Merging traditional Agile Development team with a DevOps Team

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A case study in merging teams

Cornell had two teams supporting the financials system. a development team maintaining the code base and a devops team maintaining the infrastructure hosting the application. This presentation will discuss what was done to merge the teams, and why it was done, and some of the lessons learned.
A truism

- To understand a piece of development work
  - you need to understand any underlying devops work
- To understand a piece of devops work
  - you need to understand related software changes
- To understand a piece of software
  - you need to understand both infrastructure and application code
- To understand the cost of a change
  - You need to understand time and effort of both development and devops
Where the team started - People

- Technical Team Manager
- Functional Ownership Team
- Five Developers
- Two Devops Engineers
Where the team started - Working

- Traditional agile process to manage developer work
  - Scrum meetings
  - Robust Jira task management
  - Time box changes into two week sprints
- Informal task queue Devops worked from
  - Jira tasks in a queue of work and assigned to a devops engineer
- Recently transitioned hosting of the application from on-premises servers to AWS
Very first step

- Before making any changes, identify what problems need to be addressed
- In general, the team needed the following
  - Expand devops support coverage hours
  - Improve communication between devops and
    - Tech Team Manager
    - Development Team
    - Functional Team
The problems identified

- Tech Team Manager needed help
  - Understanding the devops work
- Development team needed help
  - Understanding the tooling provided by devops
  - Diagnosing problems with the tooling by devops
  - Expressing changes needed to Devops
- Devops team needed help
  - Understanding what new tooling was needed by developers
  - Understanding bugs with existing tooling
  - Understanding new work driven by functional requests
  - Supporting AM hours
- Functional team needed help
  - Understanding how devops work impacted their change requests
Approach Taken

● Tech team manager considered doing one big jump of merging the two teams
● An iterative approach was chosen
  ○ Minimize disruption at any one point
  ○ Small changes at a time, adjust based off what works and what does not
First Step

● Actions
  ○ Ask one of the developers to take on some devops responsibility
  ○ Weekly “stand up” with devops team, tech team manager, and development team lead.
  ○ Weekly devops team check-in with just devops team members

● Results
  ○ Devops had morning support
  ○ Tech team manager starting to understand the devops work queue
  ○ Developer/Devops team member
    ■ Started learning devops skills
    ■ Began the process of translating devops to developer, and developer to devops
Second step

- **Actions**
  - Improve management of the devops backlog of issues
    - Each devops team member have their own queue of work
    - Weekly prioritization of backlog and issues moved into individual queue
  - In the development team agile board, start using sub tasks to denote a ticket exists for devops to do a thing

- **Results**
  - Tech team manager improving understanding of the devops work
  - Devops Work directly related to a piece of development work is documented on the agile board
  - Continue to improve communication between development and devops
Third Step

● Actions
  ○ Devops team invited to attend daily development agile standup

● Results
  ○ Devops can report on status of work in the standup
  ○ Devops work directly tied to a development task is managed in the development agile board
  ○ Devops tasks NOT directly tied to a development task is managed through the informal queue
  ○ Continue to improve communication
Fourth Step

● Actions
  ○ All devops and development work is managed in one agile board

● Results
  ○ Devops work not directly related to development is included in the agile process
  ○ Standard agile process keeps communication flowing in a timely manner
    ■ Daily standup
    ■ Sprint retro
    ■ Release notes
Ongoing challenges

- How to decide the number of tasks in a sprint
  - (number of development tasks) + (number of devops tasks) + (ad hoc support tasks) = 1 sprint
- How to size devops tasks so they can be completed in a sprint
- Not all devops tasks model in the development dev/test/prod paradigm
  - When work doesn’t follow the “standard” paradigm, confusion occurs
Questions?

- There were at least two weeks between each step. It wasn’t easy, but we are in a much better place after this change.
- **Any Questions?**
- Questions after the presentation,,
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