



A Rockwell Automation Company

Robin Hood Multifoods Inc. Grain Management System (GMS)

The Client:

Robin Hood Multifoods Inc. is a Canadian subsidiary of International Multifoods Inc. of Minneapolis, MN. The mill in Saskatoon produces a full line of standard milled grain products such as wheat flour and rolled oats. The

Robin Hood mill, built in 1927, has an ongoing automation program aimed at keeping the mill competitive into the future.

The Requirement:

Buying grain involves managing vast amounts of data on items such as farmer land ownership, calculated splits, seeded acreage, quotas, market prices, protein content, and contract commitments. The buying operation involves rapid on-line access of these extensive databases, with much of this data being dynamic in nature. The buying operation also has direct financial ramifications for both Robin Hood Multifoods and the farmer delivering the grain. Numerous reports of information are required at various times and stages, with the data being accessed by a variety of personnel at a number of locations.

The existing buying procedures involved a transfer of large amounts of information from tickets to reports and between reports. This manual operation was susceptible to the introduction of errors which could cause conflicts, or could reflect through to production quality. Robin Hood wanted to stream line the grain management by automating the process as much as possible. The intent was to install computers for use by the people responsible for collecting the grain data. Much of the data was to be stored in a central database with each person having access to data for inclusion in spreadsheets, printed reports, etc.

The Design Solution:

The Grain Management System (GMS) is a personal computer network that manages the databases associated with buying grain, issuing payment checks, categorizing the grain and storing the grain into inventory. The GMS communicates directly to the Grain Receiving System. While Grain Receiving consists of a PLC system controlling the equipment, the GMS consists of a computer system managing the databases.

GMS uses a plant wide Novell file server used by a number of other systems through out the mill. Networked to the file server (for the GMS) are two workstations located in the Grain Office, one workstation in the Mill Mix Operator's office; and an accounting computer in the main office.

The Farm scale is tied into the GMS via an RS232 interface, permitting the farm scale readings to enter the database directly. The Grain Receiver can enter the client's information directly into the GMS database and have the GMS read the scale information. The GMS will print out any necessary documents such as the weight ticket, grain receipts, reports, and checks.

By using a central database on the file server the same information can be accessed from all mill areas of Robin Hood Multifoods. Accounting personnel, the Grain

Manager, the Elevator Coordinator, and the Grain Receiver have access to this data for their relevant uses. Sensitive areas of the data can be restricted for use only by authorized personnel.

The file server on the Novell network handles all of the requests from the GMS, as well as other systems. Two workstations attached to the Novell network are located in the Scale office, one for use by the Grain Receiver, the other by the Grain Manager. A third workstation is attached to the Novell network for use by the Mill Mix Operator. An existing office computer is also tied into the network. All functions available on the workstations can also be initiated on this office computer, including the generation of reports.

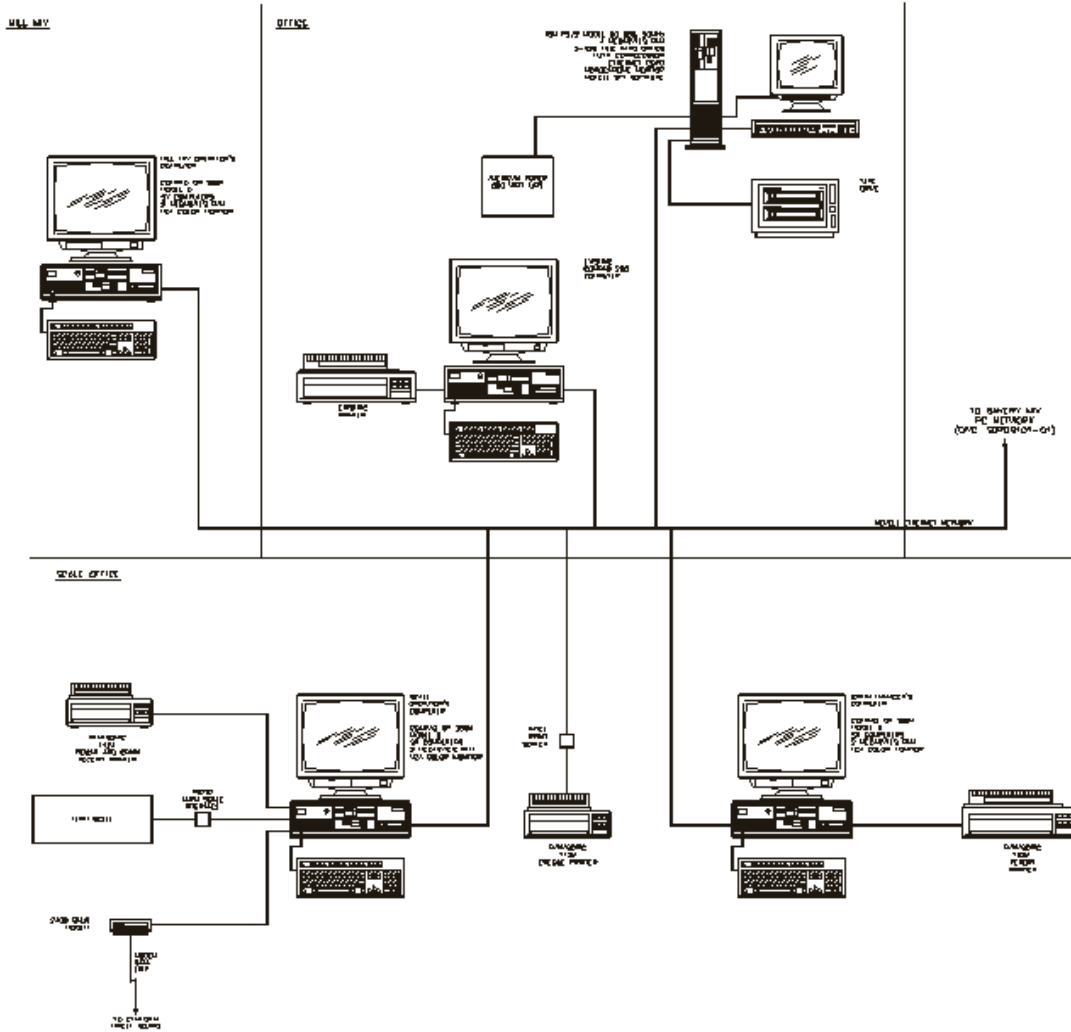
Two standard printers are used by the Grain Receiver to print and issue the weight and grain receipt tickets, as well as any checks required. The check printer is on a print server, allowing access to this printer by all stations on the network.

The GMS will be tied into the Canadian Wheat Board's computer in the future via a modem link, permitting pertinent information to be sent directly to the Wheat Board.



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System Specifications:

- IBM PS/2 model 80 file server c/w two 230 MB
- hard drives and tape backup.
- Compaq 386SX network workstations
- Thin wire Ethernet LAN
- Novell Netware 3.11
- 17,000 lines of custom FoxPro 2.0 code

For further information or to contact a Hinz office near you, please check our website at:

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