Scheduling & Capacity Planning

The Rootstock Scheduling & Capacity Planning provides the management and monitoring of the work order operations’ scheduled dates that are required to meet the Material Requirements Planning Work Order’s Scheduled Due Date into Stock.

Scheduling

The work order scheduling logic is performed for each work order, in a stepped method, establishing certain criteria at the end of each step before ultimately determining each work order operation’s scheduled start date and scheduled complete date. The determination of the operation standard time is influenced by a number of factors.

The first step in the scheduling algorithm is to establish the first work order’s operation’s schedule start date. If the work order has as not yet been started and the Work Order Production Release Dates is later than today’s date, then first operation’s schedule start date is the Work Order Production Release Date. If the Work Order Production Release Date is less than (or equal to) today’s date, then the first work order’s operation schedule start date is set to today’s date. If the work order has been started, then the first work order operation’s scheduled start date, not as yet completed, will be set to today’s date.

The next step is to determine the subsequent work order operations’ scheduled start and scheduled complete dates. This is accomplished by computing the scheduled quantity at the operation and then using that quantity in conjunction with labor and machine standards to determine the expected time to be expended in a work center for this operation. Considering the length of the standard production day will determine if this expended time (assuming infinite capacity) can be completed on the current scheduled date or a later date. The algorithm, when establishing dates for the next operation, will use the scheduled complete date of this operation that was previously scheduled and then add move and queue times to determine the present operation’s scheduled start date. The quantity to be scheduled will be adjusted based upon actual or expected scrap of the prior operation.

Given that this is a forward scheduling method, the next step in the process will determine the priority using a comparison between the standard (or natural) move and queue time and the compressed move and queue time required to meet the Work Order Scheduled Due Date into Stock. If a compression can be done, then the work order operations’ scheduled start and scheduled complete dates will be readjusted to meet the Material Requirements Planning Work Order Scheduled Due Date.
Capacity Planning Workbench Introduction

Rootstock’s Cloud ERP system features an intuitive Capacity Planning Workbench. Watch this video for a brief introduction to the planner and check out “Leveling the Load with Capacity Planning Workbench” to see how you can use Rootstock to help even the workload.

Capacity Planning

The Capacity Planning Work Bench is launched from the Manufacturing Menu. In the capacity planning work bench, the user, using the easy to use ‘drag and drop’ capability, can move the ‘work order operation start date’ forward or backward and the scheduling algorithm described above will be executed.

The work order operation’s start date (and scheduled complete date) will determine which work center day slots the work order will occupy. The priority will determine the order of the listing within the work center. Those work orders in green are expected to be started within the ‘available capacity’ and those in red ‘exceed capacity’. It is expected that the user may change the position of the work order within a work center by altering the priority and for those work orders in red, it is expected that the user, via a ‘drag and drop’ capability, will move them to another day.

Leveling the Load with the Capacity Planning Workbench

This is an in depth look at the Capacity Planning Workbench. This video will walk through a simulation of work center capacity and actual load requirements to show the power of Rootstock’s Capacity Planning Workbench to visualize and update Work-in-Process.
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