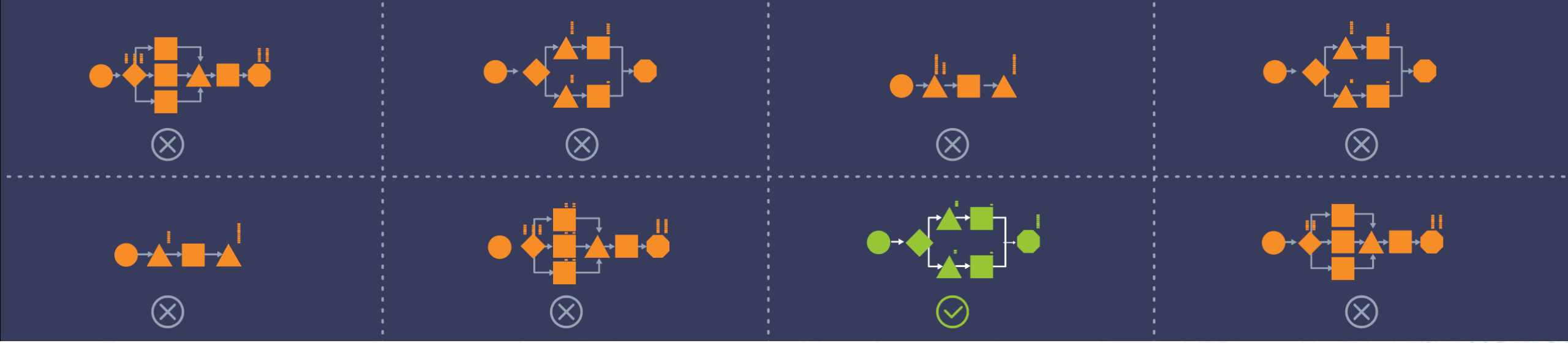

Master Series:

Everyday Uses of Process Modeling

Lars Maaseidvaag, PhD
Vice President of Product Development - MoreSteam

MoreSteam®

Masters Series Agenda

	Week 1	Week 2	Week 3
OBJECTIVES	• Introduction to simulation • Understand the basic components of modeling • The importance of understanding the impact of interactions in a dynamic process	• Transactional and Service models • Replenishment pull for supplies • Data collection and model validation • Techniques to model forecast work, kits of information, batch release, etc.	• Social distancing models • Your challenges – email your process model challenges to modeling@moresteam.com
HOMEWORK	eLearning course, Kathy's Best Wursts case study, build models from the webinar	Build the Loan Application and Agile Sprint models from today's session, complete the eLearning quiz	

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An Item By Any Other Name…

Process models consist of three basic components:

- Blocks which define the components of the process – Activities, queues, decisions, etc.
- Connectors which define the flow of the process
- Items which are the ‘things’ that move in the process. So what can an item be?

Product Customer Information Signal

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Items in Items

A loan package, which consists of an application, which triggered

- An appraisal process
- An underwriting process
- Employment verification, etc.

A bicycle, which is built from

- A frame, wheels, fork, handlebars, gears, pedals, etc.

A visit to the ER, which triggered

- The check-in process
- Health history and basic work-up
- Additional visits, test, scripts, etc.

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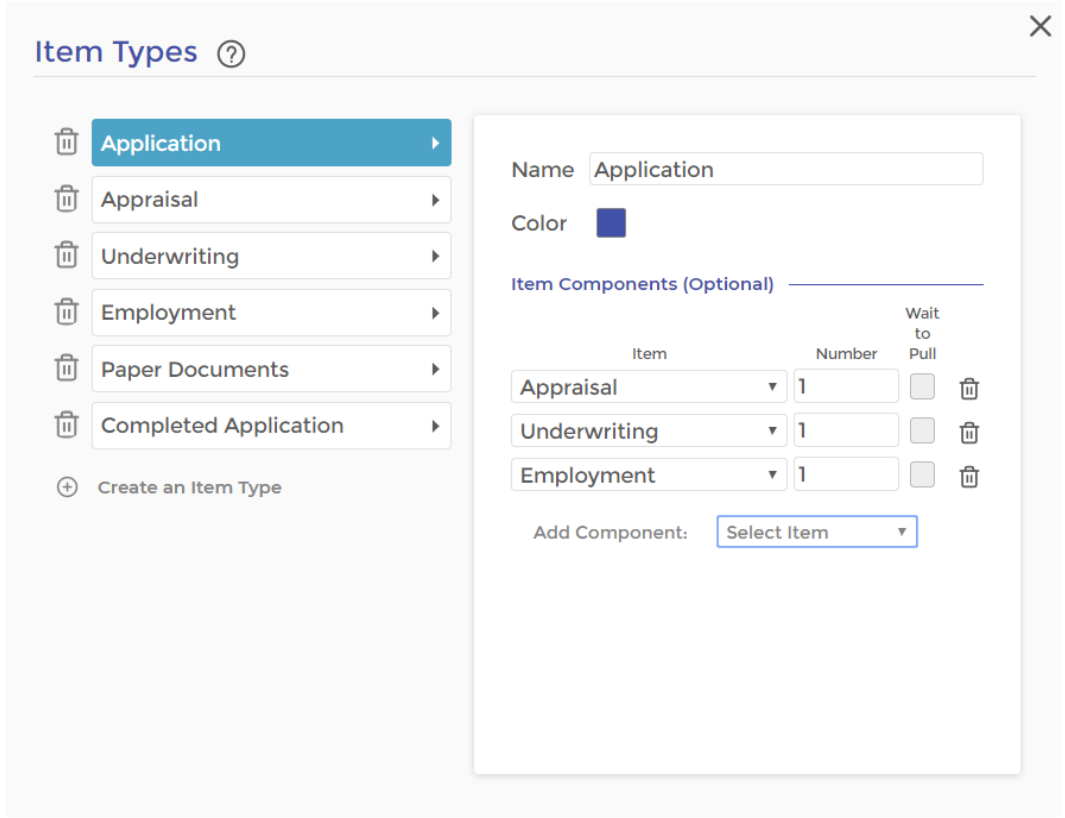
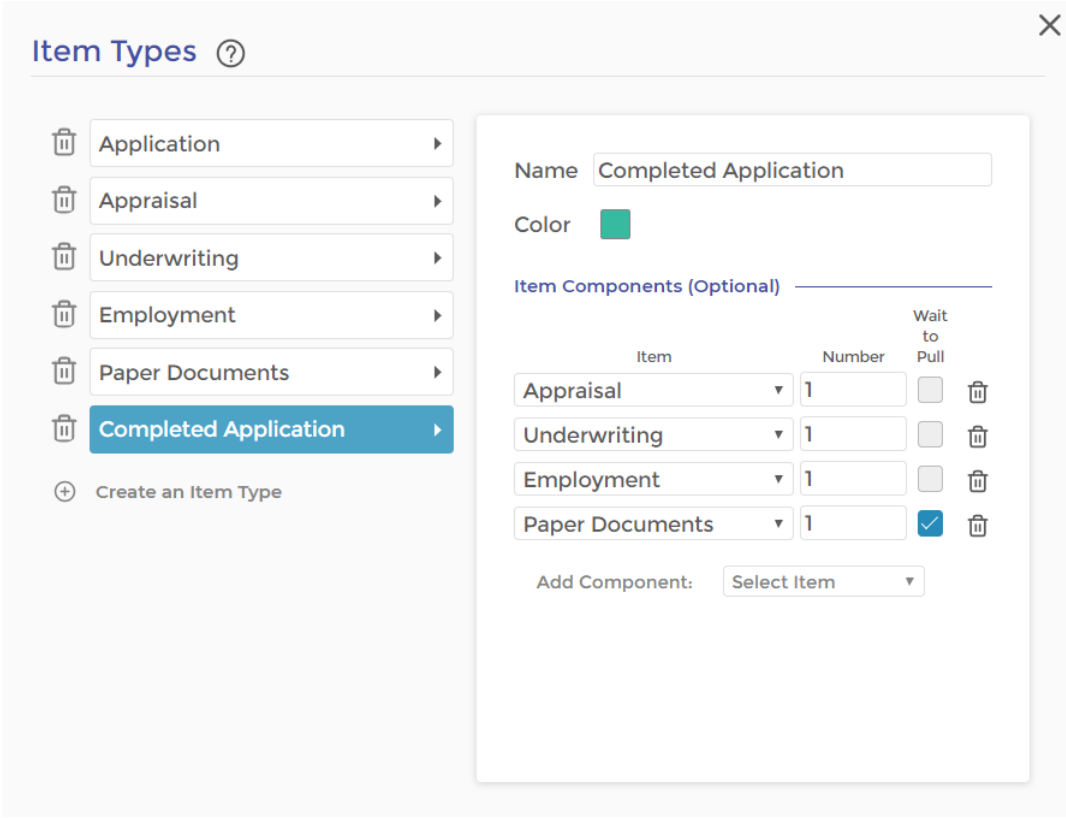
Compound Items





Model #1 – Loan Applications

Demand Block:

Exponentially Distributed,
mean of 4 hours "E(4)"

Split Block:
"Application" item type

Queues:
"Allow All Items" is unchecked

Add one item type to each queue:
Top queue: "Appraisal"
Middle queue: "Underwriting"
Bottom queue: "Employment"

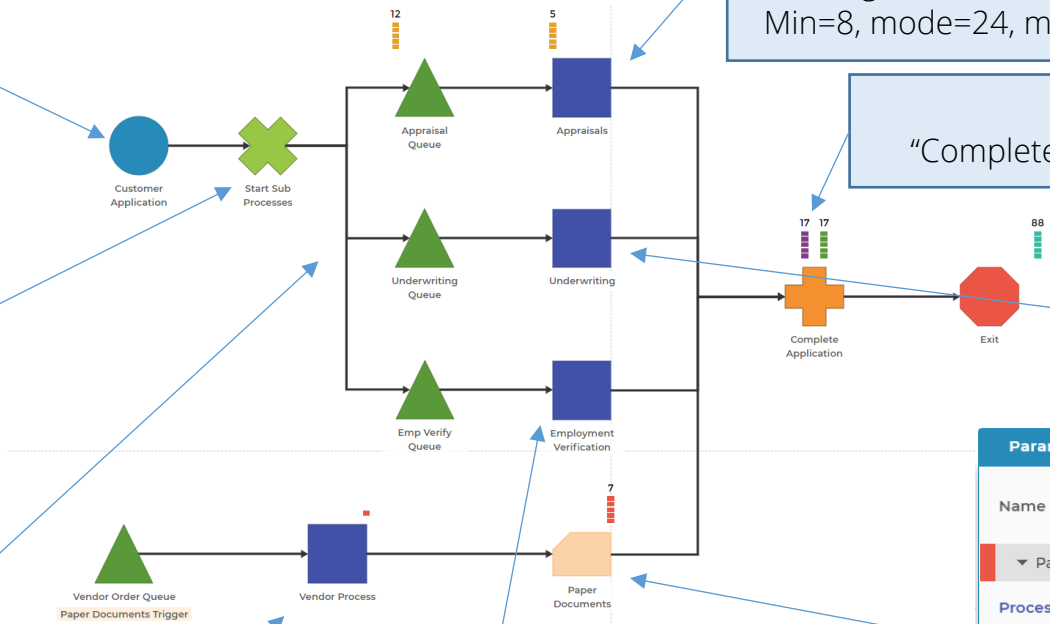
Activity "Vendor Process":
1 server
SETUP TIME = C(24) hours

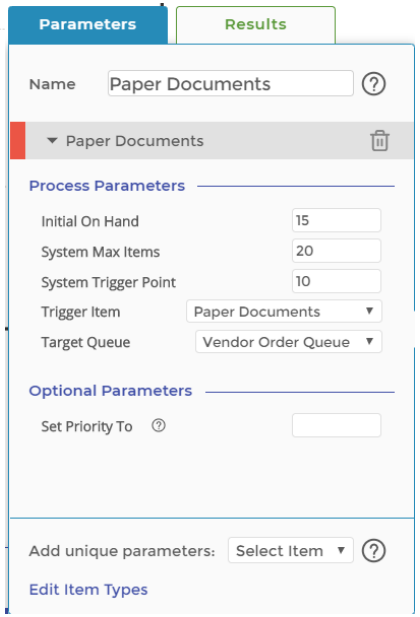
Activity "Employment Verification":
1 server
T(0.25,0.5,1) hours

Activity "Appraisals":
5 servers
Triangular Processing time of
Min=8, mode=24, max=48 hours

Kit Block:
"Completed Application" item type

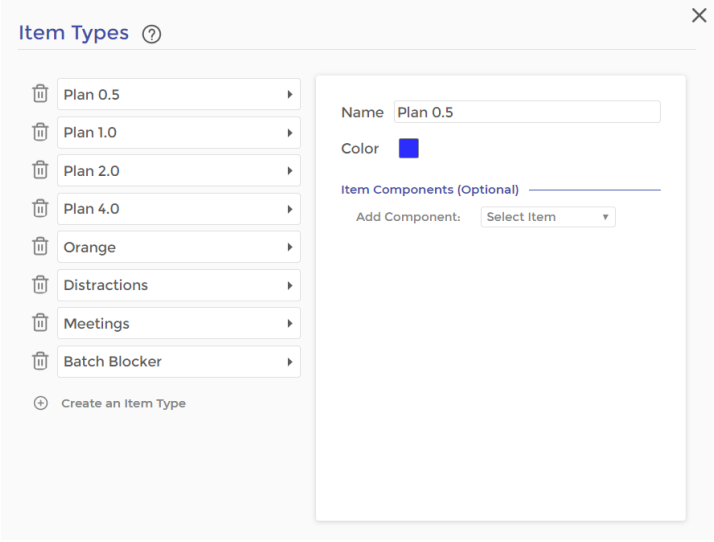
Activity "Underwriting":
3 servers
T(1,2,3) hours

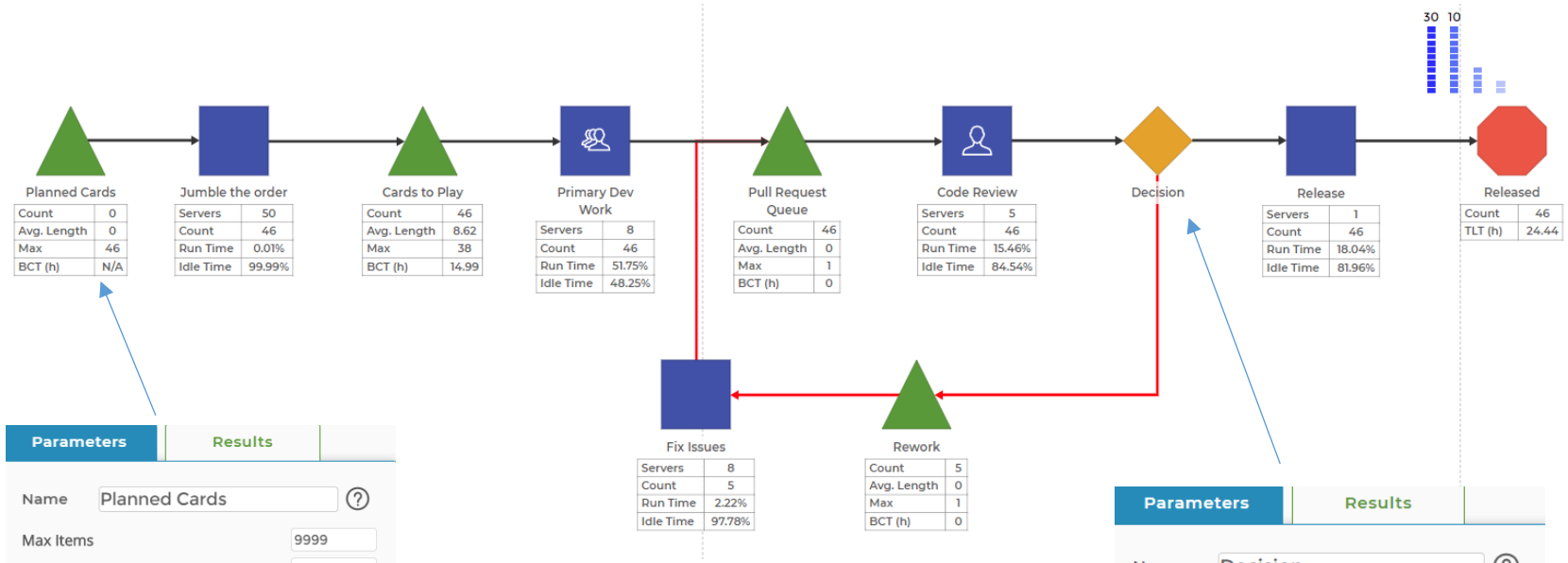


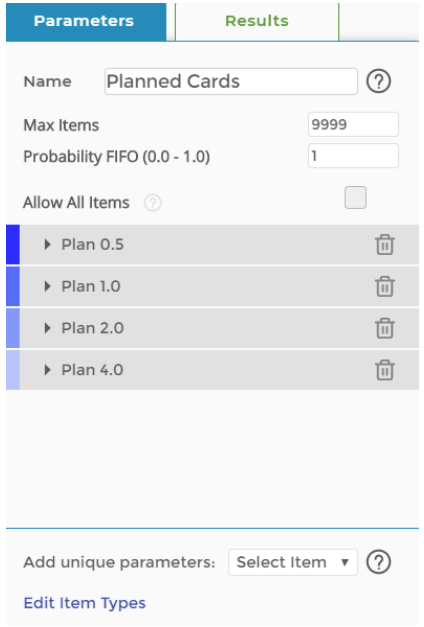


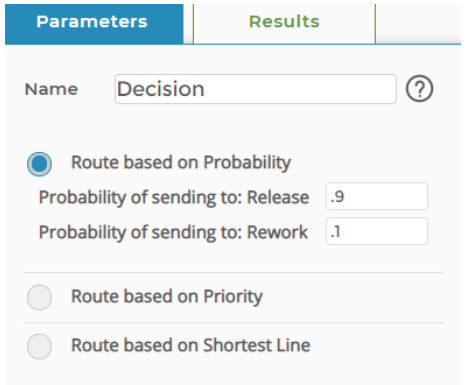
Run for 500 hours

Model #2 – Agile Sprint Planning









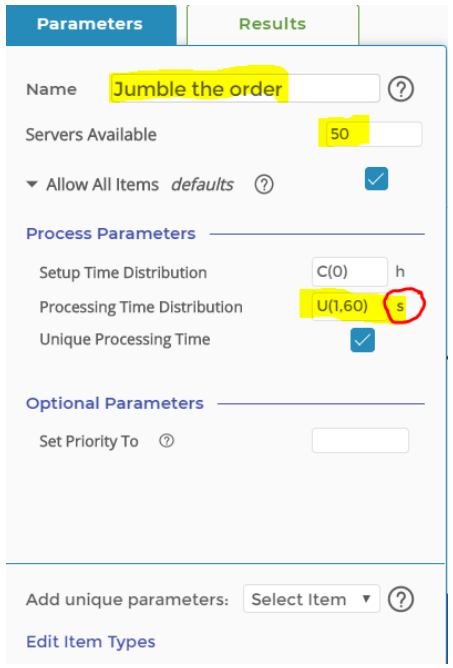
A demand block is not used in this model. The sprint plan is loaded into the queue which holds the planned cards for the sprint. This model will examine the capacity of the process to handle the planned workload

Initial On-Hand:

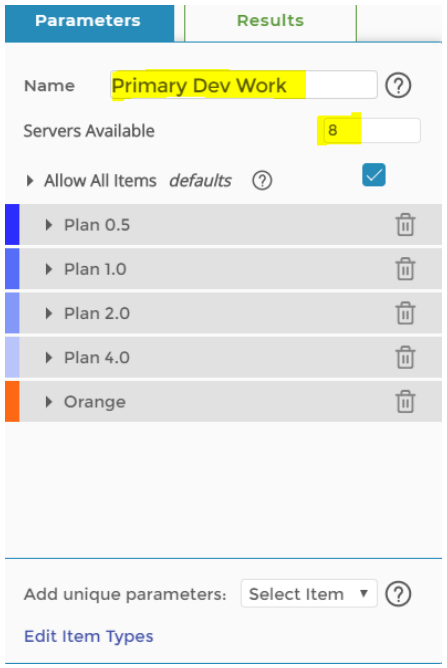
Plan 0.5 = 30
Plan 1.0 = 10
Plan 2.0 = 4
Plan 4.0 = 2

Run for 80 Hours (2 week sprint)

Add Block Parameters

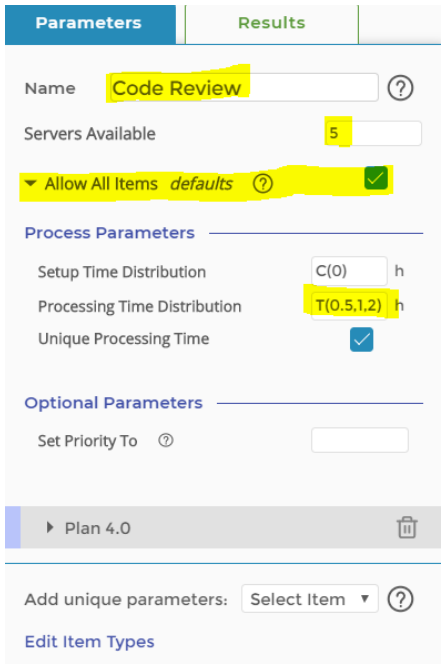


Insignificant addition of time, randomizes the order the cards will be played in the sprint



Unique processing times for each type of card:
Plan 0.5 = T(2,4,6) hours
Plan 1.0 = T(6,8,10) hours
Plan 2.0 = T(12,16,20) hours
Plan 4.0 = T(24,36,40) hours
Orange = T(0.25,1,6) hours

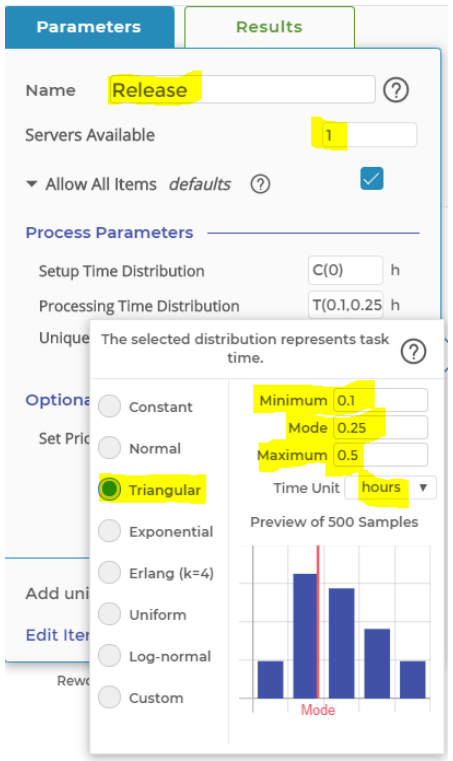
Orange card demand will be introduced later, but go ahead and add it to the activity block now

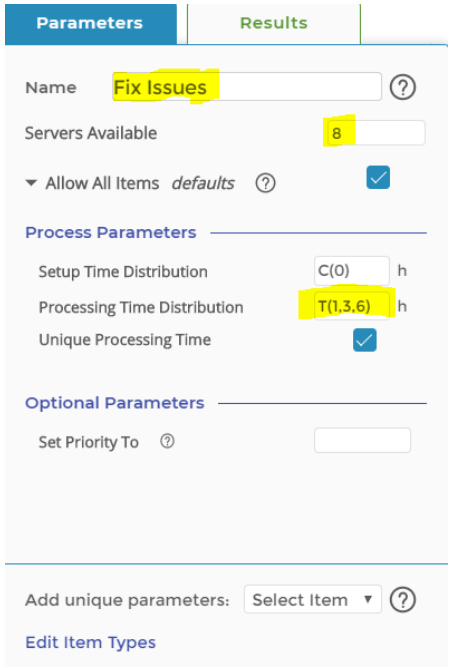


All item types have the same distribution of time at T(0.5,1,2), except for the Plan 4.0 items.

The "Allow All Items *defaults*" setting will provide default values to the item, EXCEPT when you add a specific item below.

The processing time for Plan 4.0 items is T(2,4,6)





Add Resource Allocation

Parameters | Results

Name: Managers

Connected Activity Blocks

Block Name	Priority
Primary Dev Work	1
Code Review	2
Fix Issues	3
Release	4

Select by Block Name

Resource Availability Table

Start Time	End Time	Resource Count
0	End	2

Add Row

Parameters | Results

Name: Senior Devs

Connected Activity Blocks

Block Name	Priority
Primary Dev Work	1
Code Review	2
Fix Issues	3

Select by Block Name

Resource Availability Table

Start Time	End Time	Resource Count
0	End	3

Add Row

Parameters | Results

Name: Junior Devs

Connected Activity Blocks

Block Name	Priority
Primary Dev Work	1
Fix Issues	2

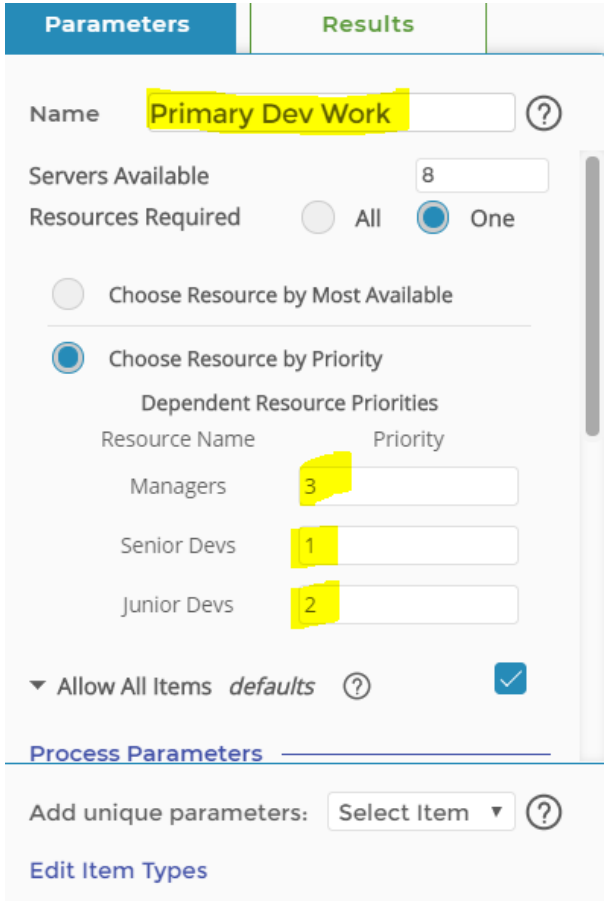
Select by Block Name

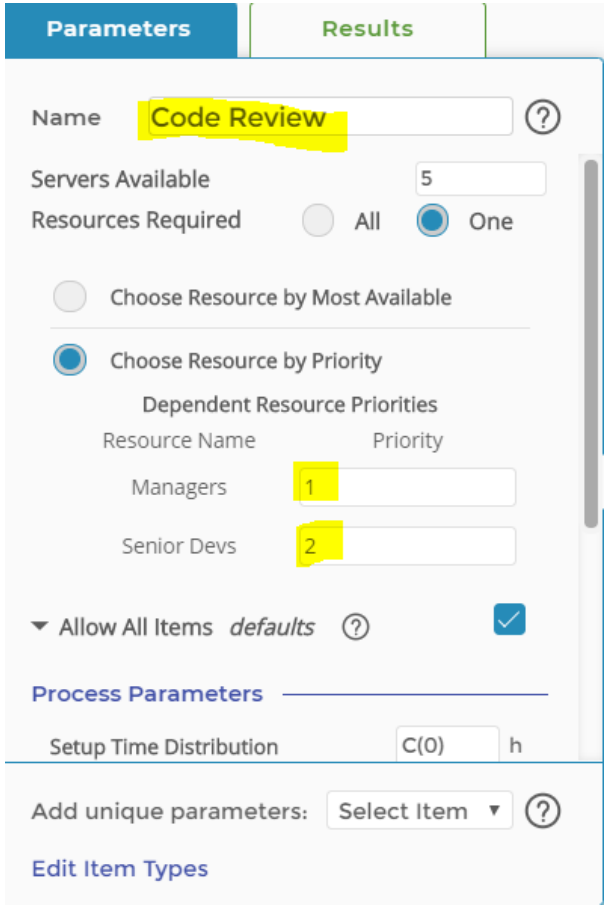
Resource Availability Table

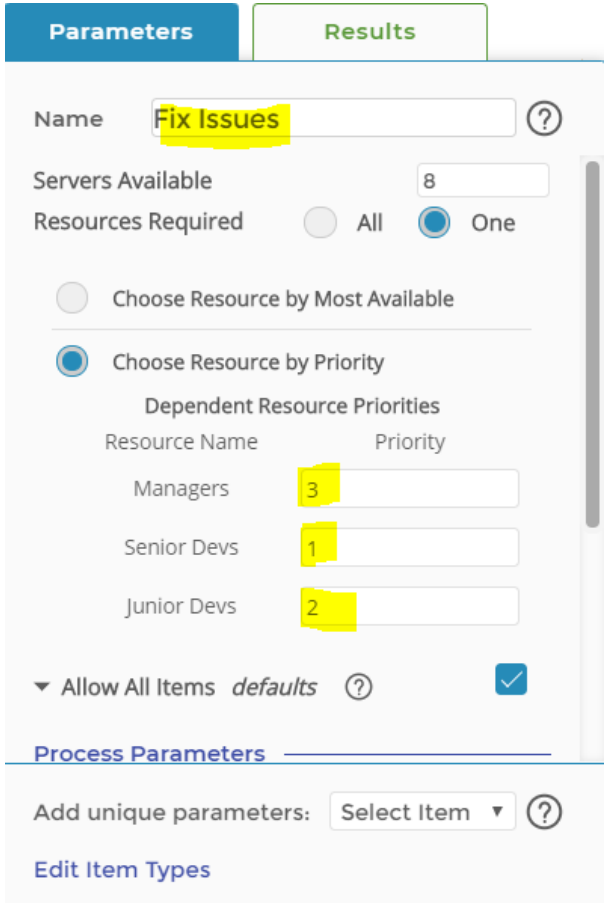
Start Time	End Time	Resource Count
0	End	3

Add Row

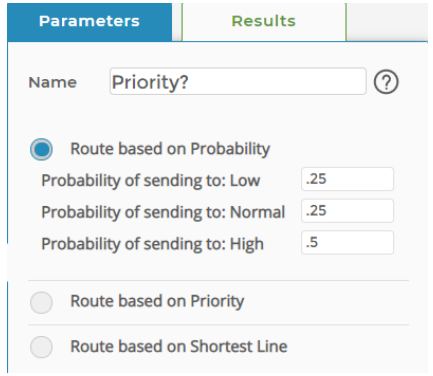
And Adjust Activities to Reflect Resources

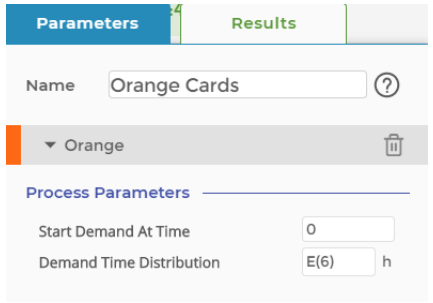


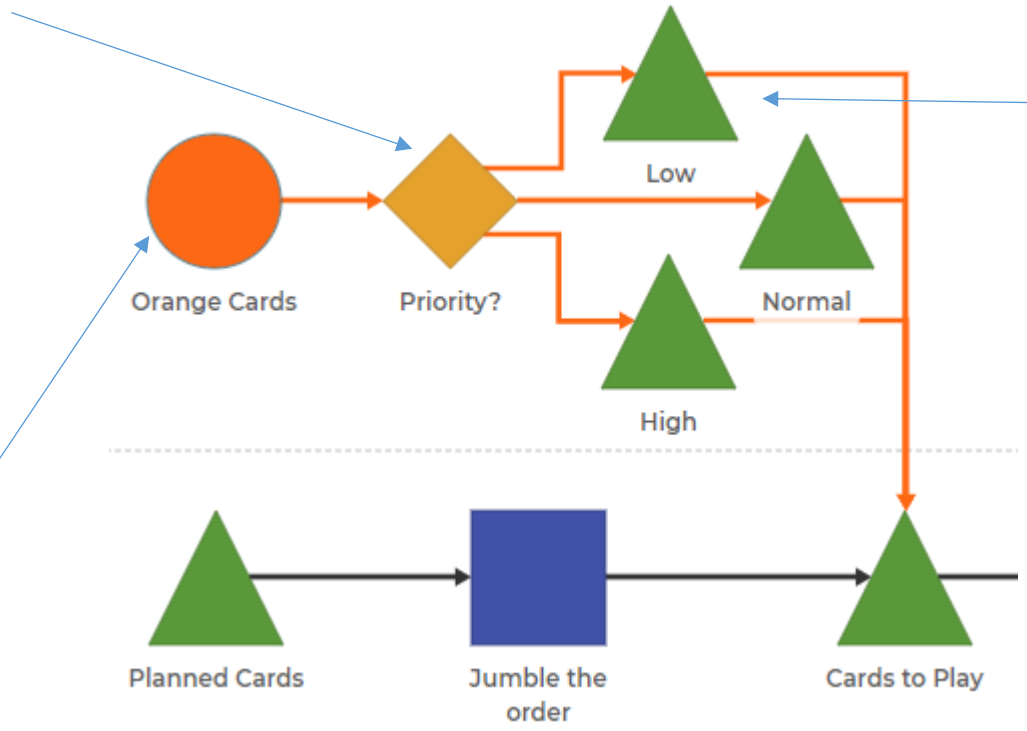


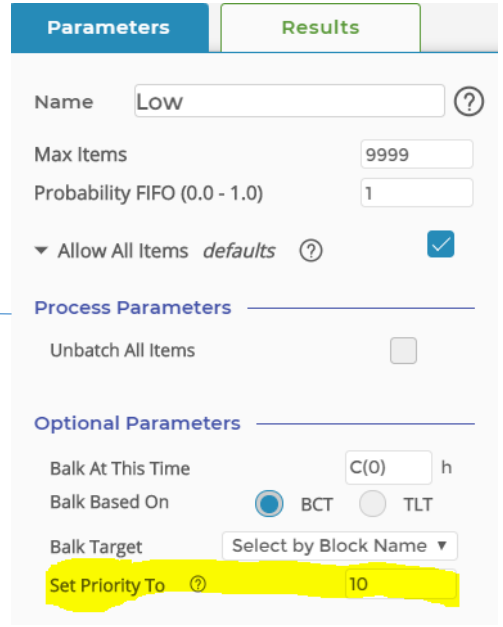


Add Unplanned Work





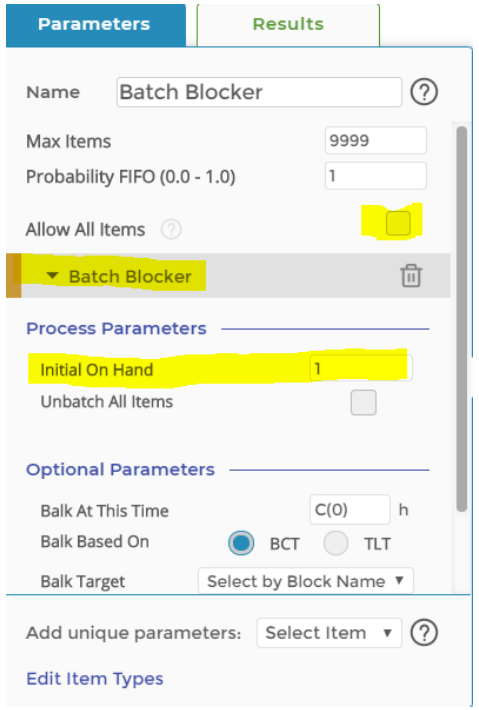


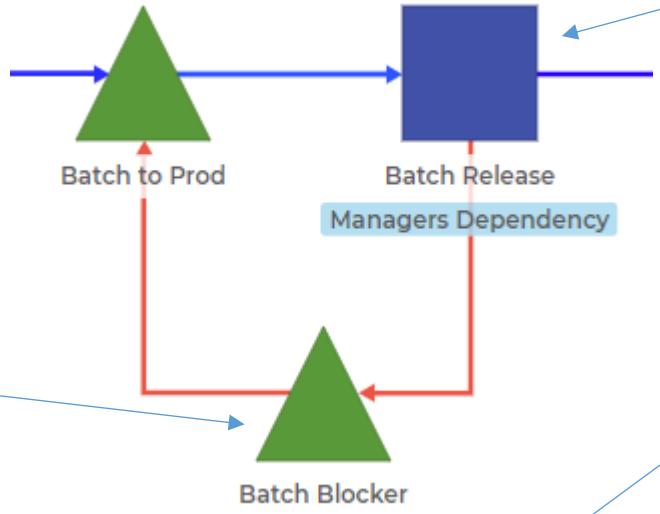


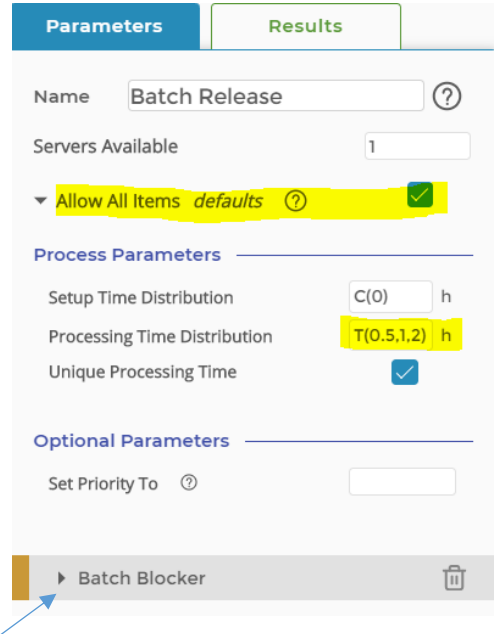
Priorities:

Low = 10
Normal = 5
High = 1

Add Batch Release to Production

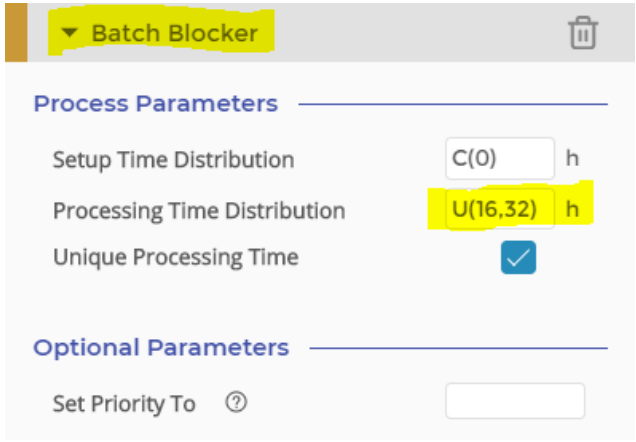




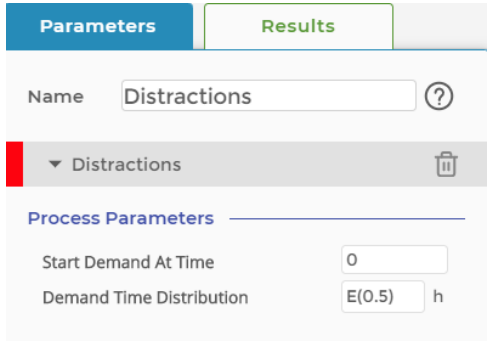


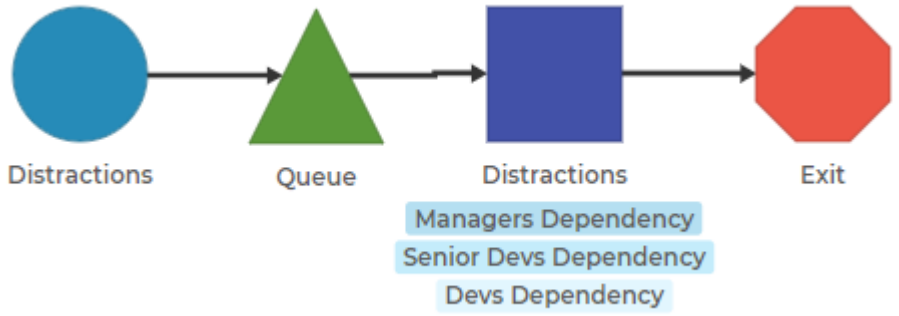
Default time for all items EXCEPT 'Batch Blocker' which has unique parameters entered below

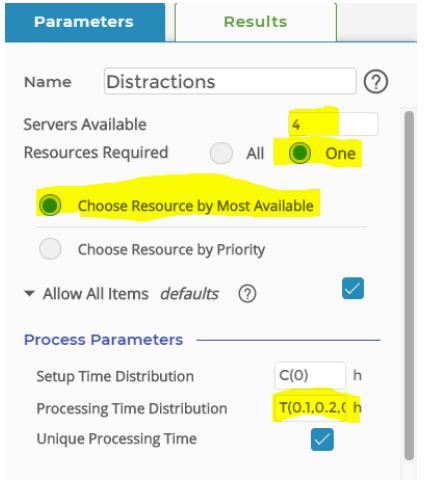
Click the triangle to expand the parameters available for 'Batch Blocker'

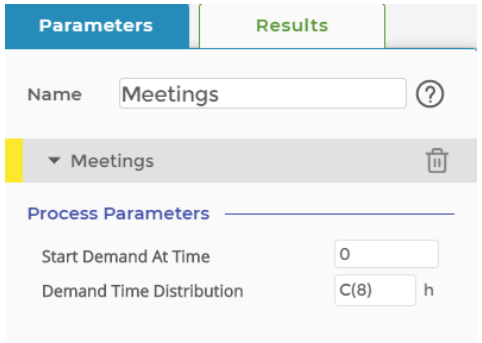


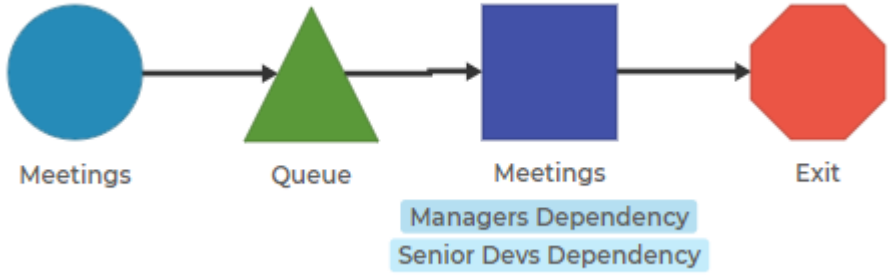
Add Distractions and Meetings

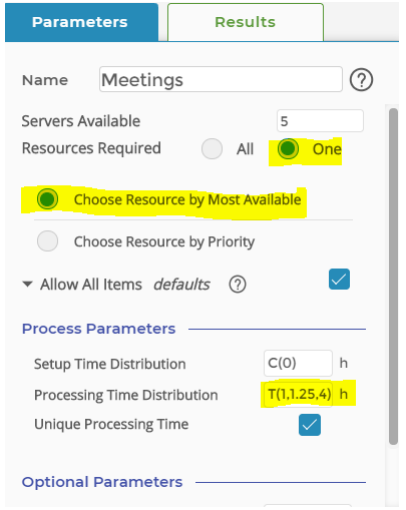












Homework and More

HOMEWORK:

- Follow the instructions in your enrollment email to access the "Introduction to Process Modeling" course.
  - *Don't see the email in your inbox? Check your spam folder.*
- Complete the lessons, including the "Kathy's Best Wursts" case study.
- Answer the quiz questions based on the case study and the models built in Session 1.

Today's slides & recording will be available at:
https://www.moresteam.com/webcasts/process-modeling-master-series.cfm

Questions about course content or the Process Playground modeling tool?
Contact modeling@moresteam.com

For more information about MoreSteam's products & services:
Contact Kathy Miller at kmiller@moresteam.com

COMING UP IN SESSION 3: Challenge Lars with your process modeling problems. A simple process map and description of the problem, and a little bit of data would help if you have it. Email to modeling@moresteam.com

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