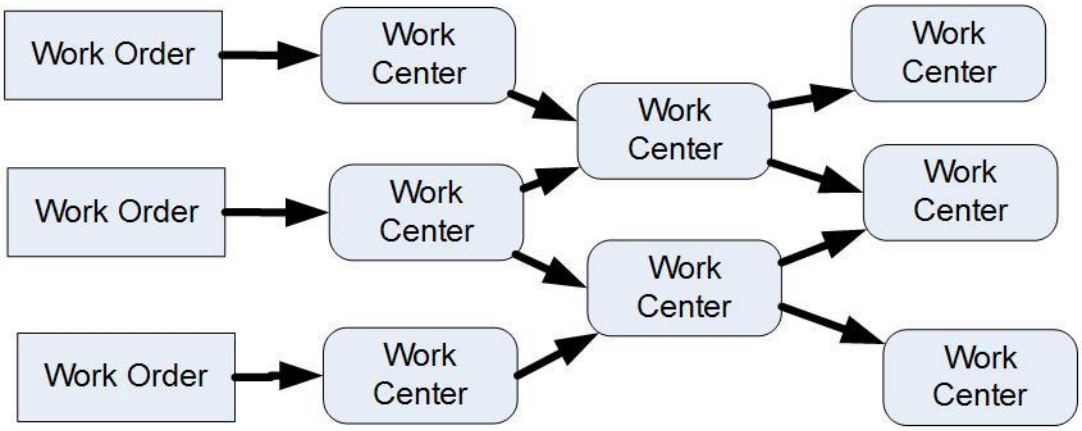
BellHawk Real-Time Work Center Scheduling Module
Data Sheet



The BellHawk Work Center Scheduling module (BH-WCS) helps manufacturing and other industrial organizations ensure that customer orders get shipped on time by dynamically prioritizing work-orders through multiple work-centers. In performing this real-time scheduling, the BellHawk software takes into account the real-time status of each job, when each operation is supposed to be completed, when the order is planned to be delivered, and the importance of the customer order.

This rules-based scheduling takes place dynamically, in real-time, advising employees in each work center what is the highest priority task for them to work on, without needing invention from managers or supervisors. It automatically allocates ore resources to jobs that are likely to be delivered late or are more important to the organization.

This form of scheduling allows dynamically for new orders to enter the system, machines that break down, people that get sick, and materials that are late arriving. It is ideal for short-run, quick-turn make-to-order manufacturers who do not have the benefit of long run planning or scheduling visibility.

The BellHawk work-center-scheduling comes with a standard set of rules that work for many organizations. More complex rules and algorithms can, however, be added by BellHawk systems, if needed. Such rules can take into account employee skills and equipment capabilities.

The work center scheduling gives managers control over the rules, algorithms, and their parameters that are used but the scheduling runs quite automatically in real-time. This eliminates the need for employees to repeatedly contact their supervisors for guidance as to what to work on next. Also managers and supervisors do not need to devote time to rescheduling operations whenever perturbing events occur.

When an employee in a work center finishes work on one task, they are given a prioritized list of other tasks they can work on. In this way the employee can use over-ride the system's recommendation based on their knowledge of a situation that would preclude them from doing

the highest priority task. This over-ride is, however, recorded for subsequent review by the employee's supervisor to prevent "cherry-picking" of easy jobs by employees.

Planning and scheduling systems, typically found in ERP systems, that schedule work orders through work centers based on a sales and operations plan, and the predicted availability of people and equipment, require a substantial amount of work by one or more people to keep the database of available resources current. They also require a forecast of future demand from the sales department, which is often hard to get and is frequently inaccurate.

BellHawk, by contrast, simply uses the data captured as a standard part of real-time tracking of inventory and production processes, together with known sales order. As a result, it does not need a person or team dedicated to planning and scheduling operations. This can make adding a BellHawk real-time scheduling system to a BellHawk data capture system, a simple decision that can significantly reduce overhead cost.

In a long-run manufacturing operation, BellHawk is not as optimal in its schedule as running a resource-limited scheduler to plan operations. But, in a dynamic short-run, make-to-order, manufacturing operation, the BellHawk work-center scheduling algorithm makes much better use of whatever resources are available to process whatever orders come in and to get them out on time, if at all possible.

This mode of scheduling is based on BellHawk Systems' work on systems to provide advice to fighter pilots. We quickly learned that it is much better to give good advice quickly, to keep pilots out of harm's way, than to recommend an optimized plan after they had been shot down.

The same applies to scheduling jobs through a quick-turn manufacturing plant. A sequence of good scheduling recommendations, made in real-time, as the operational status of the plant changes dynamically, is far better that a fixed schedule made with great precision days or weeks ahead of time.

