Efrat's Nuggets

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Efrat's nugget -6:
Fine tune of the priority system – an exception

(MTO; Production)

The effectiveness of the priority system stems from the fact that it is robust yet simple; only three priority colors, with a strict instruction not to try being super-accurate and pin point which among the same-colored orders should be processed first. That being said, there is one exception – a unique case where refinement of the priority system is very much needed.
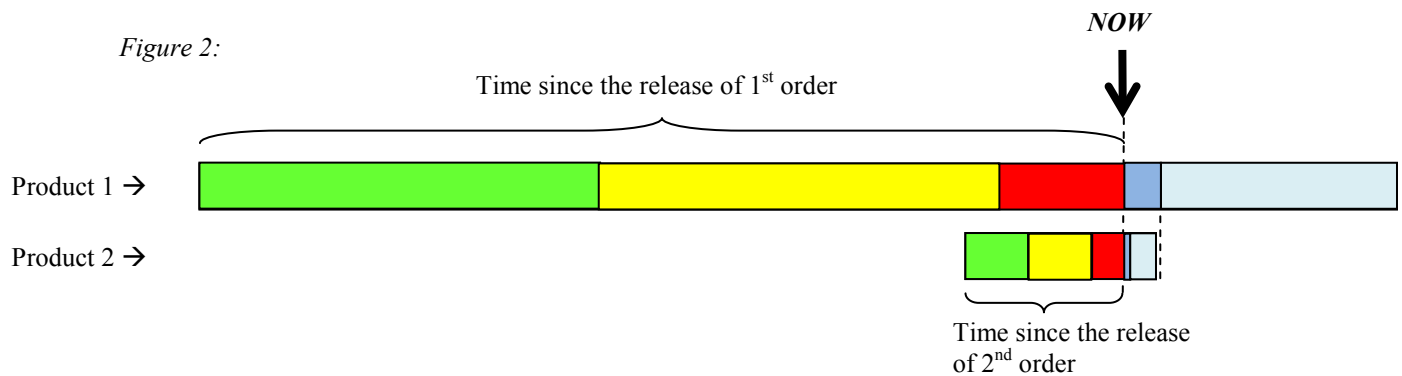
The case we refer to relates to situations where there are product families with considerably different production buffers. In such a situation, a product with a relatively long production buffer might have, at some work-centers, touch time which is indeed negligible relative to its own production buffer (< 10%), but is significant in comparison to another, shorter production buffer (> 1/6). Figure 1 schematically demonstrates the described situation.

Figure 1:
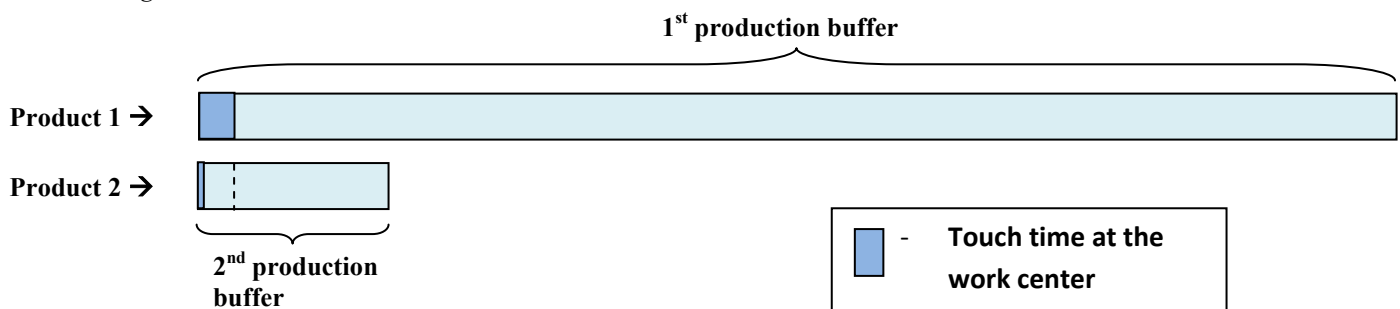
When orders have the same priority (red, for example), the normal instruction is to choose arbitrarily which of them to process first, but on this exceptional case, there is significance to the sequence of processing: what will be the result of choosing to work

first on product 1, with the long-buffer? By the time we finish processing it, the second order (which already was at the red) will now be late or in danger of becoming late. Figure 2 shows the situation at the point of decision.

Figure 2:

Product 1 →

Product 2 →

Time since the release of 1st order

NOW

Time since the release of 2nd order

It is clear now that in such environments it is important to distinguish between orders with same color. An elegant way to do that is: as long as orders have the same color, give higher priority to the one which has an earlier due-date.

Warning: In environments where the stated conditions do not exist (i.e. very different production buffers while the touch time of the longer one is not negligible relative to the shorter one), considering due-dates is trying to be more accurate than the noise.