Dee Miller and Micah Schwanitz
Title of session
Elekta - Introduction

- Dee Miller
  - Extensive experience in project and program management
  - 10 years experience in agile pilot programs and transformations
  - SAFe Program Consultant
  - Background in transforming traditional waterfall PMOs to an Agile Center of Excellence

- Micah Schwanitz
  - Software Development Program Manager
  - SAFe Program Consultant and PMP
  - Background in SDLC and waterfall environments with 1y 10mos of SAFe experience.
Elekta - Introduction

- Elekta provides **innovative and clinical** solutions for treating cancer and brain disorders.

- As part of the medical device industry, we work in a **high-assurance** environment **regulated** by the FDA.

- Elekta was founded in 1972 and has grown to 3,400 employees **globally** with locations in St. Louis MO, Sunnyvale CA, Atlanta GA, Shanghai, Sweden, Germany, Italy and England.

- Business areas must work closely together to ensure the **software systems and hardware** we develop comes together as an integrated solution.
Background

- Roadmap defined as “what was desired”, but became basis for judging success of engineering delivery in lieu of any other information
- **Too much WIP** without realistic picture of the demand versus available capacity – **low delivery and quality predictability**
- New work constantly approved and taken on in lieu of **understanding of impact** to the rest of the work in progress
- Teams struggle with constant feedback of **missing deadlines/expectations** and have no input into the timelines set
- Sales team frustrated, customers frustrated, strained relationships between the business and engineering – **low morale**
- Building an entirely new platform...lots of unknowns on architecture
- The journey begins.....started SAFe transformation roughly 2 years ago
What were our goals?

• Understand the highest business priorities
• Ensure we align capacity against those priorities
• Improve delivery predictability
• Transparency of progress against the plan
• Build TRUST between engineering and the business (product mgmt./business line management)
• Rebuild the legacy command and control PMO into an agile PMO that provides valuable information for data driven portfolio planning
• Create a rewarding work environment for employees
Principles of Modern Capacity Planning

- Team as the resource unit
- Roughly right
- Continuous planning cadence
- Balance demand and supply
- Tolerate incomplete data

Reference: Rally’s Capacity Planning Blog Series
Where did we start? What were our inputs?

- Investment themes – determined % of overall budget we would invest in different products/services
- Fixed capacity, value stream based release trains
- Reserved capacity for exploration, innovation, HIPs.....etc
- Growth/decline in capacity scenarios
- Long Term Roadmap translated to Epics
- Prioritized portfolio backlog – financial business cases
How did we quantify our supply or “capacity”? 

- Strategic Areas (Major Budget Categories) = Investment Themes

- Team capacity
  - “Ideal team” = 7 members (5DE, 2QE, 1 Scrum Master, 1 Product Owner)
  - Ideal team capacity = 19 “Scrum Team Sprints” (STS) per year.
    - 26 Total Sprints in a year – 4 HIP sprints – 2 sprints to cover architecture runway – 1 sprint for explorations/unknowns

- Adjusted capacity for varying team size
  - Team size/7 X 19STS = STS of capacity for the year

- Rolled up annual STS capacity per major budget category
How did we quantify our demand?

- Cross functional teams
  - Business / Development / Architecture

- T-shirt size buckets – XS, S, M, L, XL

- Relative sizing
Group roughly same size epics together
So how much bigger is a large than a medium?
But how big is X?

STS = Scrum Team Sprint

2sts | 5sts | 10sts | 25sts

Too big! Break it down
How did we use the Rally Portfolio Scenario Planning tool?

- Setting the time frame
- Building the backlog/demand
- Building the teams
- Assigning teams to the scenario
- Preliminary Scoping
- Demand vs Capacity → Cut line analysis
- Moving the line
Building the Backlog/Demand

- Imported from Rally Portfolio Manager (RPM)
- Preliminary Size = T-shirt sizes from estimation effort
- Rough estimates (in STS) added once imported according to the T-shirt size
- Expertise fields available to specify items that need more attention to a constrained area of capacity
Loading the Supply

• Load Delivery Groups – groups of teams

• Load Teams
Assigning Groups and Teams to the Scenario

• Created scenarios for both real and fictitious teams
Preliminary Scoping and Cut Line Analysis

- Cut line shows where capacity runs out and what content makes the cut and what does not.

<table>
<thead>
<tr>
<th>Timeframe: FY 15/16 Plan (May 01, 2015 – April 20, 2016)</th>
<th>Total Rough Capacity (FTS) 126</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRELIMINARY SIZE</td>
<td>ROUGH ESTIMATE</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>E521</td>
<td>M</td>
</tr>
<tr>
<td>E513</td>
<td>M</td>
</tr>
<tr>
<td>E519</td>
<td>S</td>
</tr>
<tr>
<td>E522</td>
<td>S</td>
</tr>
<tr>
<td>E523</td>
<td>S</td>
</tr>
<tr>
<td>E536</td>
<td>S</td>
</tr>
<tr>
<td>E465</td>
<td>M</td>
</tr>
<tr>
<td>E445</td>
<td>M</td>
</tr>
<tr>
<td>E454</td>
<td>L</td>
</tr>
<tr>
<td>E455</td>
<td>M</td>
</tr>
<tr>
<td>E458</td>
<td>S</td>
</tr>
<tr>
<td>E459</td>
<td>L</td>
</tr>
<tr>
<td>E460</td>
<td>M</td>
</tr>
</tbody>
</table>

Select Demand

Search

E459 -
E459 - (F2026, F2273)
E460 -
E390 -
(F1870, F1871, F1877, F1880, F1959, F2055, F2348, F2351, F2353, F2405, F2361, F2364, F2365, F2367, F1887, F2140, F2352)
E384 - (F1015, F2323, F2324, F2340)
E383 - (F1870, F1871, F1877, F1880, F1959, F2055, F2348, F2351, F2353, F2405, F2361, F2364, F2365, F2367, F1887, F2140, F2352)
Adjusting Supply with Fictitious Teams for What-If Scenarios

- Added fictitious teams based on growth scenarios to show what could be accomplished with additional capacity
Analyzing the Impact of Additional Supply

- Other options for preliminary scoping
  - Reduce scope
  - Change priorities → Trade above the cut line item for one below the cut line
What was the first feedback to Management?

- Comparisons of scenarios per budget area for FY 15 (blue line) and FY 16 (red line) based on growth scenarios
- Applied what-if allocations
- What made it
  - “Above the cut line”
- What did not make it
  - “Below the cut line”
What was management’s initial reaction?

- Weeping, wailing, gnashing of teeth
- Stages of grief
- Picked at the process
- Why only roughly right?
Overall Results

- We were trying to fill one year with roughly 4X the amount of work we had capacity for
- Some product MVPs were adjusted
- Some items were cancelled
- Capacity was redistributed to the highest priorities
What value did management gain?

- **Minimal investment** required to land on “directionally good enough” or “roughly right” data to enable business decisions
- Management took the opportunity to **clarify priorities** which created momentum in moving forward our most important program
- **Old kingdoms/silos are beginning to melt** and capacity is being redirected to the highest value efforts
- The results were used to submit the long term business plan and budget to headquarters – we could now paint the picture of what products could/could not be delivered based on the amount of funding we received
- Feedback from Todd Powell – Executive Vice President, Elekta Software