

Rhythm Keeps Production Line Humming

Motorola's Paging Product Group (PPG) is the leading manufacturer of pagers in the world. With its state-of-the-art manufacturing facilities, Motorola strives to ship products on the date requested by their customers. Manual process and large spreadsheets containing capacity information posed a real challenge as the number of production lines increased and business grew.

To facilitate the automation of production planning and scheduling and to optimize just-in-time manufacturing processes, Motorola chose Rhythm, an I2 Technologies product. PowerVision was instrumental in integrating Rhythm with Motorola's existing Order Entry and Manufacturing systems.

Manual Scheduling Posed Challenges

Manually scheduling orders for just-in-time completion posed several challenges to Motorola's Paging Products Group (PPG). Production capacity needed to be optimized and closely tied in to the parts inventory at hand, and to that on order. Customer satisfaction demanded timely completion and delivery – any delinquency was unacceptable, and ultimately increased costs. In order to remain competitive and best serve its customers, Motorola had to plan the most accurate Scheduled Ship Date (SSD) for each order.

The process of Finite Capacity Scheduling (FCS) was designed specifically to address these issues, and automate the scheduling and planning process.

Rhythm was selected as it offered a set of tools for Master Production Planning, scheduling, materials and capacity planning, and dynamic finite scheduling. Motorola initiated development with the following goals for the project:

- Increase profitability by increasing on-time performance and by reducing manufacturing lead time;
- Automate production planning and greatly improve the efficiency of manufacturing capacity usage;
- Increase customer satisfaction by shipping products on the date promised; and,
- Manage plant capacity and inventory through planning and scheduling.

PowerVision was tasked with integrating Rhythm into Motorola's existing production planning system, and automating the gaiting process (the process of assigning a manufacturing date and SSD). The gaiting process required a plethora of interfaces with various systems such as order entry, manufacturing, and materials control.

Business Area:

- Business Process Automation

Key Technologies:

- Informix ESQL/C
- Oracle Pro*C
- TIB
- I2 Technologies Rhythm

PowerVision's Role:

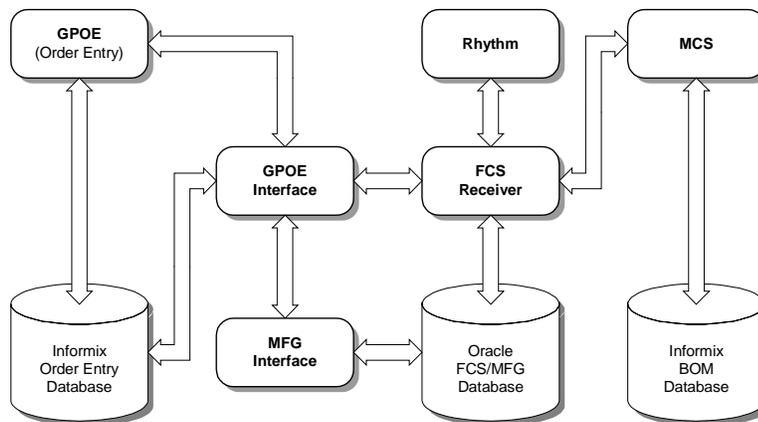
- Design
- Implementation
- Testing

A Harmonious Solution

Working closely with teams from various systems, PowerVision successfully designed and developed an interface system that would identify and collect data from the Global Paging Order Entry (GPOE) system and communicate the data to FCS for auto-gaiting. The design encompassed the very diverse features of all interconnecting systems, such as:

- ESQ/L/C to access the Informix database of GPOE and complex business logic, to collect data;
- PRO*C to access the Oracle manufacturing database to store shop-order and tracking information;
- Interfacing with Materials Control System (MCS) to retrieve Bill of Material (BOM) information from the Informix Database;
- Preparation of order information and BOM information to load into Rhythm; communicating with Rhythm to get a quote for SSD; and,
- Sending output from Rhythm, i.e., SSD, back to GPOE for automatic updates and releasing information for manufacturing.

PowerVision designed the system based on client/server architecture in a Unix environment, and used the Teknekrone Information Bus (TIB) for communication. The system was designed to be fully configurable and ready for global deployment at manufacturing plants in USA, Europe, Latin America, and Asia.



With the goals of improved performance and increased customer satisfaction in mind, the software was successfully developed and integrated into Motorola's existing systems. Currently, the FCS auto-gaiting system is undergoing beta testing, and will be released to production in May 1998.