

# Technical Note - A Basic SAFe Release Capacity Calculator

**Purpose.** Provide teams with a baseline guardrail for loading user stories into each Sprint or Iteration.

**Definition.** Capacity is the number of staff days available per individual agile team members for a Sprint and Release. Capacity is adjusted downward for enterprise holidays and agile team member leave. SAFe recommends a 20% reserve capacity, buffer, or safety margin per Sprint. For instance, if a raw number of staff days per Sprint is 10, it is adjusted to 8 based on reserve capacity, and further adjusted downwards based on agile team member leave or project allocation.

**Explanation.** Each Agile Team on a SAFe Agile Release Train (ART) must estimate the number of staff days it has available for a Release. User Stories will later be assigned story points in staff days as well. Both capacity and story points are expressed in staff days. The number of story points per sprint should not exceed the Agile Team capacity per sprint. The goal is to help Agile Teams achieve their Sprint goals and predictability.

**Job Aids.** A "Basic SAFe Release Capacity Calculator" is provided to help with capacity estimation.

1	<b>Sprint or Iteration</b>		Sprint 17.1	Sprint 17.2	Sprint 17.3	Sprint 17.4	1. Enter Sprint or Iteration Number (String) 2. Enter Sprint Dates (Inclusive) 3. Enter Sprint Length (Weeks) 4. Enter Enterprise Holidays (Number) 5. Enter Margin or Buffer (Percentage) 6. Enter Teammember, Role, and Leave (Number) 7. Enter Data into Confluence (circled in-red)							
2	<b>Inclusive Dates</b>		12/11-12/31	1/1-1/21	1/22-2/11	2/12-3/4								
3	<b>Sprint Length</b>	3	15	15	15	15								
4	<b>Enterprise Holidays</b>		1	2	0	1								
5	<b>Margin</b>	80%	11	10	12	11								
6	<b>Teammember</b>	<b>Role</b>	<b>Individual Teammember Leave per Sprint</b>								<b>Sprint 17.1</b>	<b>Sprint 17.2</b>	<b>Sprint 17.3</b>	<b>Sprint 17.4</b>
a.	Bob	Lead	2	2	1	1					9	9	10	10
b.	John	Database	2	2	0	2	9	9	11	9				
c.	Sue	Dev	1	3	2	3	10	8	9	8				
d.	Diane	Dev	3	2	1	1	8	9	10	10				
e.	Ken	Dev	1	3	3	1	10	8	8	10				
f.	Ralph	Dev	5	2	1	2	6	9	10	9				
g.	Dave	Test	1	2	1	3	10	9	10	8				
h.	Chris	Test	7	2	0	4	4	9	11	7				
i.	Mary	CM	2	4	0	1	9	7	11	10				
j.	Russ	Req.	3	2	5	2	8	9	6	9				
k.														
l.														
m.														
n.														
o.														
<b>Sprint Capacity</b> - Story points per Sprint should not exceed these values							<b>83</b>	<b>86</b>	<b>96</b>	<b>90</b>				

**Footnote.** SAFe is a reference model and is not a step-by-step prescriptive process. This basic approach for estimating capacity may be superseded by other capacity estimation tools and techniques. Also, SAFe capacity may be considered different from velocity which is a historical performance measurement (i.e., what an Agile Team is able to accomplish which may be higher or lower than the estimated capacity each Sprint). SAFe capacity estimation is not to be used for budgeting precision (and is only a guardrail to prevent Agile Teams from overloading themselves).

# Basic SAFe Release Capacity Calculator

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2	<b>Inclusive Dates</b>		12/11-12/31	1/1-1/21	1/22-2/11	2/12-3/4								
3	<b>Sprint Length</b>	3	15	15	15	15								
4	<b>Enterprise Holidays</b>		1	2	0	1								
5	<b>Margin</b>	80%	11	10	12	11								
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**Footnote** - Cells highlighted in yellow are for user input (i.e., RTE enters 1-4, while Agile teams enter 5 thru 6).

## Individual Capacity Calculator Steps or Instructions

1	<b>Enter Sprint or Iteration Number</b> - Enter the Sprint Release and number (i.e., Release 17, Sprint 1 as "Sprint 17.1").
2	<b>Enter Sprint Dates (inclusive)</b> - Enter the starting and ending Sprint month and day (i.e., Wed-Tue, 12/11-12/31).
3	<b>Enter Sprint Length</b> - Enter the Sprint length in weeks (i.e.,two or three as a whole number, 3).
4	<b>Enter Enterprise Holidays (Number)</b> - Enter the number of enterprise holidays per Sprint (i.e.,whole number).
5	<b>Enter Margin or Buffer</b> - Enter the safety margin or buffer (i.e.,SAFe suggests 80% minimum load, but may be lower).
6	<b>Enter Teammember, Role, and Holidays</b> - Enter the team member, role, and holidays per Sprint (i.e.,whole number).
7	<b>Enter Data into Confluence</b> - Copy and past Agile team member names and Sprint capacity into Confluence.

## Capacity Calculator Definitions

1	<b>Capacity</b> - The number of staff days available per individual team members for a Sprint or Release.
2	<b>Sprint</b> - A time boxed Sprint or Iteration expressed as total number of possible staff days (without holidays).
3	<b>Inclusive Dates</b> - The month and day of the start and end of Sprint (typically from Wednesday to Tuesday).
4	<b>Sprint Length</b> - The number of staff weeks expressed as a whole number (without holidays).
5	<b>Enterprise Holidays</b> - The number of enterprise holidays per Sprint expressed as whole number (contractually required).
6	<b>Margin</b> - The margin or safety buffer for loading an individual Sprint expressed as a percentage.
7	<b>Developer Name</b> - The name of the Agile team members expressed as surname,firstname (i.e., Doe, John).
8	<b>Developer Role</b> - A short descriptive label for an individual Agile team member (i.e., lead, developer, tester, etc.).
9	<b>Individual Holidays</b> - The number of additional holidays, vacation,leave, sick time, etc. expressed as whole number.
10	<b>SAFe Story Point</b> - Pseudo-Fibonacci sequence representing staff days per user story (i.e., 1, 2, 3, 5, 8, 13, 21, etc.).

## Capacity Calculator Assumptions

1	It's basic purpose is to help Agile teams prevent overloading their Sprints with too many user stories.
2	Most values are expressed as whole numbers and are rough estimates of leave and capacity (i.e., best guesses)
3	The safety margin is a buffer for Agile ceremonies, unplanned meetings, unexpected events, and estimation errors
4	The safety margin may be adjusted up or down based on certainty, uncertainty, and other special circumstances
5	<b>Individual holidays may also be adjusted for individual project allocation (i.e., how many days available to project)</b>
6	This represents a basic tool and does not constitute an exclusive method of estimating capacity
7	Other best practices for estimating capacity may be introduced and institutionalized as necessary
8	Capacity estimation may vary from Agile team-to-team based on individual culture, technology, and needs
9	<b>SAFe capacity estimation is for individual team planning purposes only and is not a precise budgeting estimate</b>
10	The enterprise holiday field is to adjust capacity based on whether it's contractually open or closed (may be entire Sprint)
11	Do not adjust the Sprint length or alter the Release or Sprint cadence based on holidays, or enterprise open or closure
12	SAFe and Scrum Sprint cadence is more or less static regardless of whether the enterprise is open or closed