agile-mindset-for-executives>

It isn't enough to adopt the practices of a successful team. You must adopt attitudes and a mindset for making decisions to adopt practices that will lead to your success.

Implementing the practices, tools and processes **without** the Agile mindset, values, and principles of the Agile Manifesto **Is NOT Agile!**



Agile Principles-How do these translate to JPO environments?

1. Our highest priority is to **satisfy the customer** through early and continuous delivery of valuable software.
2. Welcome **changing requirements**, even late in development. Agile processes harness change for the customer's competitive advantage.
3. **Deliver working software frequently**, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
4. **Business people and developers must work together** daily throughout the project.
5. **Build projects around motivated individuals**. Give them the environment and support they need, and trust them to get the job done.
6. The most efficient and effective method of conveying information to and within a development team is **face-to-face conversation**.
7. **Working software is the primary measure of progress**.
8. Agile processes **promote sustainable development**. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
9. Continuous attention to **technical excellence and good design** enhances agility.
10. **Simplicity**--the art of maximizing the amount of work not done--is essential.
11. The **best architectures, requirements, and designs emerge from self-organizing** teams.
12. At **regular intervals**, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

Agile Principles: <http://agilemanifesto.org>

➤ **Zoom Activity: Which principle(s) do you think are most useful for your team's work?**

Don't Forget the Lean Principles – For the Entire (Govt + Contractor + Stakeholder) Enterprise

Apply SAFe Lean-Agile Principles

- #1 Take an economic view
- #2 Apply systems thinking
- #3 Assume variability; preserve options
- #4 Build incrementally with fast, integrated learning cycles
- #5 Base milestones on objective evaluation of working systems
- #6 Visualize and limit WIP, reduce batch sizes, and manage queue lengths
- #7 Apply cadence, synchronize with cross-domain planning
- #8 Unlock the intrinsic motivation of knowledge workers
- #9 Decentralize decision-making
- #10 Organize around value

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Why Are We Doing This?

Take advantage of Lean Principles!

Leverage Small Batch

- Increase Flow
- Improve Productivity
- Deliver Quality

Visualize and Manage WIP (Work in Process)

- Visually seeing the work being done allows adjusting in near real time
- WIP Limits allow understanding of capacity
- Explicit WIP Team Agreements promote adherence to the agreements



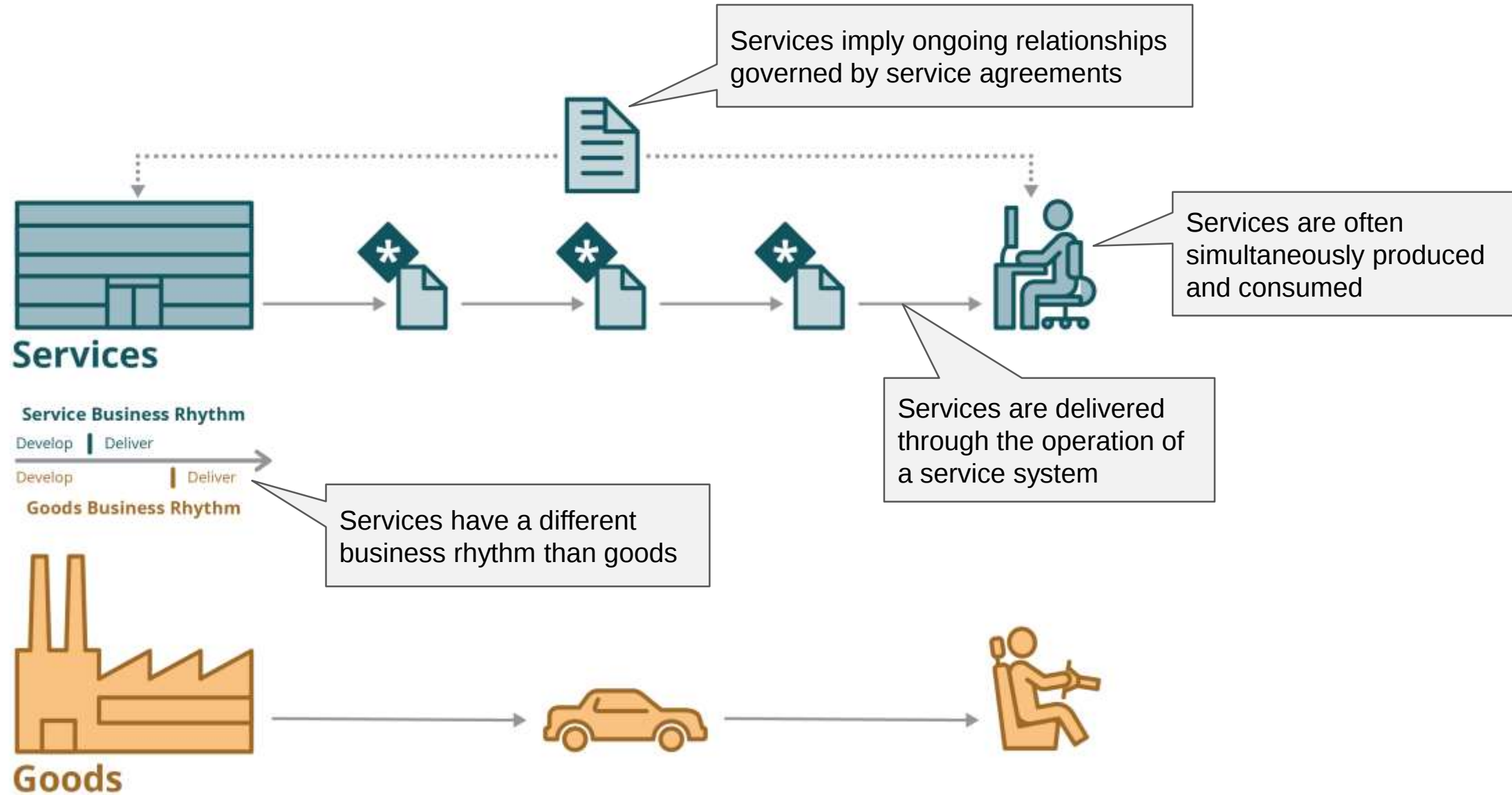
More Effectively Manage Organizations

Organizations that produce

- Products
- Services
- Both



How is Your Work like a Service?



Goals for Flow-based Methods like Kanban (derived from Reinertsen and others)

Understand the work better (flow, bottlenecks, anomalies)

Improve stakeholder management (transparency)

Decrease time and effort required to on-board members

Reliably repeat success and learn from failure

Make timely and high-quality decisions

Centralize data/information

Increase knowledge and skills in using modern workflow

Exercise: Use annotation to put stamps next to the goals that resonate with you.

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Start with
What You Do
Now



Improve Through
Evolutionary
Change



Encourage Acts
of Leadership at
Every Level



Understand &
Focus on
Customer
Needs



Manage the Work
and Let People
Self-Organize
Around It



Evolve Policies
to Improve
Outcomes

THE KANBAN PRIMER

PRINCIPLES



Visualize the
Work



Limit Work in
Progress (WIP)



Manage Flow



Make Policies
Explicit



Feedback Loops



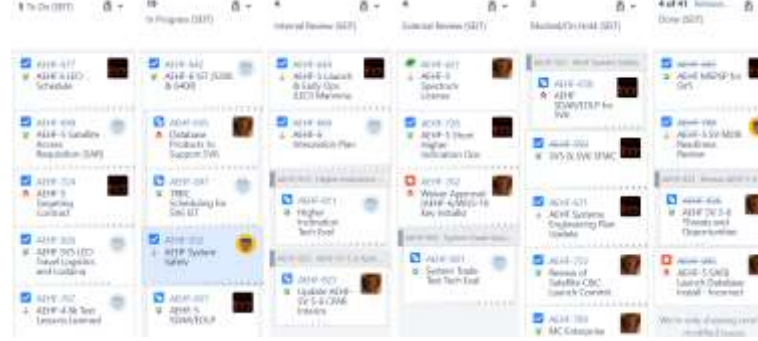
Improve and
Evolve

THE KANBAN PRIMER

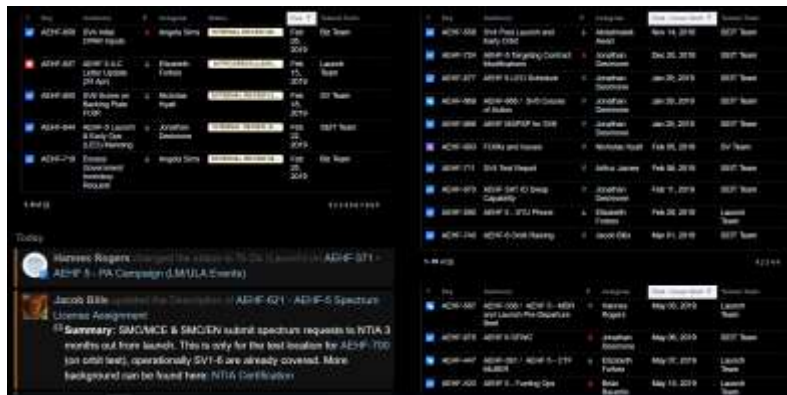
PRACTICES



Cumulative Flow Diagrams



Kanban Boards



Dashboards



Automated Messages

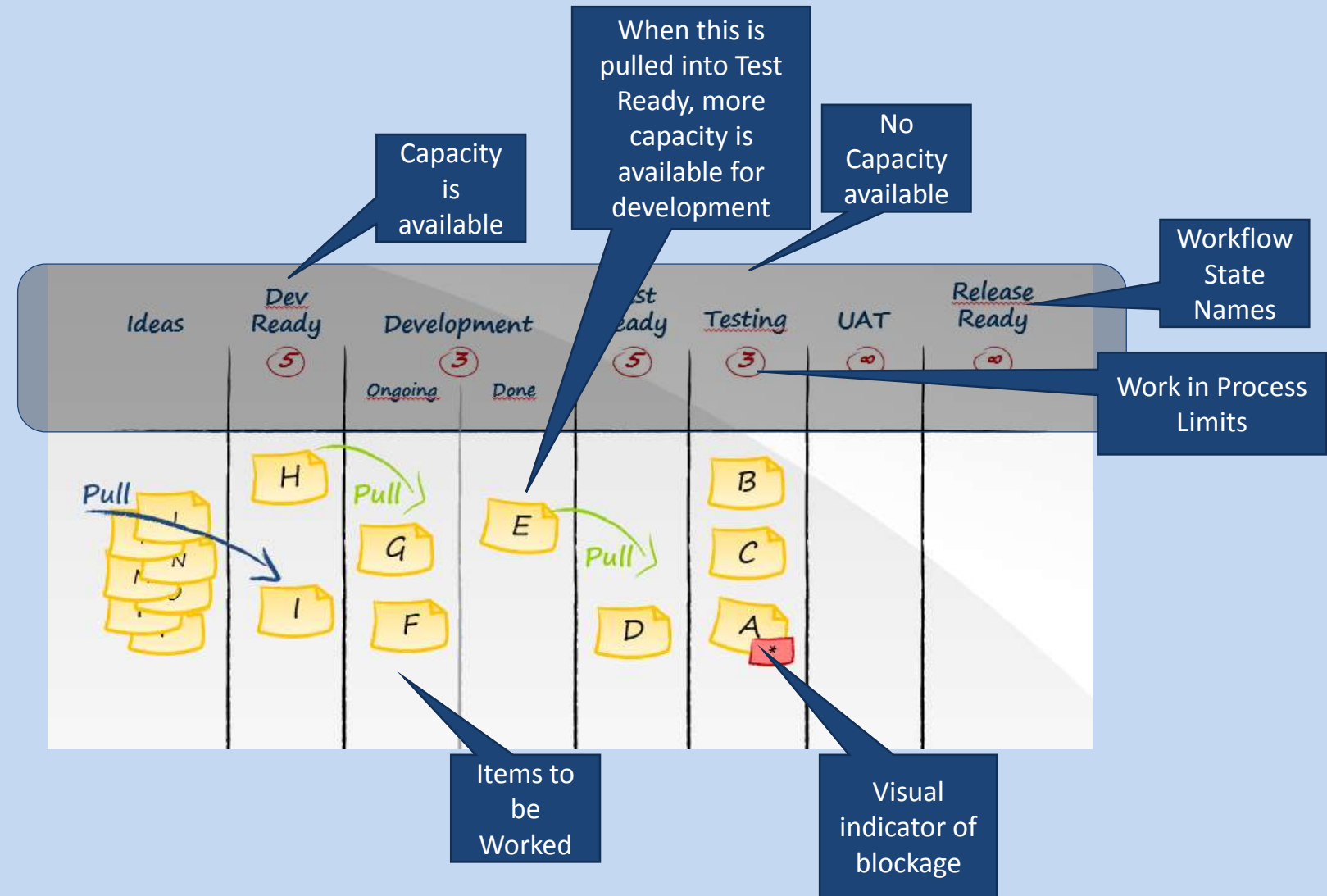
THE KANBAN PRIMER

VISUALIZATION TECHNIQUES

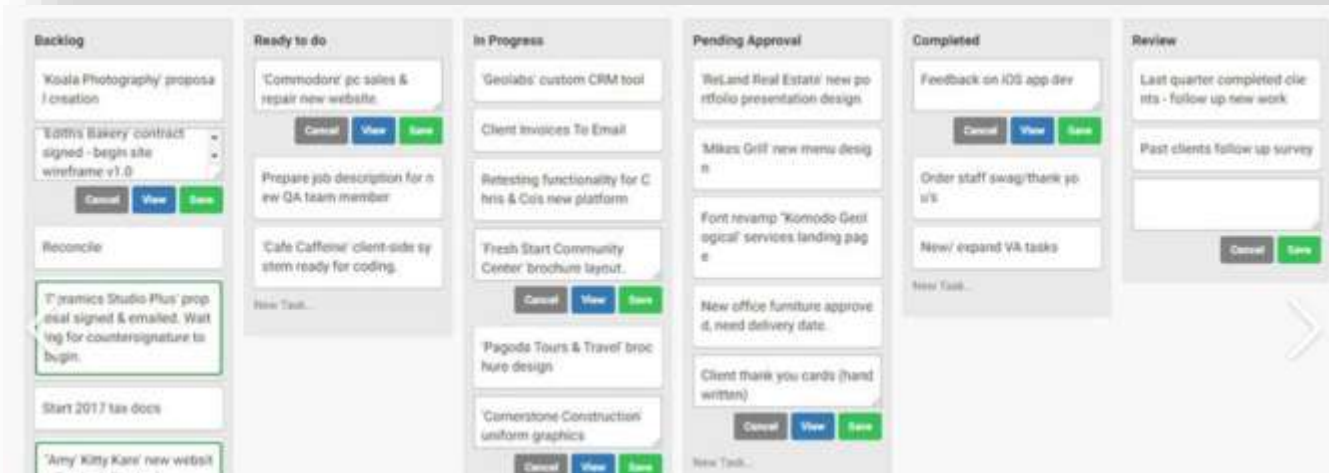
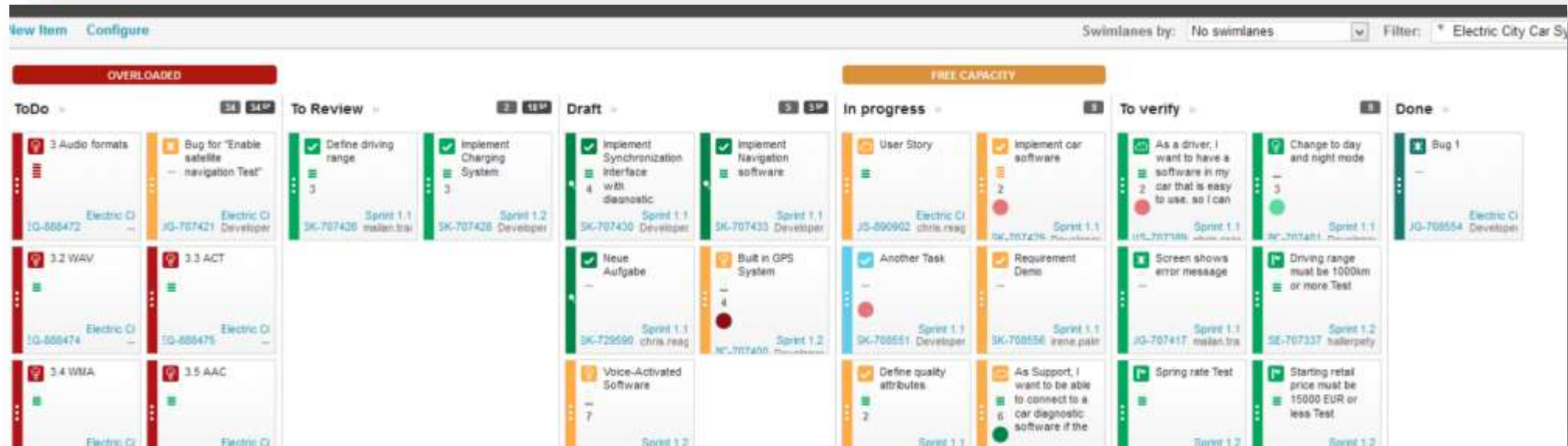
Anatomy of a Development-Focused Kanban Board

Many Kanban examples focus on development. How would the workflow states differ for systems engineering, or contracting services?

Add different workflow categories in the Mural where indicated.

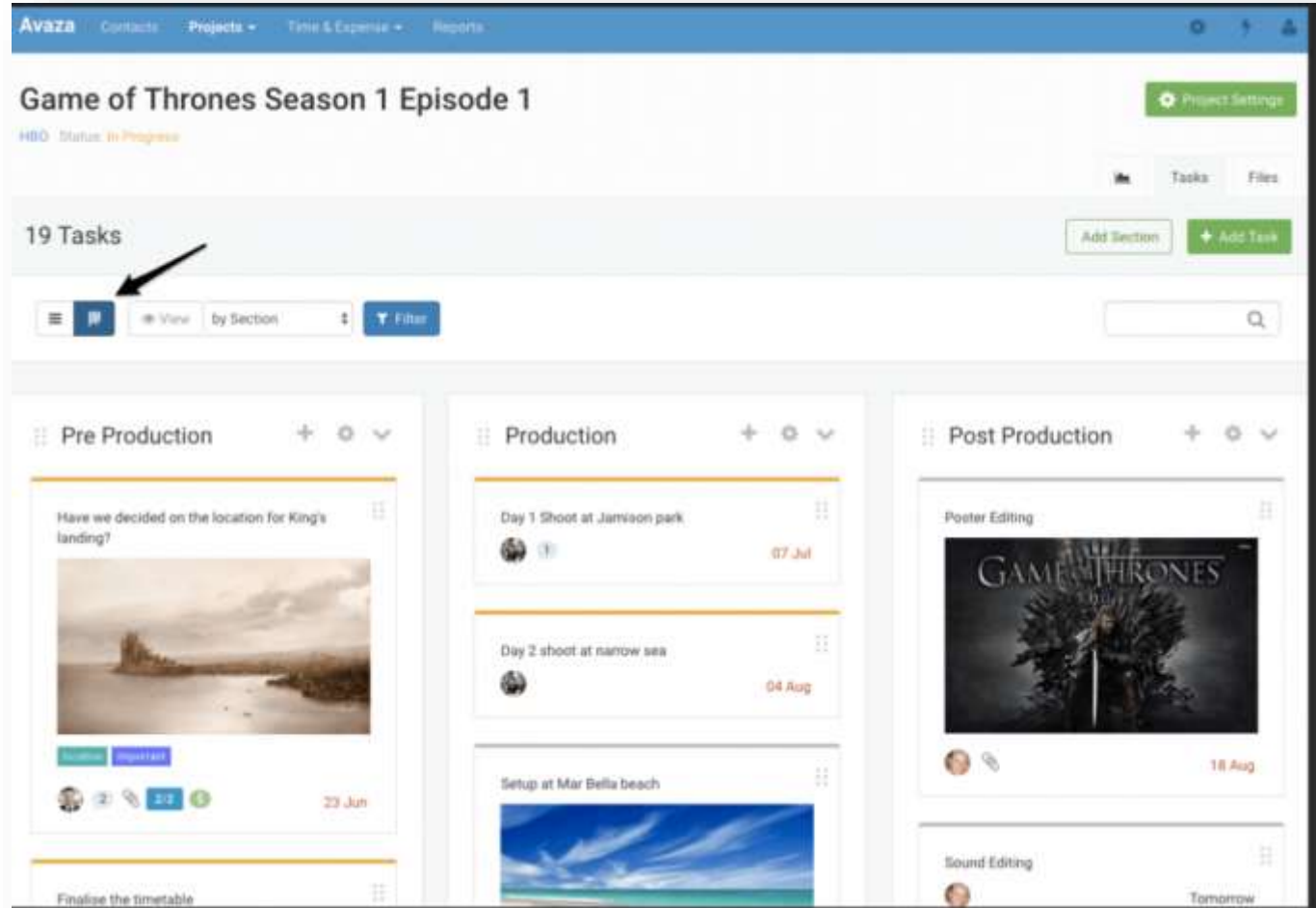


More typical Service-based Kanban Boards

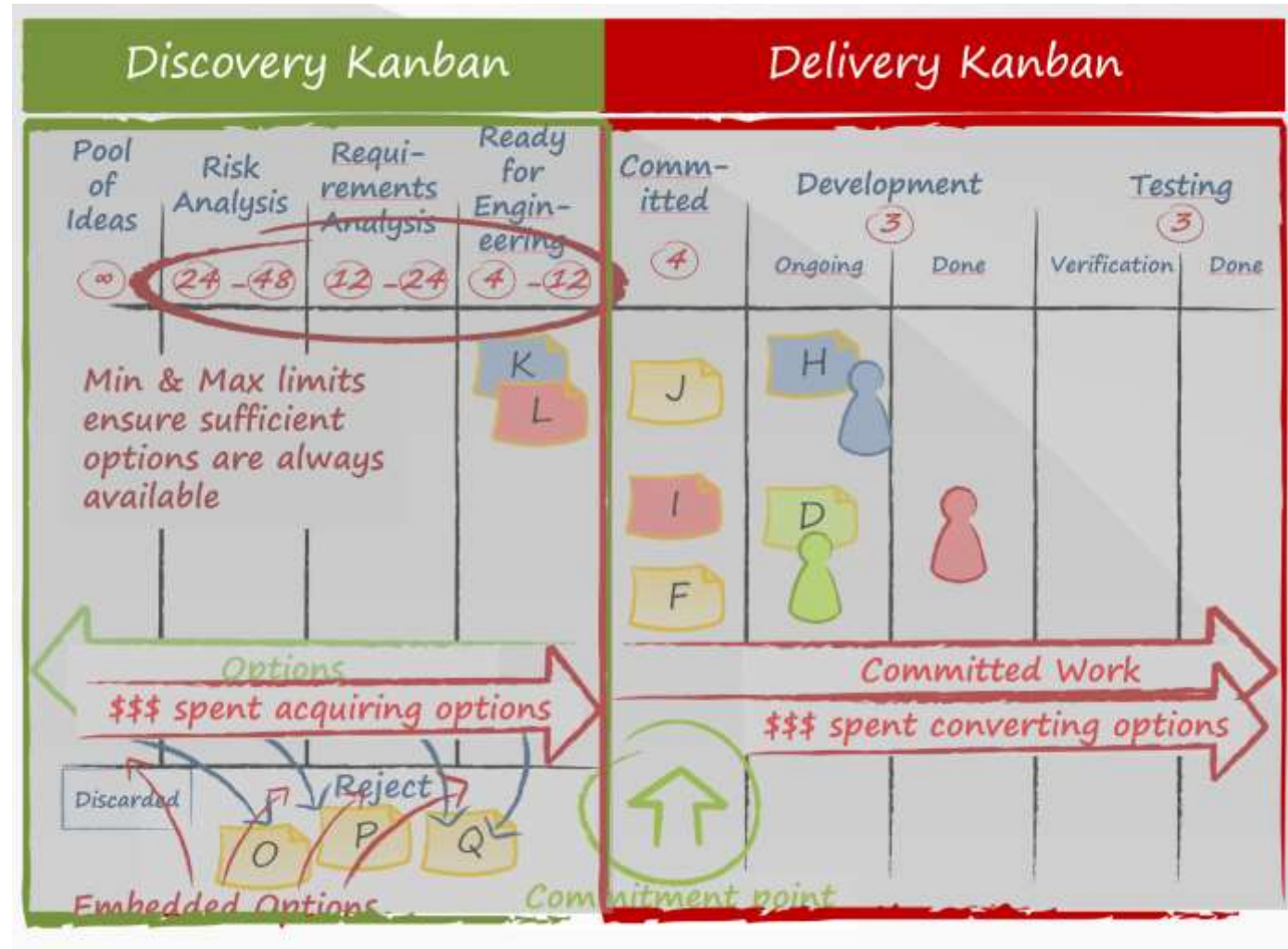


[MindManager-Kanban-Project-Management-MindManager-Blog.gif \(1920x1032\)](#)

...Even the Film Industry Uses Kanban

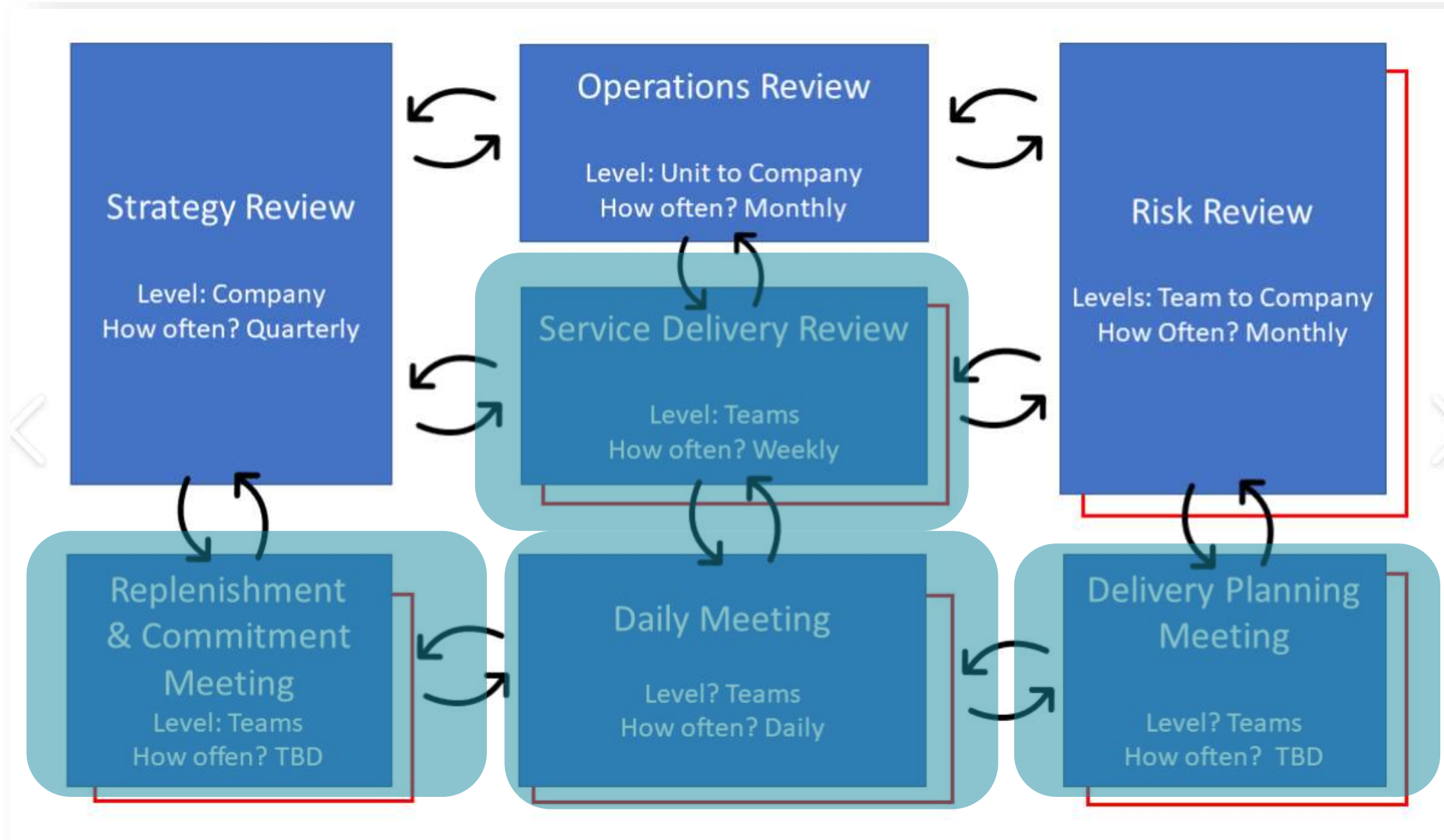


Kanban Can Also Help Visualize the Analysis Process on the way to Commitment



Source: Kanban Master Class, Lean Kanban University, 2017.

Typical Meetings Used to Support Kanban

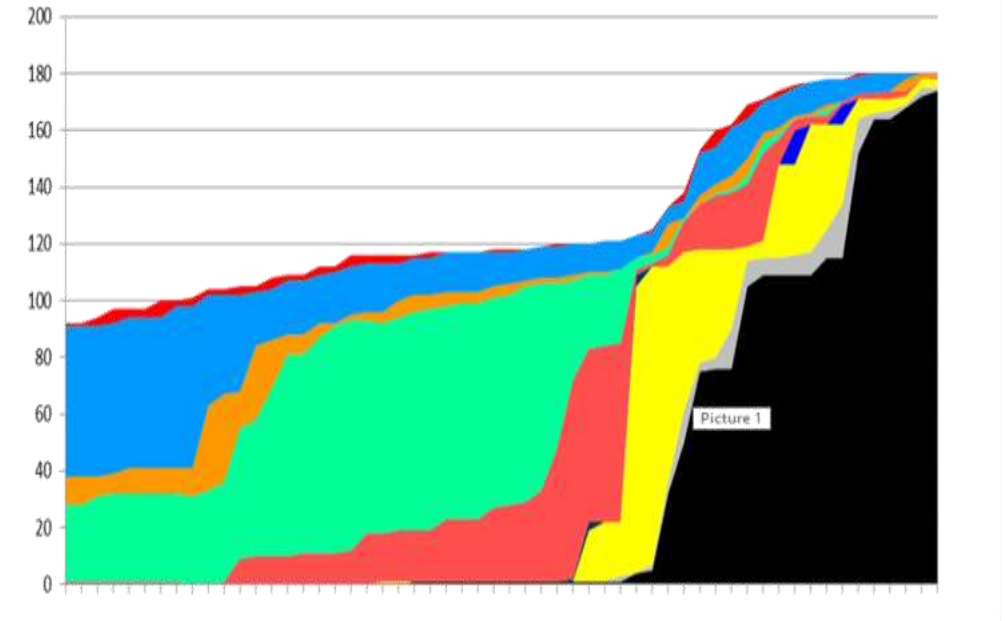
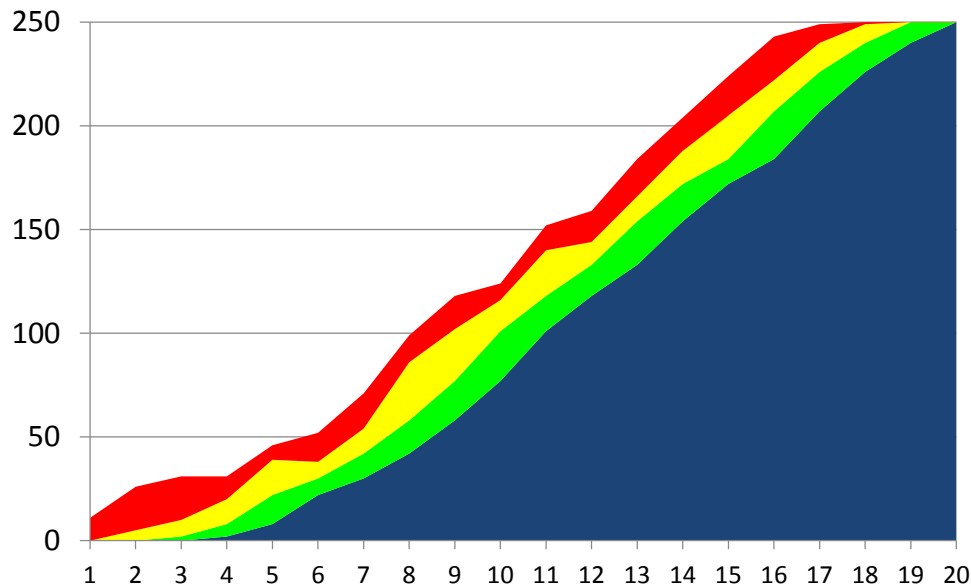


Typical starter meetings

Manage Results with Cumulative Flow Diagrams

Cumulative Flow Diagram

- Heterogeneous teams have different ceremonies, different policies, measures, etc.
- Common way to visualize progress
- Common way to visualize problems



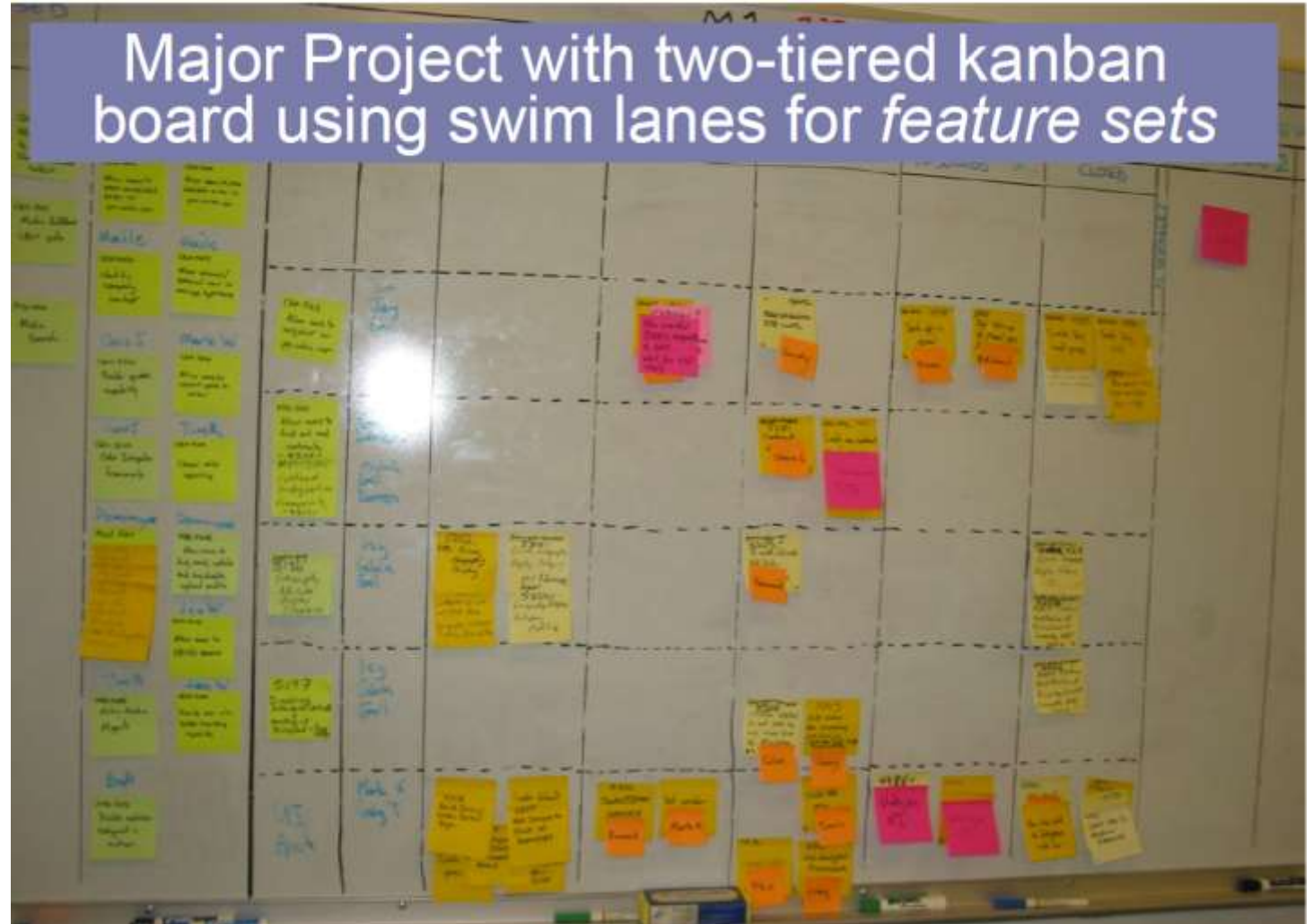
Technology Support for Kanban

Sticky notes and a mural/white board are still a popular technology for Kanban

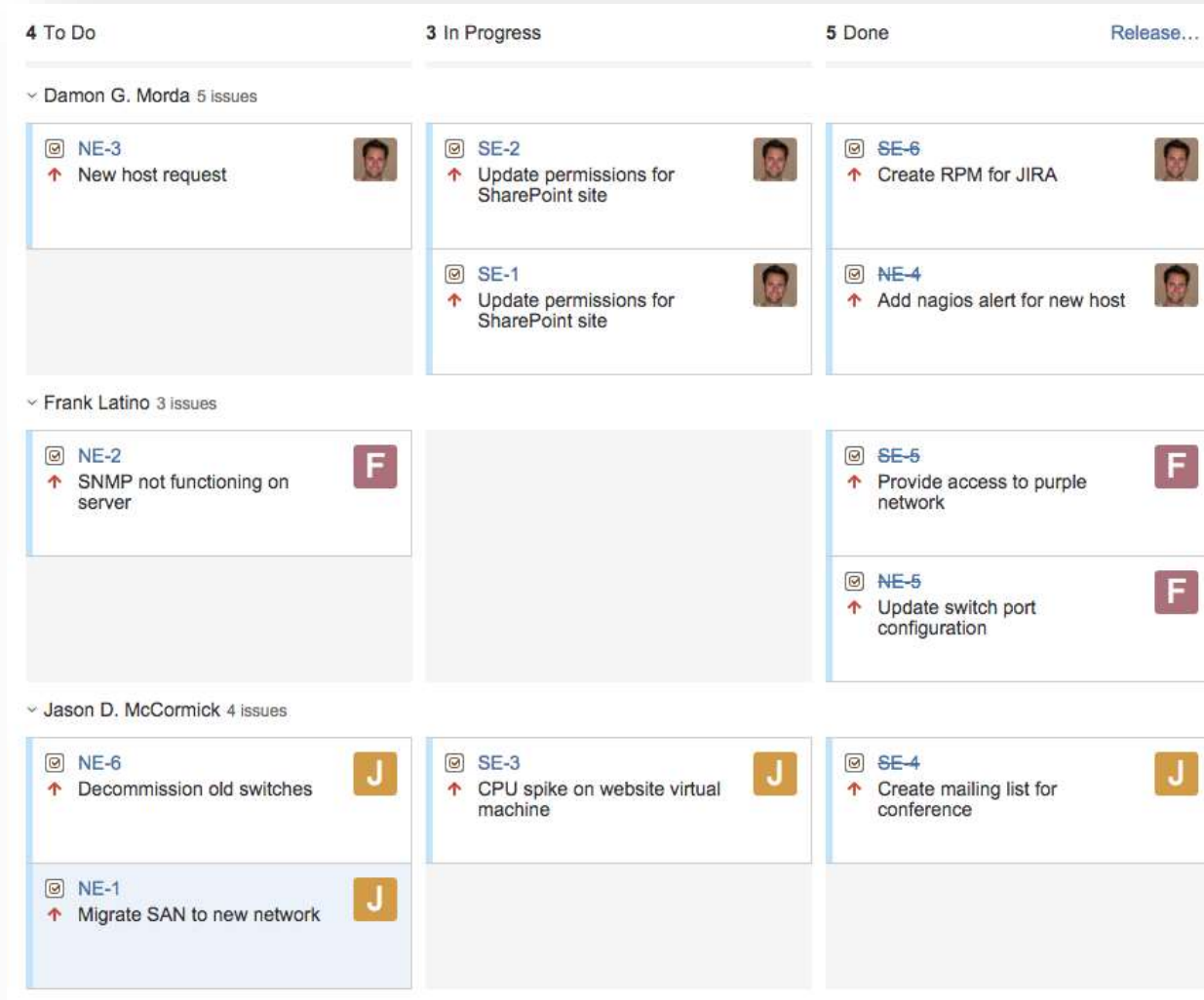
- Inclusive communication mechanism – no one has to learn a new tool to use it
- Allows the full landscape to be seen at once (online tools are more limited in readability)
- Simple
- **Not as readily accessible with remotely working teams**

LOTS of online tools that support Kanban

- Jira is most adopted in government—**THAT'S WHAT F35 USES**
- Online tools typically automatically aggregate data into visualizations like Cumulative Flow Diagrams



Jira Example of an Electronic Kanban Board—Tooling You Will be Using





Kanban
Mantra:



Stop Starting,
Start
FINISHING!

Agenda



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MAY 8, 2019

Maj Matthew Getts, USAF

Mr. Bart Hackemack, SEI

#AgileInGov19

#AgileAF

#SpaceStartsHere



THE AGILE PROGRAM OFFICE:

APPLYING AGILE PRINCIPLES AND
PRACTICES IN A HIGH STAKES
ACQUISITION ENVIRONMENT



Connect People in
Meaningful Ways



Put Data at their
Fingertips



Establish Enduring
Collaboration Platform

GOALS

A NEW APPROACH

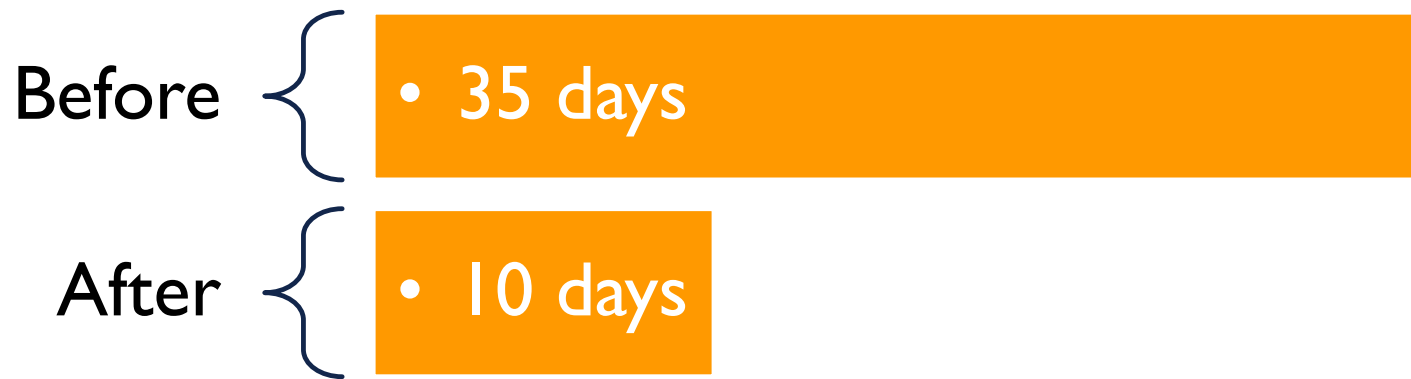
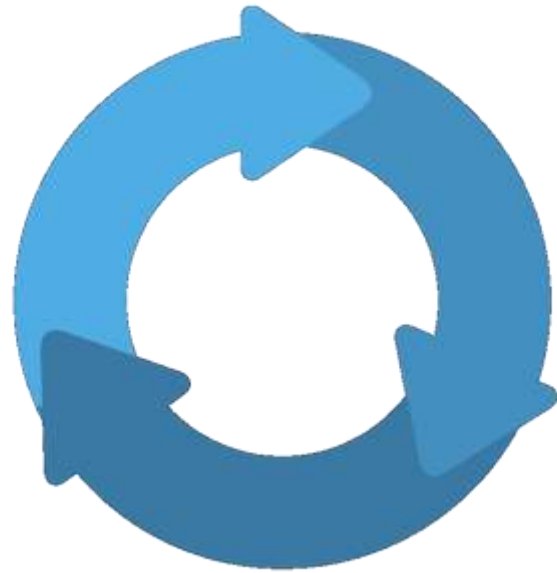


KANBAN!

THE AGILE PROGRAM OFFICE

THE RESULTS





THE AGILE PROGRAM OFFICE

AVG CYCLE TIME

35d → 10d



THE AGILE PROGRAM OFFICE

17d TECHNICAL
EVALUATION



THE AGILE PROGRAM OFFICE

INCREASED
RESILIENCY

Truth (and) or Consequences

Be prepared...

- You may not like what you find in your visualization.
- You may more clearly see that, in the past, work was not getting done
 - Often due to lack of resources, but also due to large batch/large WIP issues, task interruptions, changing staff commitments, etc....

This gives you the opportunity to open up the discussion with easier to consume visuals rather than just talking about “being over worked”

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The Backwards Brain Bicycle - Smarter Every Day 133 - YouTube

YouTube · SmarterEveryDay



KNOWLEDGE



UNDERSTANDING

THE AGILE
PROGRAM OFFICE:
WHERE TO START

Prerequisites to Starting Your Team's Kanban Board-1

- 1) Find a toolsmith sufficiently conversant in Jira/Confluence to configure your boards and implement your desired workflows, backlog management policies, and swimlanes (**you have multiple Jira/Confluence toolsmiths**)
 - Work with the toolsmith to ensure that a board is started in the desired environment and configured
 - Work with the toolsmith to ensure that all participants have read/write access to the relevant board(s)
- 2) Define who will perform the following roles:
 - Backlog Manager (initial: **Marc Harrington**):
 - Controls the flow of items into the board
 - works with the sponsor to prioritize the work
 - breaks up incoming tasking into agreed upon size chunks
 - Assigns tasking to relevant swim lanes
 - *Might assign acceptance criteria*
 - *Might review “done” items for acceptance criteria satisfaction*
 - Delivery Coordinator/Manager (initial: *TBD as of Mar 4*)
 - Facilitates the use of the Kanban system
 - Runs agreed upon meetings
 - Removes identified impediments to the team's flow
 - Monitors the team's working agreements and revises as needed based on evolution
 - Works with toolsmith to get the dashboard and daily visualizations needed by the team/management

Prerequisites to Starting Your Team's Kanban Board-2

- 3) Determine initial team working agreements on (at minimum) the following topics:
(initial: you are leveraging existing workflows and definitions)
- Definitions of the workflow states to be used on the board (i.e. what does “ready for internal review” mean in our workflow?)
 - Criteria for assigning swimlanes and steps for getting a new swimlane implemented
 - Expectations for when items will be moved from one workflow state to another (determines what kind of dashboard measures you can reasonably use)
 - Reporting visualizations that will initially be used (e.g. Late Item Start report, Cumulative Flow Diagram, etc—these should be coordinated with the toolsmith to ensure that the working agreements support the ability to produce the desired reports)
 - Cadence of meetings—is a daily standup needed? Backlog replenishment meeting? Delivery planning meeting? How often? Weekly, biweekly?

Environment

JPO Jira/Mattermost

- Once accounts are created, request to be added to CIO - CSwO
 - Send requests to roxannemattthew@cloudfitsoftware.com

All tools reside in JPO IL2 environment

- Jira: <https://jira2.jsf.mil/>
- Mattermost: <https://mattermost2.jsf.mil/>

Summary

Rapid success with the Agile Program office is enabled by

- Leveraging Kanban concepts (Reduce WIP, Small Batch, Visualization)
- Rapid learning to quickly begin delivering positive results
- Using relatively simple, well known tools (like Kanban, Jira and Confluence)
- Using existing cloud-based tooling environment (DI2E)
- Staffing with team that is dedicated to end goal and committed to find a better way

Think about These as Potential Deliverables from Initial Jira/Confluence Kanban Work Setup

Jira

Backlog

- Kanban Board
- Reminder reports auto generated and emailed(Overdue Issues, Late-To-Start Issues, Issues due within next week)
- Workflow Metrics

Confluence

- Team Agreements
- Dashboards

Branch Leadership Watch List

A quick reference list of issues that are currently in work within the Branch that have been marked as important enough to warrant attention from Branch leadership. Issues in this filter have had the "Elevate to Branch Leadership" option selected in the "Request Action" field.

Key	Summary	T	Created	Updated	Due	Assignee	Reporter	P	Status	Tasked Team
-----	---------	---	---------	---------	-----	----------	----------	---	--------	-------------

No issues found [Refresh](#)

Overdue Issues

These issues are past their due date.

T	Key	P	Summary	Assignee	Due
☒	AEHF-600	↓	SV6 Screw on Backing Plate FOIR	Dimitar Stoyanov	Feb 2019

Late To Start Issues

These issues have past their estimated start date.

T	Key	P	Summary	Assignee	Due	Date - Issue S
☒	AEHF-693	↓	FOIRs and Issues	Nicholas Hyatt	Jan 08, 2019	Feb 05, 2019

Sprint Dates

13 Mar 2019 - 03 Apr 2019

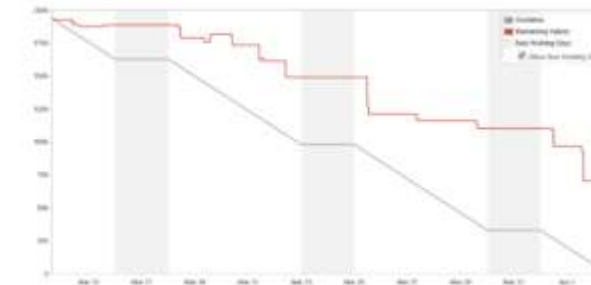
Sprint Goal

Complete development on all functionality needed for SEI-wide release of Accomplishments and "gray background", multi-day availability and hover card ready for release, and have archetypes survey ready for launch.

User Stories

Key	Summary	Status
KM-4012	As a product owner, I'd like a survey that will help me identify various archetypes.	CLOSED
KM-4156	As a user, I'd like to know how many views a video has so I can determine its popularity	OPEN

Sprint Summary



Think about These as Potential Deliverables from Adoption-2

Confluence (Wiki) Space

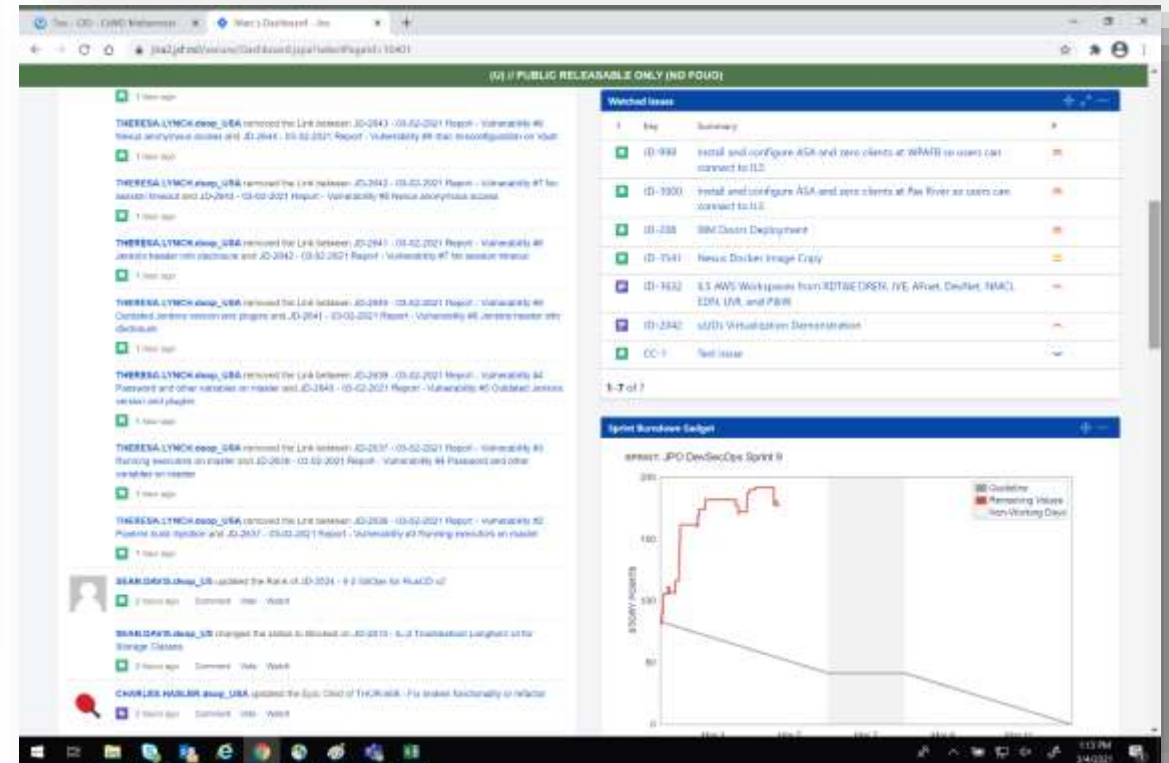
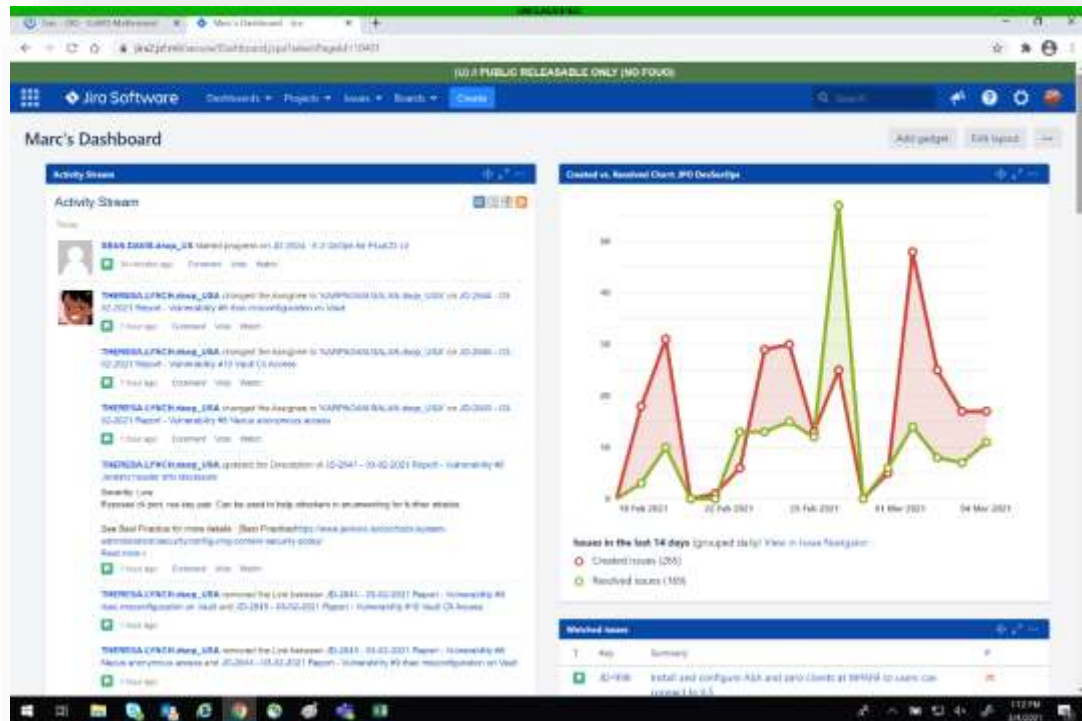
- Landing Page
Event Calendar, linkage to “My Tasks” and Overdue Tasks in Jira
- Explicit Kanban Policies
- Contact Sheet
- Training and Readiness Schedule
- Vision, Goals and Metrics
- Tips and Tricks

The screenshot shows a Confluence page with a blue header bar containing navigation links: Confluence, Spaces, People, Glossaries, and Docs. The page title is 'Copy of Explicit Policies from' and it was created by Suzanne Miller on Mar 19, 2019. The main content includes a section 'Mandatory Fun: Thou shalt have a creative' followed by a numbered list starting with '1. Creating a Issue/Task for the board:'. Below this is a section 'Add all of the bolded items below to each created task u' and another section 'Issue Type - Use these 4 issue types when creating a task'. This section lists four types: Spike (front office task), Bug (anomalous issue), Task (all other issues), and User Story (for 'Watch-Item' issues). Further down are sections for 'Summary', 'Components' (mentioning AEHF-5 and AEHF-6), 'Description', 'Priority', and 'Assignee' (noted as optional).

The screenshot shows a calendar interface for April 2021. At the top, there are tabs for 'Today', '4', and '9', along with view options: 'Month', 'Week', 'List', and 'Timeline'. The calendar grid shows days of the week from Sunday to Saturday. Most days have a green event block labeled 'AM ARC Daily Stand Up'. On Wednesday, April 7th, there is a blue event block for 'PM ARC: PI Monthly Retrospective' from 12:00 to 1:00. On Thursday, April 8th, there is a green event block for 'AM ARC: Clara, Hongbin, Joanne & Matthew ARC Program Engagement Review' from 9:30 to 10:30. To the right of the calendar is a sidebar with 'Team Availability' and 'Orbits@SMC' sections, each containing a list of items with checkboxes.

The screenshot shows a Confluence page titled 'Ready for PI Planning 1 Checklist', created by Barton Mackinnon on Apr 14, 2019. The page content includes an introductory paragraph about getting a vendor on contract and the importance of planning. It then lists 'Activities that need to be able to occur during PI Planning 1 for a particular Agile Release Train (from SAFe website):'. This is followed by a bulleted list of activities: establishing high-bandwidth communication, building the social network, aligning development to business context, identifying dependencies, providing architecture and user experience guidance, matching demand to capacity, and accelerating decision-making. The page concludes with a section 'Desired outputs from any PI Planning event (from SAFe website):' and a note that 'PI planning has three primary outputs:'.

Examples Already in Use That Will Leverage Team Jira Usage



And Finally...



Backup Slides

Let's Build a Kanban Board (Mural version)

- 1) Separate into teams that reflect the different kinds of work you do
- 2) Each team builds an **artifacts** and **services** catalogue
- 3) With facilitator, try the workflow designed in Exercise 2 for items in the catalogue
- 4) Use swim lanes to differentiate the types of work/services that are provided
 - In systems engineering there may be swim lanes for “technical review coordination” (TIMs, IPTs, etc) and “limit functions development”
 - In contracts, there may be swim lanes for “pre-award activities” and “post-award activities”
- 5) Create sticky notes of at least 10 items from the service catalogue and post them in the correct swim lane (or create a new one if needed)
- 6) With facilitator, work through a scenario of using the Kanban board

What about Scrum?

Scrum – Scrum assumed to be adopted “full cloth”

- Specific roles (3 roles)
- Specific ceremonies (5 events)
- Specific artifacts (3 artifacts)
- Tuned to ***DEDICATED*** cross functional teams

Kanban – Start with what you do now!

- Add formality as needed
- Add ceremonies when needed
- Useful/used by teams who have multiple responsibilities, even some outside the project being managed

Agile/Lean Adoption Landscape is Unique to Each Organizational Setting

