

Efrat's Nuggets

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Efrat's nugget -11: Light blue 1, or: A way to exploit the protective capacity - Have your cake and eat it too.

(MTA)

One of the crucial elements required in any MTA environment is maintaining high enough a level of protective capacity¹. Practically, it means that the work centers are not allowed to operate 100% of the time. In fact, the most loaded resource will be, on average, about 20% idle². However, as we all know, people feel very uncomfortable with the idea of idle capacity. This is especially true in environments that utilize highly expensive equipment, and even more prominent in environments where full activation of resources is theoretically possible, since they have saleable products at many different intermediate stages of the production process. Such environments do exist, and are evident in many V environments.

The reluctance to hold capacity idle may cause companies to dip into the protective capacity, especially when we bear in mind that most companies are not used to operating with a decisive competitive edge and therefore, at least in the early stages of implementation, are not fully aware that having a decisive competitive edge does not only help in getting more sales, but is the foundation for stable growth. How can we make sure that the proper amount of protective capacity will be maintained?

Can we utilize the protective capacity to produce merchandise instead of letting it sit idle? Can we do this without risking the entire MTA offer, all the while knowing that in order to function properly, any MTA system must have enough available protective capacity? Can we have our cake and eat it too? Basically, for that we need to keep the

¹ According to queue theory, when the protective capacity of a resource descends below 10%, the response time elongates exponentially. For an MTA system this is catastrophic, since longer replenishment time mandates increasing the target inventory, which places additional load on the production resources, which, in turn, further deteriorates the protective capacity. The resulting devastating spiral is likely to ruin the competitive edge of availability. Therefore, in MTA environments we aim to maintain protective capacity at 20% and take drastic measures when the protective capacity starts to approach 10% (such as putting cups on the quantities available to some clients). (See "capacity control" step in the MTA S&T tree)

² This nugget discusses pure MTA environments. For mixed environments (MTA+MTO) please refer to the next nugget.

protective capacity available for the MTA whilst, at the same time, the same protective capacity is being utilized. Seems contradicting? Not necessarily.

What will happen if we generate work orders for which there is no commitment whatsoever to deliver? Such an act would allow the use of protective capacity for this type of work orders; such work orders can be stopped from being processed at any given moment, to give way for regular MTA orders whenever they require the capacity. This way those non-priority orders are actually transparent in the eyes of any other order, and cause no disruptions for MTA - just as if we were not using the protective capacity at all. Practically, we attach those non-priority orders a non-priority color: light blue. The floor personnel must be guided to work on light blue orders only when there is no other work and, not less important, to immediately stop processing them whenever regular work is available.

How can a company generate demand for products without giving any commitment whatsoever to deliver? At first sight it looks like this is the familiar MTS mode of operation: production that is triggered without having yet any specific client that has ordered it. This is a wrong perception. As we well know, producing to stock inevitably creates pressure to sell the stock, and the instinctive reaction of sales is to sell it in their familiar market - to existing clients. Such practice will cause severe disruptions to the main stream of availability offer. Therefore, a total segmentation has to be ensured between the MTA market and the light blue sales; neither the QUANTITIES nor the PRICE of the light blue sales should have any effect on the availability market. If sales cannot locate such “dumping markets”, the protective capacity should remain idle!

Furthermore, to ensure that no pressure is built to dump in the main markets, the production of the light blue orders should be monitored to ensure no finished goods stock piles up. This is accomplished by treating the light blue products in the finished goods stocks like regular products – for each, inventory target should be determined, and production (of light blue orders) is triggered only when products are consumed from the finished goods stock. Monitoring the inventory target (using the standard rules) is essential since the initial target is just an educated guess, and quantities sold are likely to fluctuate.

The same product can be MTA and light blue at the same time, but then it is mandatory to give the product two different code names according to the different usages.

To allow no room for misinterpretation, the light blue orders are never given any regular priority color, even when their stock is totally depleted. The sales attitude must be: “Either we have it at the finished goods warehouse – or we cannot accept the order”.

If the company wants to activate the protective capacity in order to generate more sales, it must find enough segmented dumping markets!