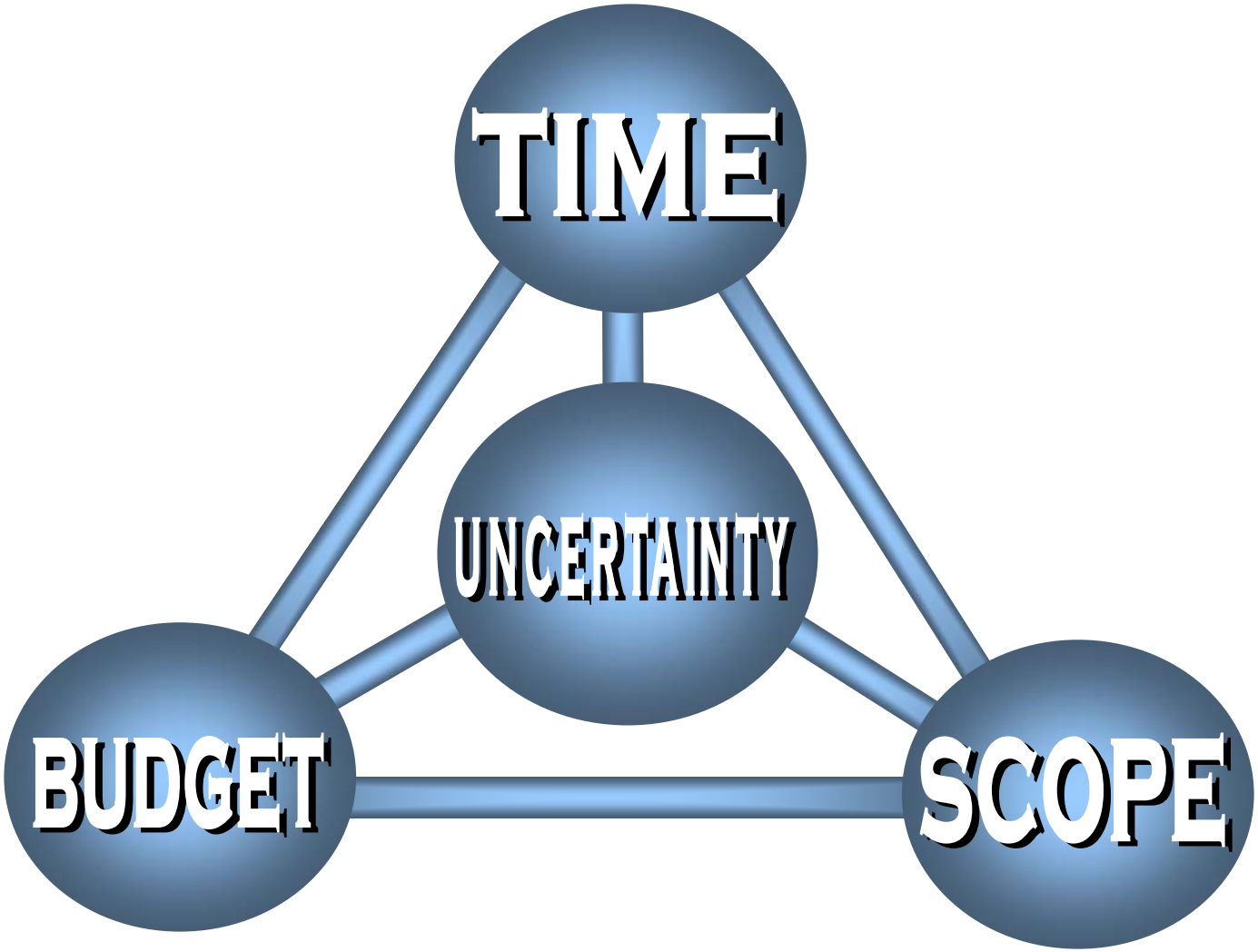
TOC Project Management

An introduction to the
Critical Chain method

Characteristics of Projects



Common Complaints in Project Management

- Usually original due dates are not met
- There are to many changes
- Too often resources are not available when needed
- Necessary things are not available on-time (information, specifications, materials, designs, authorizations, etc.)
- There are fights about priorities between projects
- There are budget over-runs
- There is to much re-work

What is the major cause of their existance?

1) Uncertainty (in processes, in content, in skills, etc.)

   Significant efforts are focused on reducing uncertainty everywhere.

2) The common practice of managing projects

   Provides focus on where is important to protect us against uncertainty and change the mode of managing projects.

¿How do we manage currently our projects?

Common practice:

The way to ensure that the project will finish on time is to try to make every task finish on time.

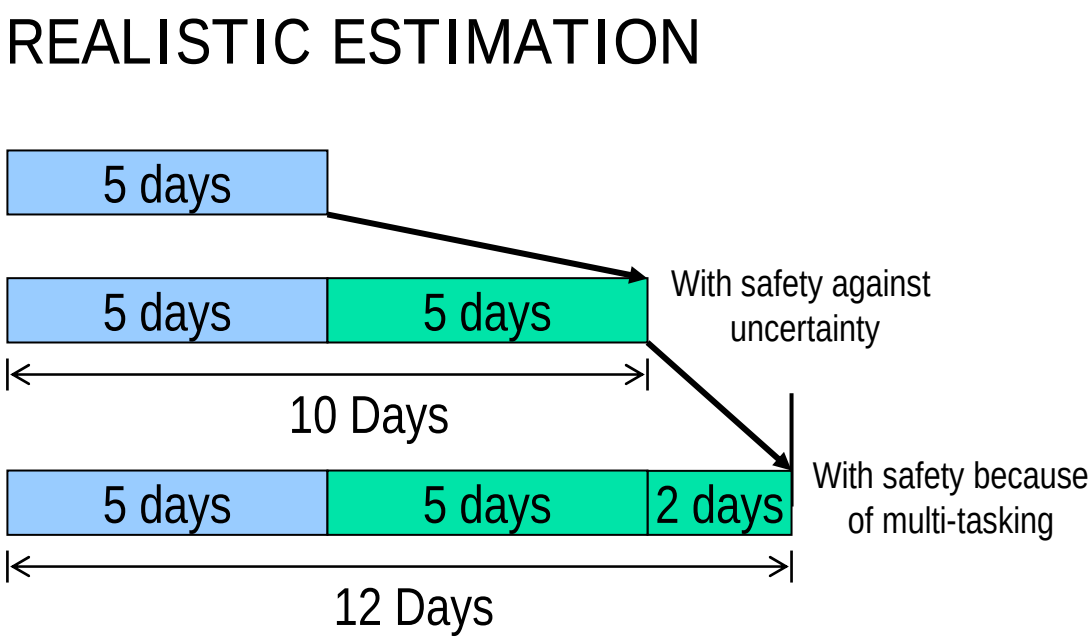
Reality of projects:

High uncertainty, therefore, task times can not be determined, they can Only Be Estimated.

Consecuence:

The common practice turns task estimations into commitments.

¿How do we set realistic estimations?



If you don't embed safety in your estimations, your estimations are not realistic!

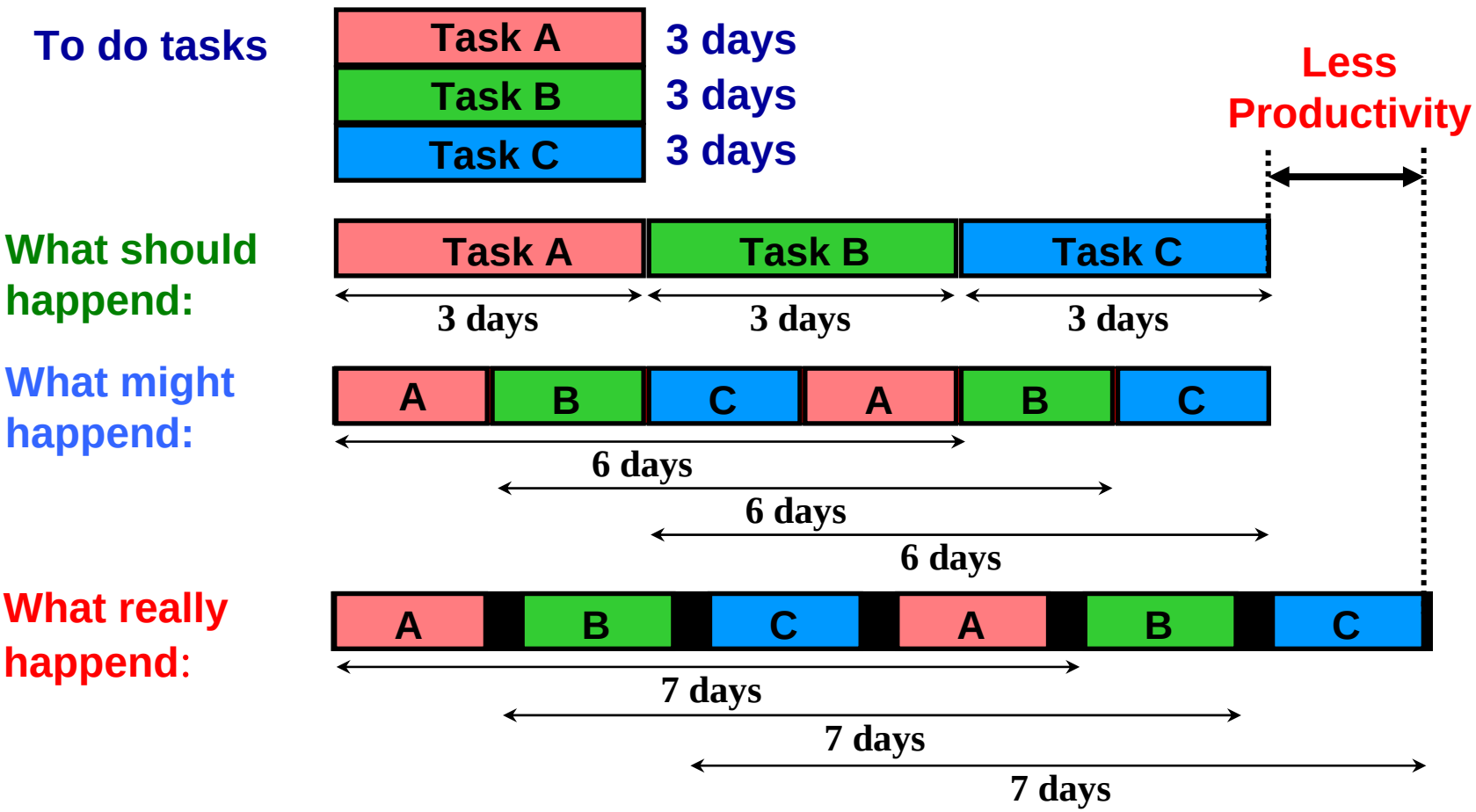
How much safety is embedded in estimations?

Any estimation above 50% embeds safety.

If there's too much safety, how come projects still are not finished on time?

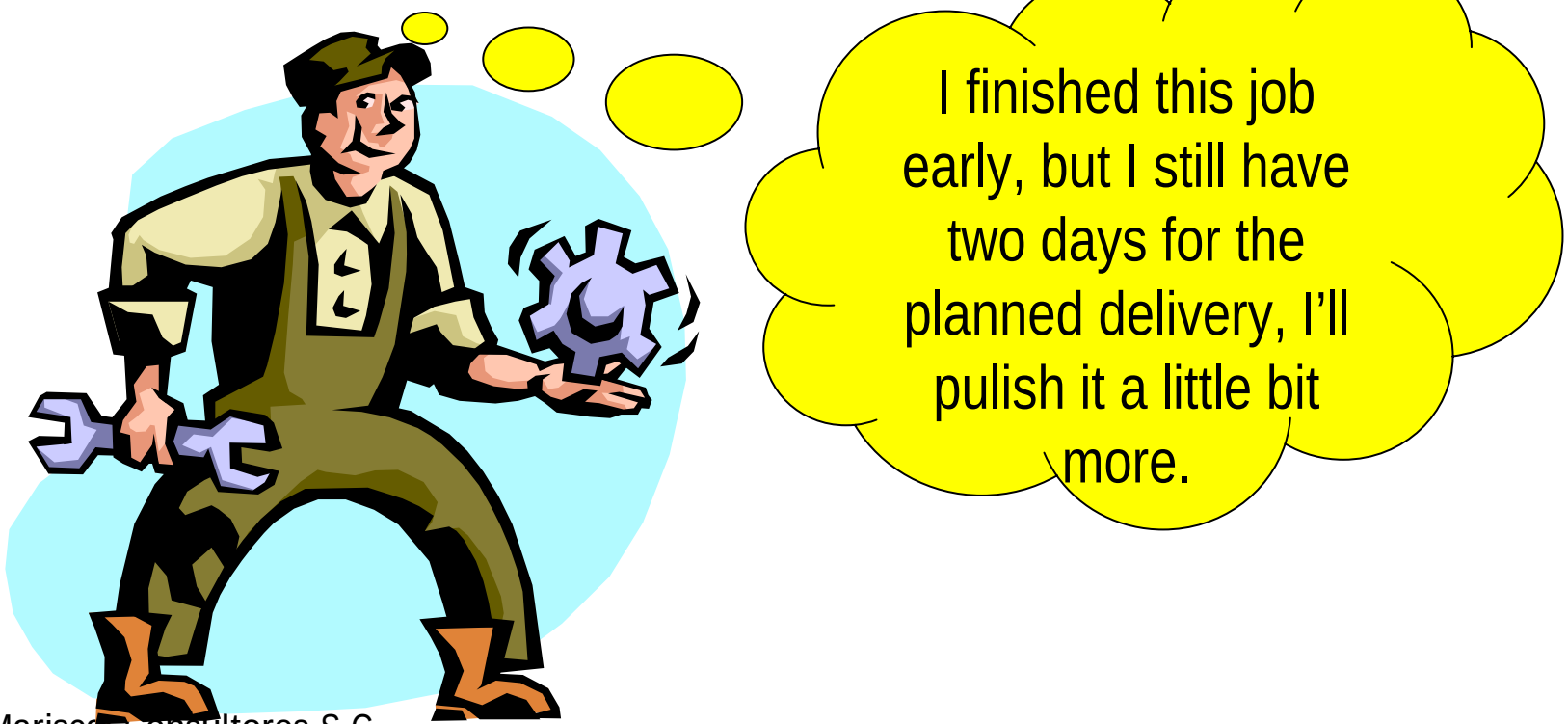
- Bad Multitasking
- Parkinson's Law
  - Student syndrome
- Task integration

Bad Multi-tasking



Parkinson's Law

" Work expands so as to fill the time available for its completion "



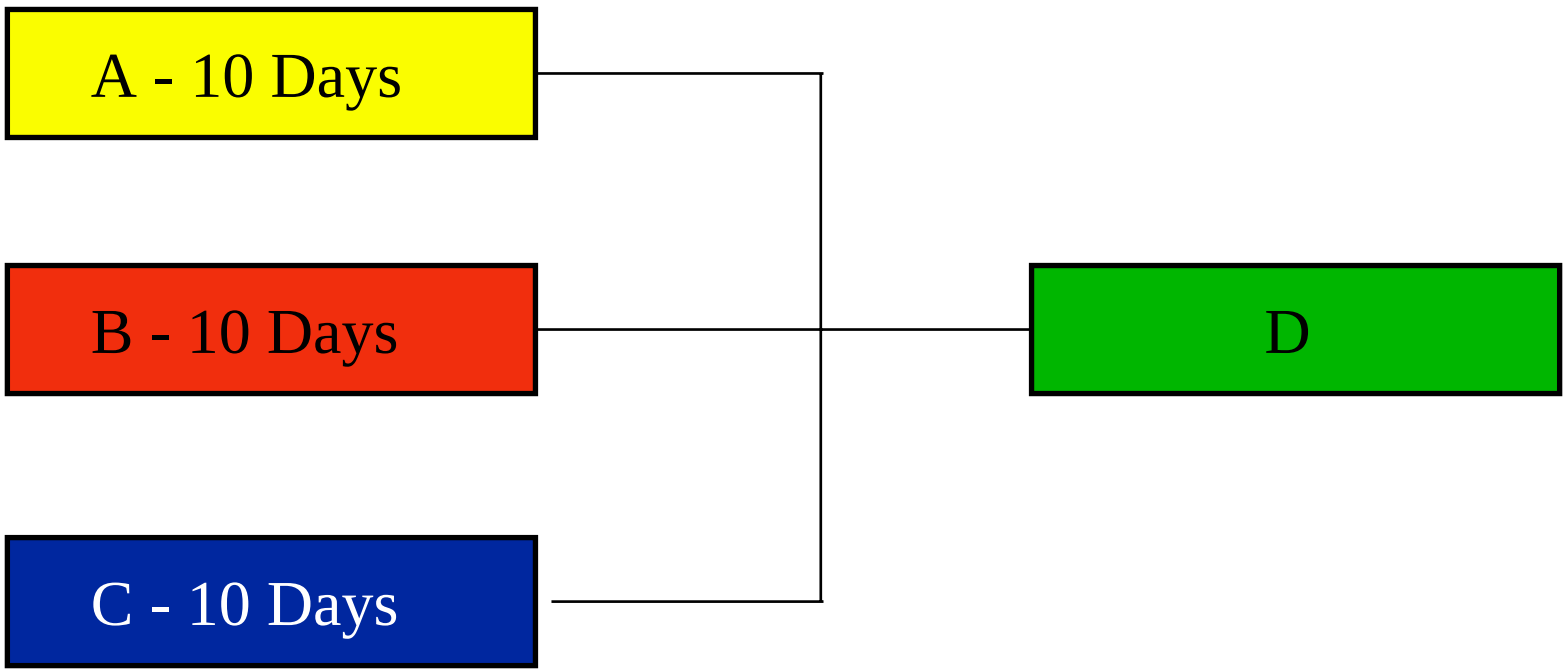
Student Syndrome

“ To pospone the start of a job to the last minute ”

I have two weeks to do this homework, plenty of time, so what’s the rush!

Integration

Delays are transferred to the next task in full, while gains are not transferred at all!

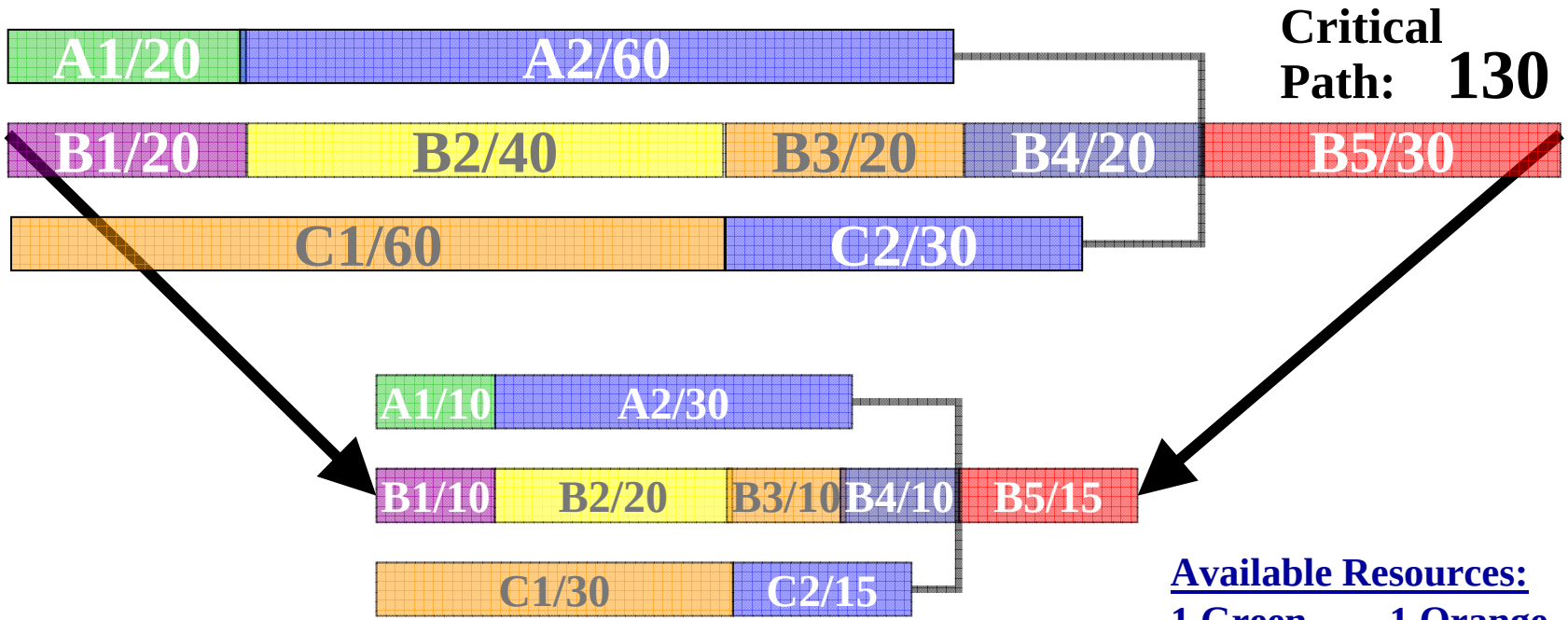


The CRITICAL CHAIN Method

Planning

Step 1. Create the net and cut task estimates in half

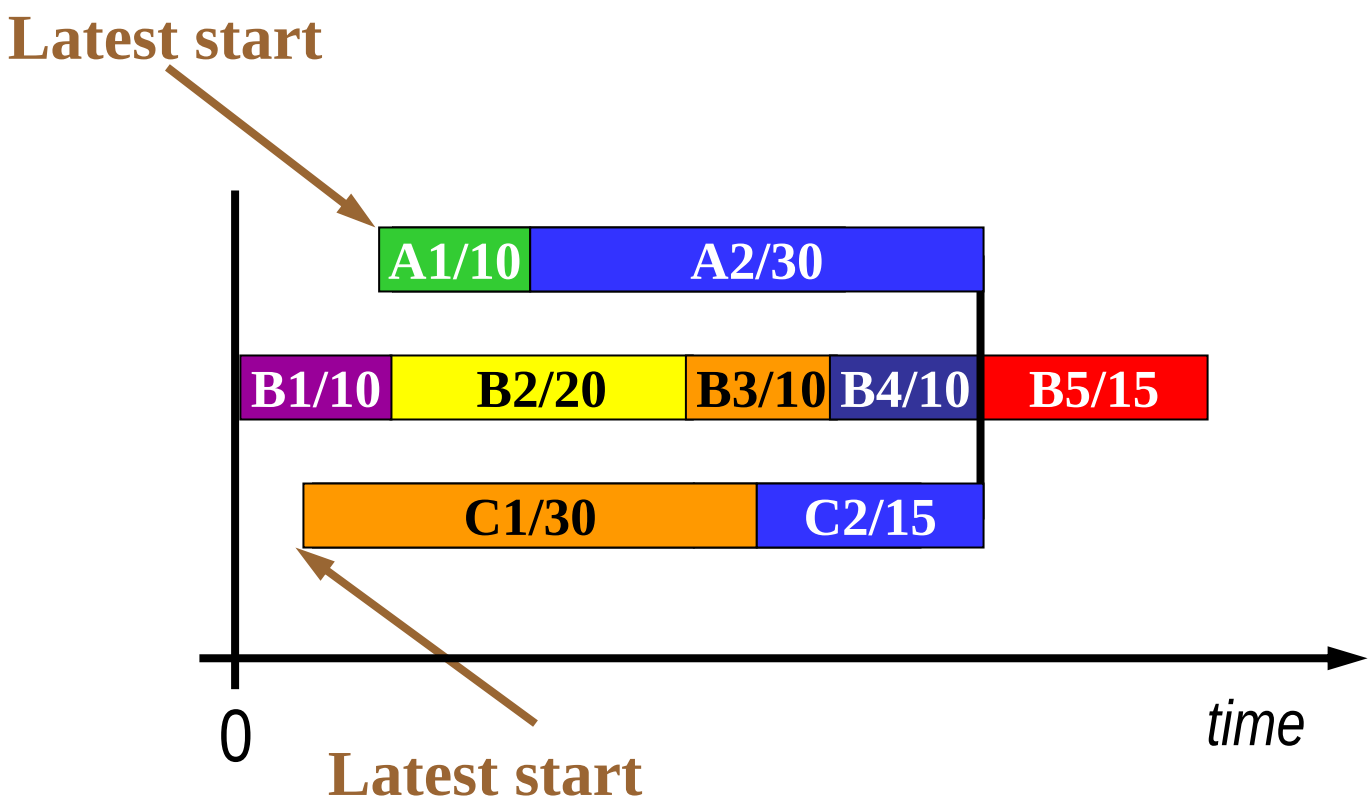
a) Use task times with a 50% probability to finish on time.



Available Resources:

1 Green	1 Orange
1 Blue	1 Dark Blue
1 Purple	1 Red
1 Yellow	

Step 2. Schedule latest task start

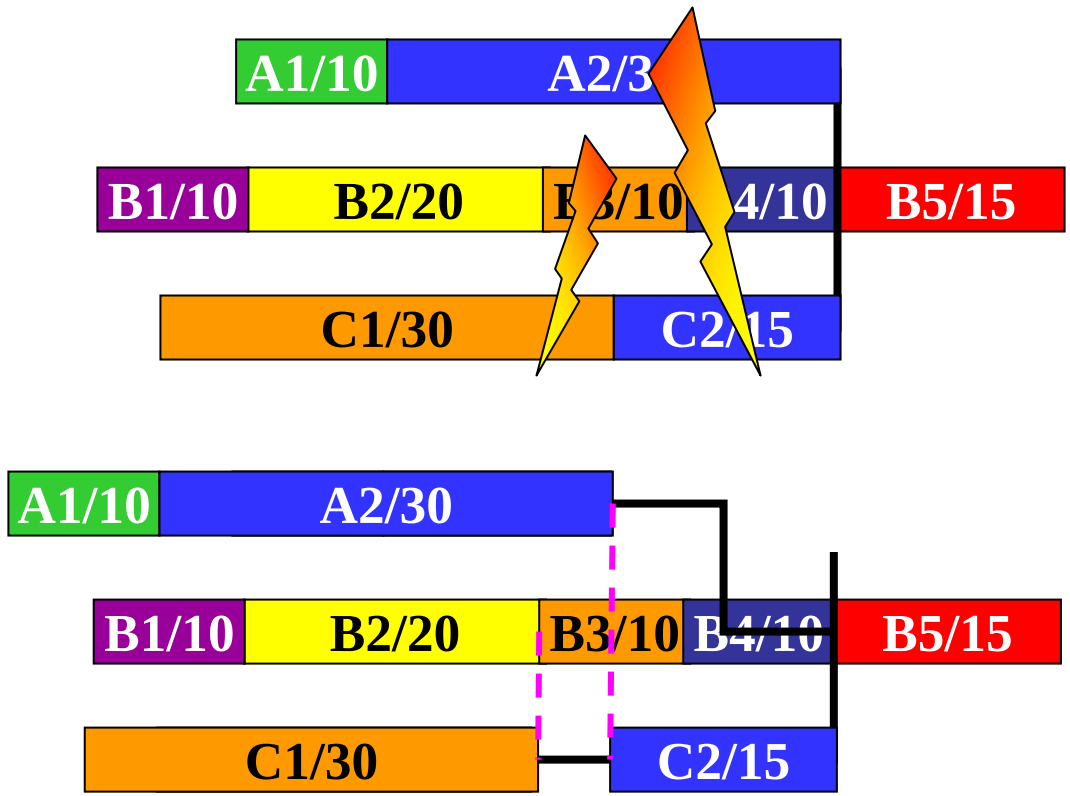


Available Resources:

1 Green	1 Orange
1 Blue	1 Dark Blue
1 Purple	1 Red
1 Yellow	

Step 3. Solve resource contention

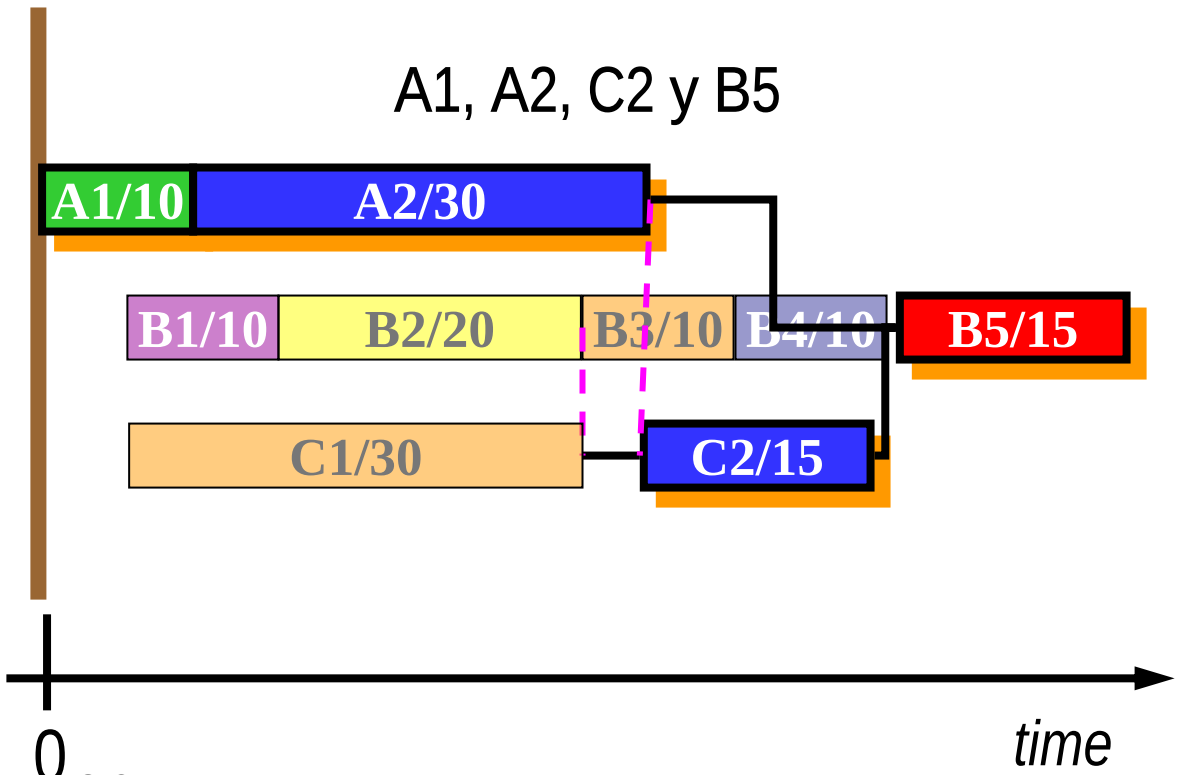
Blue and orange resources are in conflict



Step 4. Determine the Critical Chain

Critical Chain

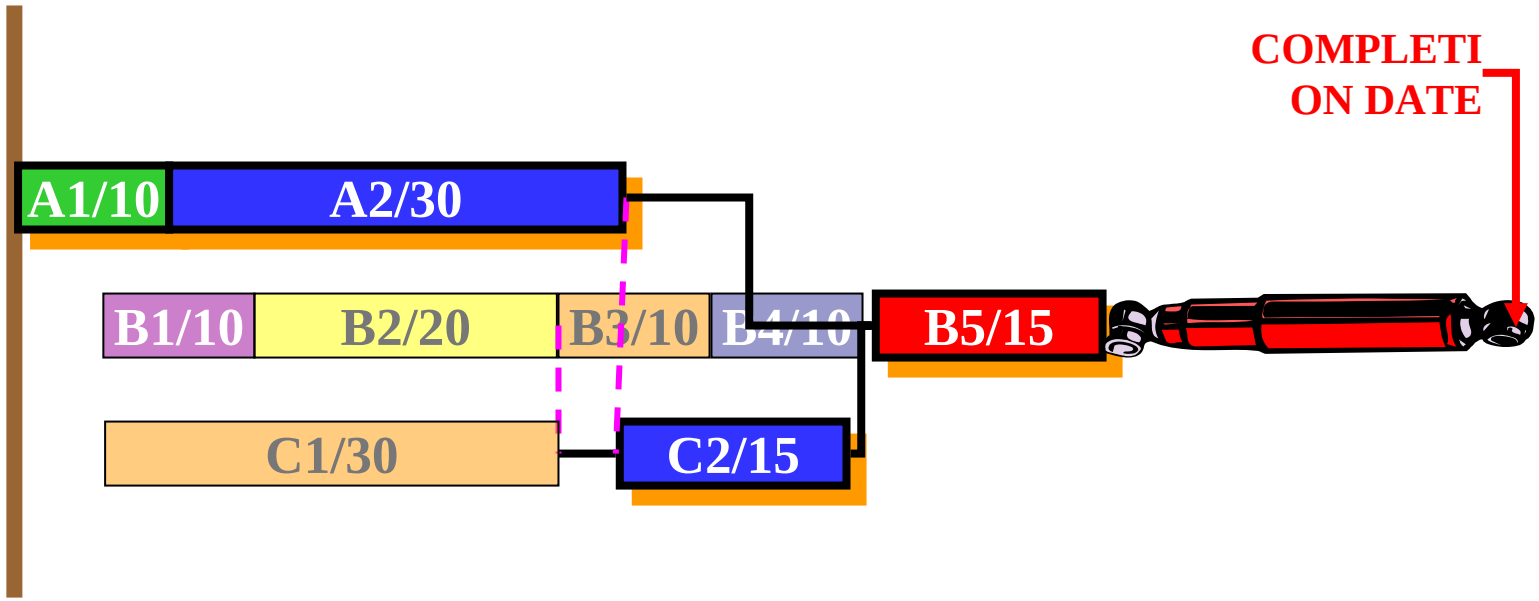
The longest chain of dependent tasks considering also resource contention.



Step 5. Insert Project Buffer

Dealing with uncertainty

- *Add the safety we take out from each crital chain task and put half of it at the end of the project .*

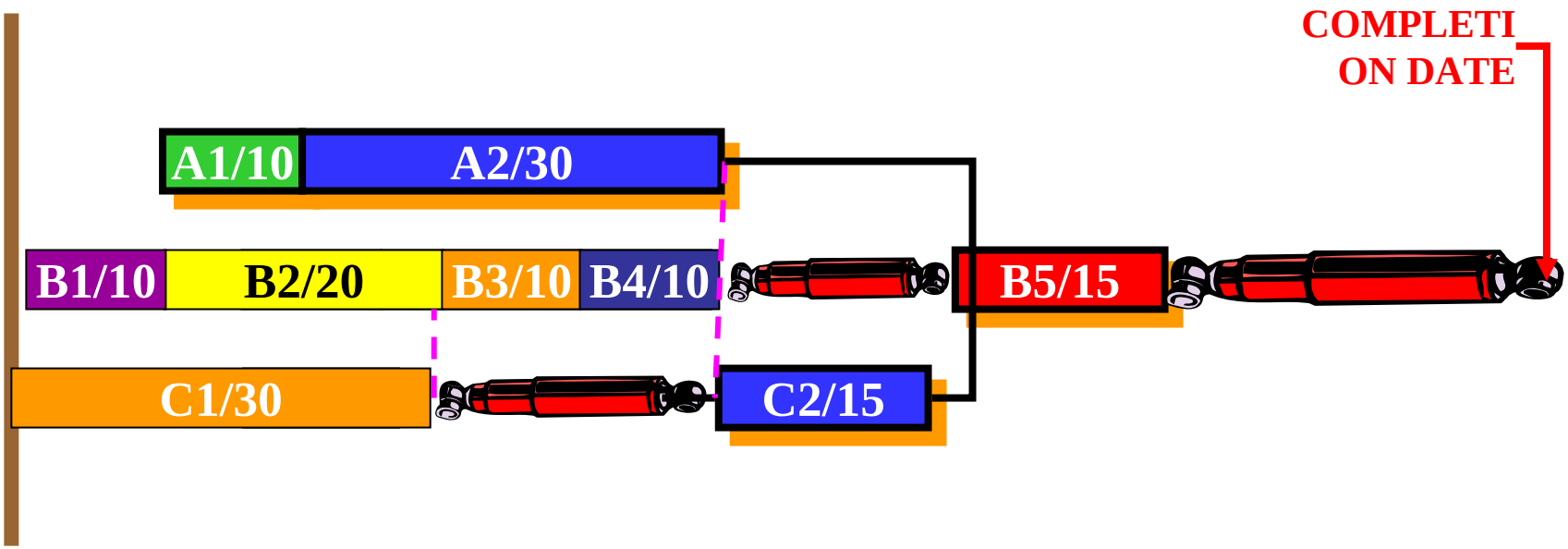


- *The **Project Buffer** protects the project completion date against disruptions in the Critical Chain.*

Step 6. Insert Feeding Buffers

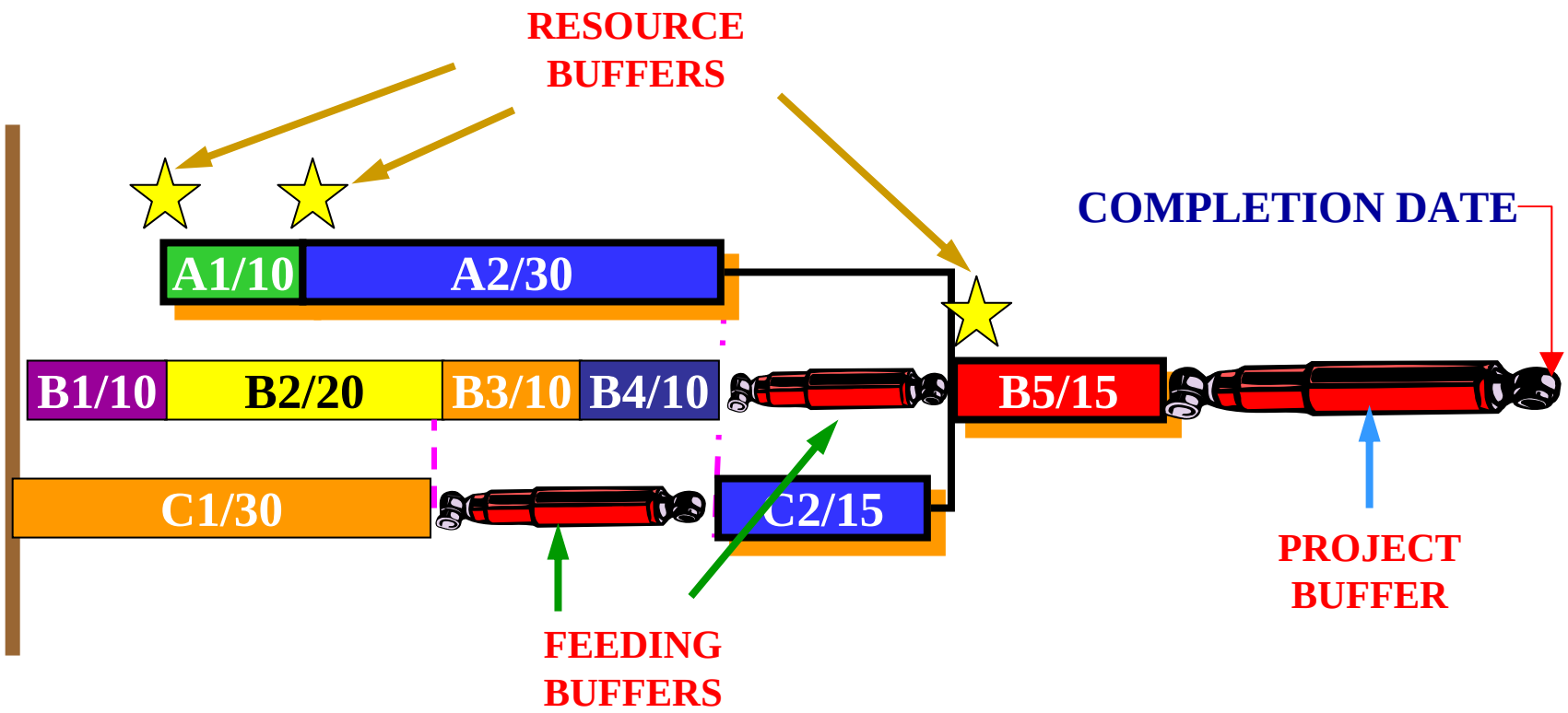
Dealing with uncertainty

- *¿Where is also the prject vulnerable because of delays or disruptions?*



- *The **Feeding Buffer** protects the Critical Chain from delays elsewhere.*

Step 7. Put Resource Buffers

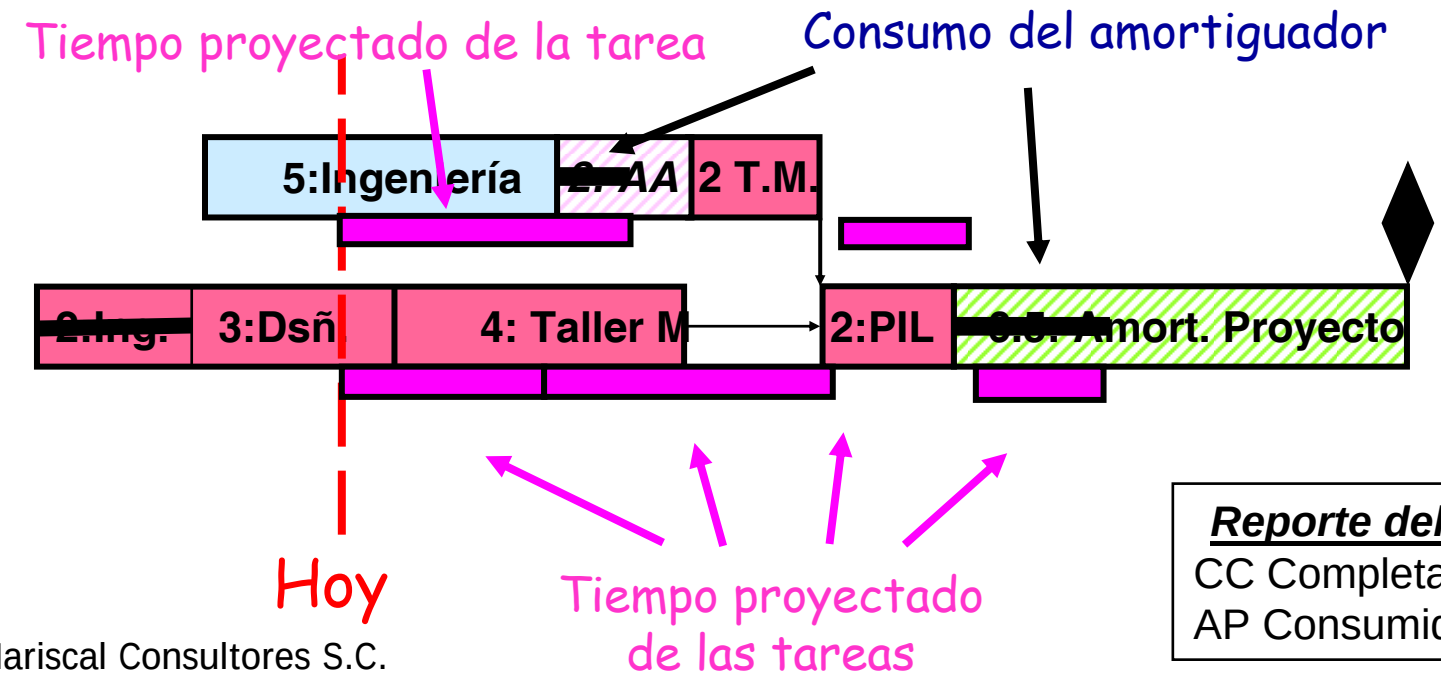


- *The **Resource Buffer** function is to notify the resources when they are going to be required for worj at the Critical Chain.*

A word about Monitoring and Measurement

Ingeniería: "Terminamos la primer tarea de 2 días de duración, pero todavía nos faltan 4 días para terminar nuestra siguiente tarea"

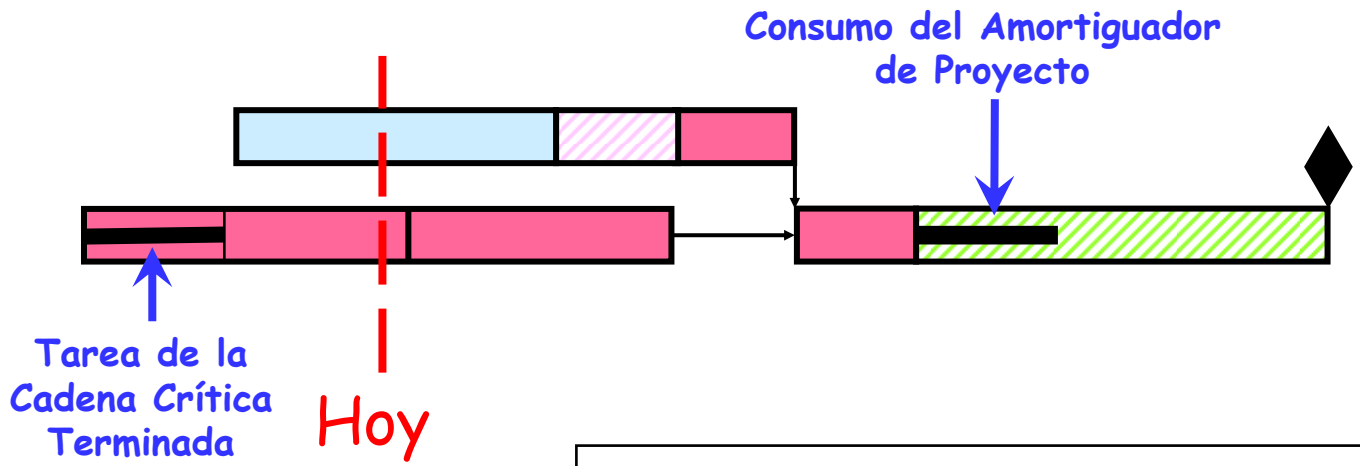
Diseño: "No hemos tenido oportunidad de iniciar nuestra tarea"



Reporte del Proyecto:

CC Completada:	15%
AP Consumido:	30%

- *Proporción entre el consumo del Amortiguador del Proyecto y la porción ya terminada de la Cadena Crítica*



Reporte del Proyecto:

Porcentaje de la Cadena Crítica Completada: 15%

Porcentaje del Amort. De Proyecto Consumido: 30%