

GET STARTED WITH LYNX

Understanding Project Statistics

A-dato

High Performance Delivered

Topics

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Example Project

Project status = "Not started"

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The screenshot displays a project management application with the following components:

- Task List:**

ID	Name	Duration
1	Task 1	[10 days]
2	Task 2	[5 days]
3	Task 3	[10 days]
4	Task 4	[5 days]
5	Task 5	[15 days]
- Gantt Chart:** Shows a timeline from Sep 31 to Nov 23. Task 2 is highlighted with a green box labeled "Milestone Date for Task 2". A red arrow labeled "20 days" points from the end of Task 2 to the end of Task 5.
- Statistics Panel:**

Property	Value
Project start	Today
Calculated start	Today 9:00
Calculated finish	Tue 27 Oct 17:00
Due date	Tue 24 Nov
Due date performance	20 days early
Shortest path	35 days
Critical chain	40 days
Project buffer	None
Critical chain gap	
Resource hours	360h
remaining	360h
- Task properties Panel:** Shows "Constraint" set to "As soon as possible" and "Deadline" set to "Fri 2 Oct 17:00".

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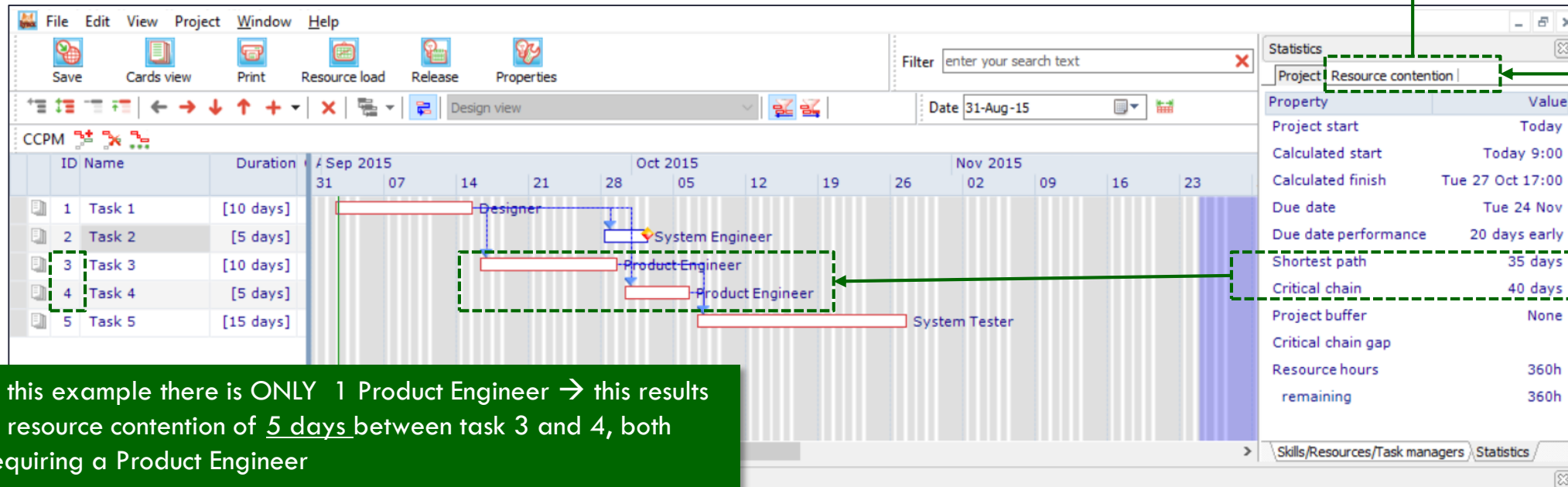
Statistics – Not Started Mode

Critical Chain and Shortest Path Statistics → Resource Contention

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This window shows the task(s) with resource contention

Task	Resource/Skill
3	S: Product Engineer [5 days]



In this example there is ONLY 1 Product Engineer → this results in resource contention of 5 days between task 3 and 4, both requiring a Product Engineer

Shortest Path is 35 days Critical Chain is 40 days
(including the 5 days resource contention)

If there is "Resource Contention" it means that the project can be made faster if more resources (e.g. 2 Product Engineers) would be available.

Adding buffers via CCPM Property Box

Milestone Buffer and Project Buffer

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Recalculate buffers dialog:

- Insert feeding buffers
 - feeding buffer size (%) 50
 - Consume feeding buffers when they extend the duration of the CC
- Insert milestone buffers
 - milestone buffer size (%) 50
 - Consume milestone buffers when they extend the duration of the CC
- Insert project buffers
 - project buffer size (%) 50

Design view dropdown:

- Design view
- Design view
- Critical chain view
- Debuffered view
- Feeding chains:
 - Milestone buffer [3]
 - Project buffer [7]

Property Table:

Property	Value
Project start	Today
Calculated start	Today 9:00
Calculated finish	Tue 27 Oct 17:00
Due date	Tue 24 Nov
Due date performance	20 days early
Shortest path	35 days
Critical chain	40 days
Project buffer	20 days
Critical chain gap	
Resource hours	360h
remaining	360h

Annotations:

- Green dashed circles highlight the buffer size input fields in the dialog.
- Green dashed boxes highlight the 'Feeding chains' dropdown and the 'Project buffer' row in the property table.
- Green arrows point from the dialog to the Gantt chart and from the dropdown to the property table.
- Green bars in the Gantt chart represent buffers for 'Designer', 'System Engineer', 'Product Engineer', and 'System Tester'.

LYNX has added two "Feeding Chains":

- Feeding Chain to Milestone Buffer
- Feeding Chain to Project Buffer

Add buffers via CCPM property box

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Statistics – Released Mode

Project and Project Portfolio Statistics

Project Status now set to “Released”

Additional information is added to “Statistics”

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Project properties dialog box:

Some fields cannot be changed because this project has been released

General Custom fields Project dates Stages Scheduling Resource availability Critical chain

Critical Chain Project Management
Configure CCPM schedule parameters

Automatically detect and mark critical chain
 Automatically shorten task durations
Shorten durations by (%)

Buffer creation

Consume feeding buffers when they extend
Insert feeding buffer(s) (%)
Insert project buffer (%)

Project execution

Save project as a template

Expected buffer consumption (%)

Statistics panel:

Due date performance	20 days early
Shortest path	35 days
Expected finish	Tue 24 Nov 17:00
Critical chain	40 days
Project buffer	20 days
Current longest chain	40 days
Longest chain compl.	0%
Curr. longest chain gap	
Controlling buffer	Milestone buffer
Buffer consumed	0%
Feeding chain	15 days
Feeding chain compl.	0%
Resource hours	360h
remaining	360h

Expected Buffer Consumption % gives a forecast of the Expected Finish Date.
A percentage of 100 % assumes 100 % of the buffer will be consumed, which is 20 days after the calculated finish date
→ Tue 24 November 17.00

The “Milestone Buffer” is considered as the **Controlling Buffer**. LYNX displays the characteristics of this buffer and its feeding chain duration (15 days).

Only a Milestone Buffer or a Project Buffer can be a “Controlling Buffer”. (Feeding buffers are excluded)

After release, LYNX starts tracking the Current Longest Chain. Initially the Current Longest Chain is equal to the Critical Chain.

Controlling Buffer Information in Project View

= "Earliest Buffer" in Portfolio view

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Save Cards view Print Resource load Properties Filter enter your search text X

Schedule view Date 31-Aug-15

Tags 0 - Thu 27 Aug 11:10

ID	Name	Buffers
1	Task 1	10% 20% n/a
2	Task 2	0% 20% n/a
3	Milestone buffer	n/a 20% n/a
4	Task 3	10% n/a n/a
5	Task 4	10% n/a n/a
6	Task 5	10% n/a n/a
7	Project buffer	10% n/a n/a

Statistics

Project Resource contention

Property	Value
Project start	Wed 2 Sep
Calculated start	Today 9:00
Calculated finish	Thu 29 Oct 17:00
Due date	Tue 24 Nov
Due date performance	18 days early
Shortest path	30 days
Expected finish	Tue 24 Nov 13:00
Critical chain	
Project buffer	
Current longest chain	
Longest chain compl.	
Curr. longest chain gap	
Controlling buffer	Milestone buffer
Buffer consumed	20%
Feeding chain	10 days
Feeding chain compl.	33%
Resource hours	360h
remaining	320h

Skills/Resources/Task managers Statistics

LYNX communicates all key information for the Controlling buffer here.

LYNX considers the "Controlling Buffer" as the "Earliest Buffer" in the Portfolio View Project List

My activities Messages (0) Project portfolio Active tasks Calendar Configure

Templates Show all Not started Released Timeline Buffers Show most critical buffer

Ref.	Description	Status	Location	Project start date	End	Expected finish	CCPM Performance
	Controlling Buffer Simulation Project	Released			Tue 24 Nov	Tue 24 Nov	mlc/mc: 5d/15d 33% mbp/mb: 1,6d/8d 20%

resource hours: 360h remaining: 320h - 88%

Understanding Project Portfolio Statistics

Milestone Buffer Indicators

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Milestone Longest Chain (mlc) *Milestone Critical Chain (mc)*

Ref.	Description	Status	Location	Project start date	End	Expected finish	CCPM Performance
	Controlling Buffer Simulation Project	Released			Tue 24 Nov	Tue 24 Nov	mlc/mc: 5d/15d mbp/mb: 1,6d/8d

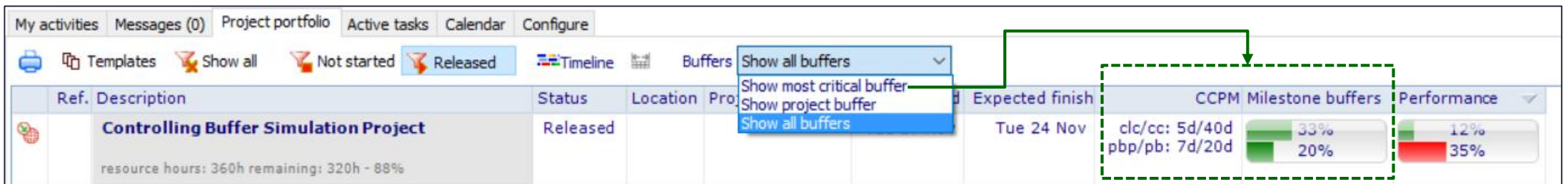
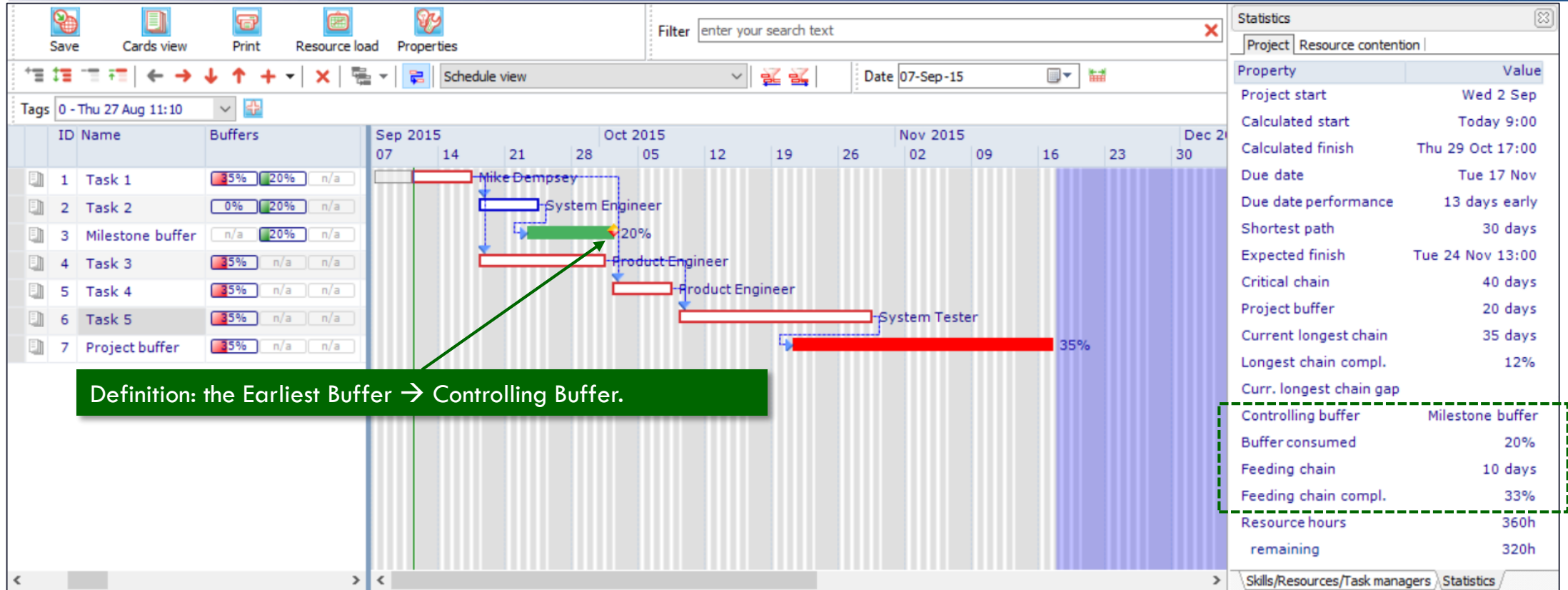
Milestone Buffer Penetration (mpb) *Milestone Buffer (mb)*

The screenshot shows a project management interface with a table of projects. The project 'Controlling Buffer Simulation Project' is highlighted. The table columns include Ref., Description, Status, Location, Project start date, End, Expected finish, and CCPM Performance. The performance metrics for this project are mlc/mc: 5d/15d and mbp/mb: 1,6d/8d. Green arrows point from labels to these metrics: 'Milestone Longest Chain (mlc)' points to '5d', 'Milestone Critical Chain (mc)' points to '15d', 'Milestone Buffer Penetration (mpb)' points to '1,6d', and 'Milestone Buffer (mb)' points to '8d'.

Current definition of "Controlling Buffer"

Controlling Buffer is Buffer with "Earliest Due Date"

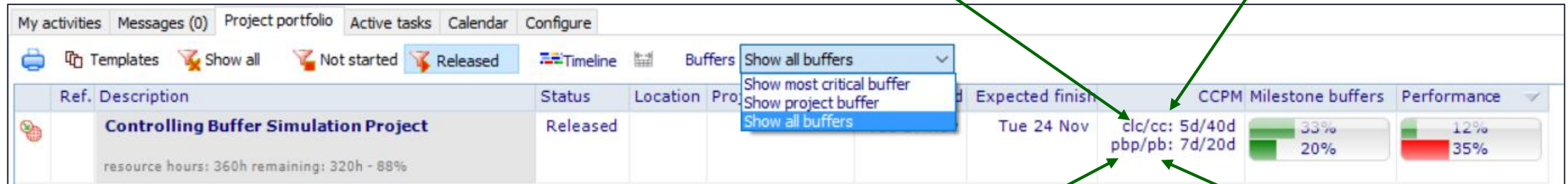
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Understanding Project Portfolio Statistics

Project Buffer Indicators

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The screenshot shows a project management interface with a table of projects. The project 'Controlling Buffer Simulation Project' is highlighted. A dropdown menu is open over the 'Buffers' column, showing options: 'Show all buffers', 'Show most critical buffer', 'Show project buffer', and 'Show all buffers'. The table row for this project shows the following data:

Ref.	Description	Status	Location	Project	Expected finish	CCPM	Milestone buffers	Performance
	Controlling Buffer Simulation Project resource hours: 360h remaining: 320h - 88%	Released			Tue 24 Nov	clc/cc: 5d/40d pbp/pb: 7d/20d	33% 20%	12% 35%

Current Longest Chain (clc)

Critical Chain (cc)

Project Buffer Penetration (pbp)

Project Buffer (pb)

Expected Finish Calculation

Expected Finish Formula (1)

*Calculated Finish + CLC (current longest chain)/CC*buffer size* % Expected Buffer consumption*

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29 October 17.00 + $(35/40 * 20 * 100\% = 17,5 \text{ days})$

Property	Value
Project start	Wed 2 Sep
Calculated start	Today 9:00
Calculated finish	Thu 29 Oct 17:00
Due date	Tue 24 Nov
Due date performance	18 days early
Shortest path	30 days
Expected finish	Tue 24 Nov 13:00
Critical chain	40 days
Project buffer	20 days
Current longest chain	35 days
Longest chain compl.	12%

Some fields cannot be changed because this project has been released

Expected buffer consumption (%)

29 October 17.00 + $(35/40 * 20 * 50\% = 8,75 \text{ days})$

Property	Value
Project start	Wed 2 Sep
Calculated start	Today 9:00
Calculated finish	Thu 29 Oct 17:00
Due date	Tue 24 Nov
Due date performance	18 days early
Shortest path	30 days
Expected finish	Wed 11 Nov 15:00
Critical chain	40 days
Project buffer	20 days
Current longest chain	35 days
Longest chain compl.	12%

Expected Finish Formula (2)

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29 October 17.00 + (35/40*20*100% = 17,5 days) = 24 November

Ref.	Description	Status	Project start date	End	Expected finish	CCPM	Performance
	Controlling Buffer Simulation Project resource hours: 360h remaining: 320h - 88%	Released		Tue 24 Nov	Tue 24 Nov	mlc/mc: 5d/15d mbp/mb: 1,6d/8d	33% 20%

29 October 17.00 + (35/40*20*50% = 8,75 days) = 11 November

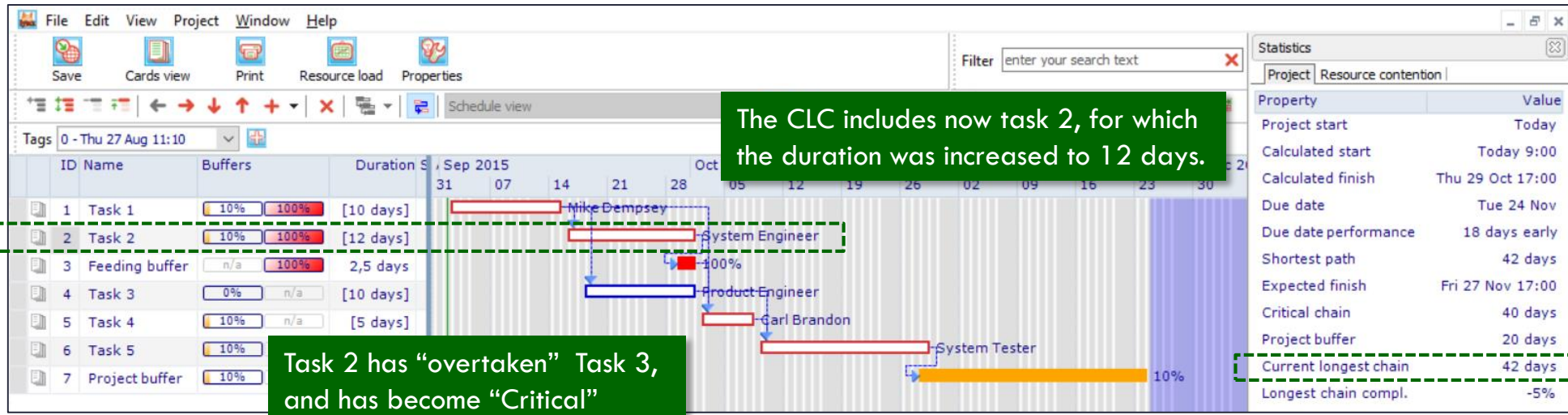
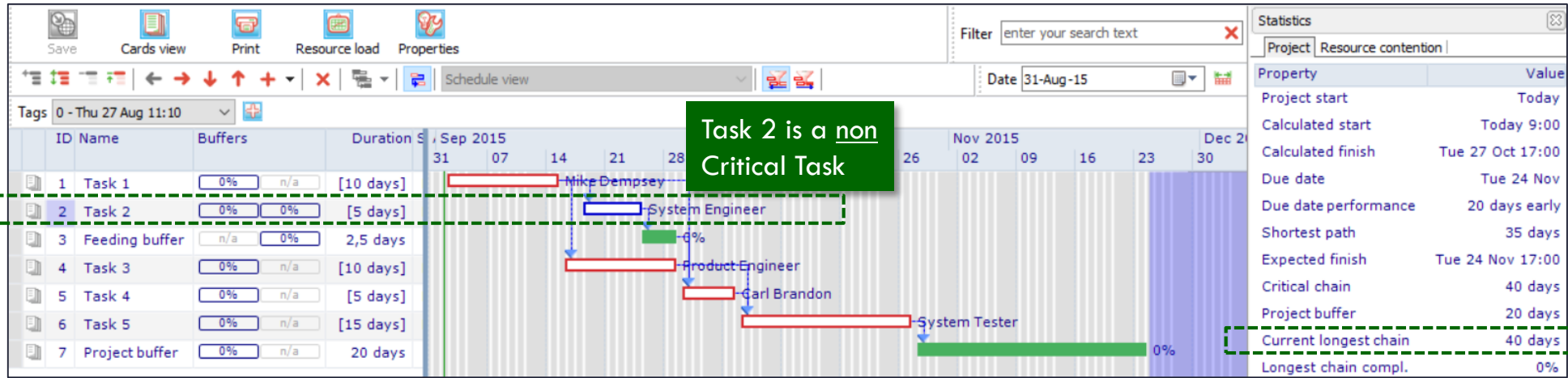
Ref.	Description	Status	Project start date	End	Expected finish	CCPM	Performance
	Controlling Buffer Simulation Project resource hours: 360h remaining: 320h - 88%	Released		Tue 24 Nov	Wed 11 Nov	mlc/mc: 5d/15d mbp/mb: 1,6d/8d	33% 20%

Measuring Progress

Current Longest Chain (clc) compared to the original Critical Chain (cc)

Current Longest Chain (clc) and Critical Chain (cc) (1)

CLC is measuring the longest chain during execution phase



Current Longest Chain and Critical Chain (2)

Task 2 was not part of Critical Chain, but has become part of the Current Longest Chain

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The screenshot displays the A-dato software interface. At the top, there is a menu bar (File, Edit, View, Project, Window, Help) and a toolbar with icons for Save, Cards view, Print, Resource load, and Properties. Below this is a filter input field and a date selector set to 31-Aug-15. The main area is a Gantt chart showing tasks from Sep 2015 to Dec 2015. Task 2 is highlighted with a green dashed box. The task list on the left shows:

ID	Name	Buffers	Duration
1	Task 1	10% 100%	[10 days]
2	Task 2	10% 100%	[12 days]
3	Feeding buffer	n/a 100%	2,5 days
4	Task 3	0% n/a	[10 days]
5	Task 4	10% n/a	[5 days]
6	Task 5	10% n/a	[15 days]
7	Project buffer	10% n/a	20 days

The 'Task properties' window is open, showing the 'Dependencies' tab. The 'On current longest chain?' checkbox is checked, while the 'Critical chain task?' checkbox is unchecked.

Property	Value
Project start	Today
Calculated start	Today 9:00
Calculated finish	Thu 29 Oct 17:00
Due date	Tue 24 Nov
Due date performance	18 days early
Shortest path	42 days
Expected finish	Fri 27 Nov 17:00
Critical chain	40 days
Project buffer	20 days
Current longest chain	42 days
Longest chain compl.	-5%

The "On current longest chain?" box is checked for task 2.

The "Critical chain task?" box is not checked. Task 2 was not part of the original Critical Chain when the project was released.

Gaps

On the Current Longest Chain

Current Longest Chain Gap (1)

Caused by a "Constraint"

LYNX calculates and displays a "gap" to indicate that the project potentially can go faster

This constraint causes a "Gap" of 3 days, positioned after task 1

Task properties

Constraint: Start no earlier than

Deadline:

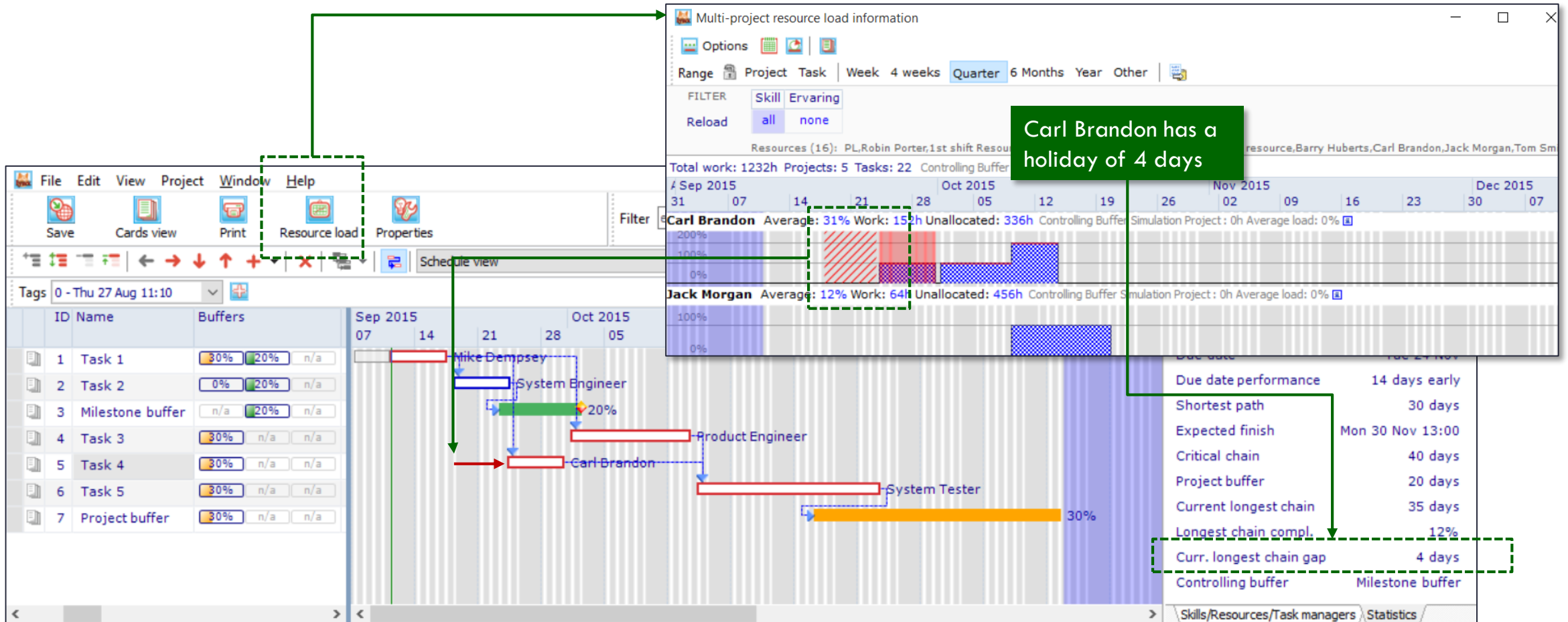
Property	Value
Project start	Wed 2 Sep
Calculated start	Today 9:00
Calculated finish	Tue 3 Nov 17:00
Due date	Tue 24 Nov
Due date performance	15 days early
Shortest path	30 days
Expected finish	Fri 27 Nov 13:00
Critical chain	40 days
Project buffer	20 days
Current longest chain	35 days
Longest chain compl.	12%
Curr. longest chain gap	3 days
Controlling buffer	Milestone buffer

ID	Name	Buffers
1	Task 1	25% 20% n/a
2	Task 2	0% 20% n/a
3	Milestone buffer	n/a 20% n/a
4	Task 3	25% n/a n/a
5	Task 4	25% n/a n/a
6	Task 5	25% n/a n/a
7	Project buffer	25% n/a n/a

ID	Name	Buffers
1	Task 1	25% 20% n/a
4	Task 3	25% n/a n/a
5	Task 4	25% n/a n/a
6	Task 5	25% n/a n/a

Current Longest Chain Gap (2)

Caused by a Resource Non-Availability period (Carl Brandon)



Critical Chain / Current Longest Chain Gap (3)

Result of inserting a buffer (e.g. feeding buffer) setting

The screenshot displays a project management application with a Gantt chart and a task list. The task list includes:

ID	Name	Size	Duration	Constraint
1	Task 1	[10 days]	As soon as	
2	Task 2	[9 days]	As soon as	
3	Feeding buffer	4,5 days	As soon as	
4	Task 3	[10 days]	As soon as	
5	Task 4	[5 days]	As soon as	

The Gantt chart shows tasks 1, 2, 3, 4, and 5 with associated resource bars for Mike Dempsey, System Engineer, Product Engineer, Carl Brandon, and System Tester. A green dashed box highlights Task 2 and the Feeding buffer. A dialog box titled "Recalculate buffers" is open, showing options for buffer types and sizes:

- Insert feeding buffers (feeding buffer size (%) 50)
- Consume feeding buffers when they extend the duration of the CC
- Insert milestone buffers (milestone buffer size (%) 0)
- Consume milestone buffers when they extend the duration of the CC
- Insert project buffers (project buffer size (%) 50)

The "Statistics" panel on the right shows project details:

Property	Value
Project start	Today
Calculated start	Today 9:00
Calculated finish	Mon 2 Nov 13:00
Due date	Tue 24 Nov
Due date performance	16,5 days early
Shortest path	39 days
Critical chain	40 days
Project buffer	20 days
Critical chain gap	3,5 days
Resource hours	392h
Remaining	392h

A green callout box states: "In this example task 2 represents a feeding chain of 9 days, which is protected by a buffer of 4,5 days." Another green callout box states: "The feeding buffer is allowed to extend the duration of the Critical Chain".

Other Statistics

Project start and Calculated Start

In this example the project is scheduled "Just in Time"

LYNX has calculated that the project only needs to start at 10 September to meet the Due-Date of 2 December. There is no need to start earlier.

10 September

The screenshot displays the LYNX project management interface. At the top, a menu bar includes File, Edit, View, Project, Window, and Help. Below it is a toolbar with icons for Save, Cards view, Print, Resource load, and Properties. A task list on the left shows three tasks: Task 1 (10 days), Task 2 (5 days), and Feeding buffer (2.5 days). The main area is a Gantt chart showing task bars for Mike Dempsey, System Engineer, Product Engineer, Carl Brandon, and System Tester. A red circle highlights the start of Task 1 on 10 September. A 'Properties' dialog box is open, showing 'Project start date' set to 'Friday, 4 September, 2015' and 'Project end date' set to 'Wednesday, 2 December, 2015'. A 'Statistics' window is also open, showing project metrics.

Property	Value
Project start	Fri 4 Sep
Calculated start	Thu 10 Sep 9:00
Calculated finish	Wed 4 Nov 17:00
Due date	Wed 2 Dec
Due date performance	20 days early
Shortest path	35 days
Expected finish	Wed 2 Dec 17:00
Critical chain	40 days
Project buffer	20 days
Current longest chain	40 days
Longest chain compl.	0%

Via the project properties a start date can be selected: either a default "current date" or a particular date (fixed date)