➤ WHITE PAPER

ORDER ENTRY SCALABILITY

4 WAYS TO PORT ORDER DATA TO NESTING SOFTWARE

Optimation®
WE DELIVER ECONOMIC PERFORMANCE

Automation Levels of MRP/ERP and Automatic Nesting Integration

There are levels of order entry integration with automatic nesting that you can dial up or down to suit your needs. The best solution for most is a product that can meet you where you are with your systems and needs today, and grow with your needs as your operations change.

One of the advantages of automatic nesting software is the ability to integrate with the existing order management or scheduling system (MRP/ERP) creating a seamless upstream and downstream information flow.

One of the concerns of some manufacturing engineers is what does this functionality mean to me if I'm not using an MRP/ERP system. Is it more than I need?

➤ Order entry integration with automatic nesting is a scalable tool that can grow with you and your needs.

THE FOUR AUTOMATION LEVELS OF MRP/ERP AND AUTOMATIC NESTING INTEGRATION

The good news for all manufacturing engineers is that order entry integration with automatic nesting isn't an on/off switch. There are levels of integration that you can dial up or down to suit your needs. Further, as your operation sophistication grows, you can keep up with it without making software changes. It is a scalable tool that can grow with you and your needs.

LEVEL #1 – MANUAL ORDER ENTRY

Users familiar with work orders or travelers as the method of communicating orders to the shop may feel most comfortable with this approach. The programmer or machine operator

can simply key in the part number, quantity, and choose the material from a drop down or key it in for each order from any paperwork available. If warranted, additional information, such as job number or due date, can be also be entered with the order. There is a lot of control over the process. The user can independently set the priorities or production sequence as the orders come through. The downsides are the time consumed and the opportunity for error – a quantity of 5 parts can easily be 55 with one key stroke.

➤ With data exported to an ASCII file, the entire order entry process for hundreds or thousands of orders can take a matter of seconds or minutes.

LEVEL #2 – FILE DOWNLOAD

Some manufacturers have a bill of materials system or a spreadsheet where the orders and schedule are managed. Most, if not all, of these have the ability to export their part order data into an ASCII text file which is similarly formatted to and can be opened in a Microsoft's Excel® program. Any and all of the information mentioned above – part ID, quantity, material, due date, etc. – can be captured and downloaded with the orders into the ASCII file. With this data extracted to a file, the user can easily – without rekeying it – import it into the automatic nesting software. The entire order entry process for hundreds or thousands of orders can take a matter of seconds or minutes. The process does need to be manually initiated and managed. Often fabricators do this once or twice a day depending on the volatility of orders. However, it is exponentially faster and more error-proof than manual order entry.

LEVEL #3 – MRP/ERP INTEGRATION

The next step in our scalable continuum is integration with the MRP/ERP system. For those fabricators leaning toward a JIT manufacturing model, this may be the process best for you. In this model, the automatic nesting software queries the MRP/ERP system at set intervals (every hour, shift, day) as set by the users for new orders that are in the system. If new orders are found, they are downloaded to the nesting software for processing. The orders – again with the same information as above – are triaged based on either arbitrary priority settings in the MRP/ERP system or by due date. This ensures that the hottest parts are handled first, while at the same time the material efficiency, and order cohesion are maintained as well.

➤ The solution for any one fabrication operation may be different or as is likely with most organizations it may be an evolving process.

LEVEL #4 – FULL JIT INTEGRATION

For the fabricator fully embracing the JIT model, full JIT integration between the MRP/ERP system and the automatic nesting system would be a strategy worth investigating. In this model, the information flow is not only from the MRP/ERP system to the nesting software but the reverse happens, too. The nesting software reports back to the MRP/ERP software what parts have been nested and material used. The quantities used are then deducted from the "quantities needed" for both parts and material inventory. And in a real-time manner all systems are current with the realities on the shop floor.

IN SUMMARY….

So, the solution for any one fabrication operation may be different or as is likely with most organizations it may be an evolving process. The best solution for most is a product that can meet you where you are with your systems and needs today, and grow with your needs as your operations change.

ABOUT OPTIMATION®

Optimation® delivers economic performance for fabricators through advanced nesting software. Optimation® develops and supports nesting and CNC part programming software for fabrication processes, which include punch, laser, plasma, Waterjet, router, and CNC knives. We cover the range from single-machine sites to sites with hundreds of machine tools with the highest possible automation.

Our automated approach to manufacturing solutions dates back to our beginning more than three decades ago. It is our belief that routine - and even not so routine - nest technology fabrication can be best achieved through a rules-based system that reduces not only material waste but programming time and error and keeps the manufacturer in control.