

# From Loading Bay to Enterprise with One System

by Danetta Bramhall

**Brief Summary:** Plains Marketing Canada recently implemented a Bulk Terminal System from ProSoft Technology resulting in unprecedented access to reliable product inventory availability and product movement forecasts, elimination of labor associated with manual data transfer and centralized management of the TMS database on a company-wide basis, resulting in a significant labor cost savings at truck loading facilities.

Plains Marketing Canada required a truck terminal loading system which would provide for unmanned operation of their truck loading facilities across western Canada and expand upon the functionality provided by their existing Terminal Management Systems (TMS). Of critical concern was maintaining the safety and integrity of the truck loading operation in an unmanned mode.



The major business objectives centered on the comprehensive integration of the TMS into the existing business management system computing infrastructure to provide for improved facility access control, improved inventory control and improved linkage of truck loading and unloading transactions records to specific customer contracts.

The major operational objectives included improved driver interface, truck loading system diagnostics and trouble-shooting capabilities, increased control of access to facilities, and a reduction in IT support requirements.

After consultation with stake-holder groups within the company including Logistics, Marketing, Accounting, Field Operations, Field Maintenance and the Information Systems, Plains Marketing Canada detailed system specifications to serve as the design basis for the project. These specifications included:

- Support for both unattended truck loading and unloading.
- Support for railcar loading.
- Support for Industry Canada approved batch load controllers.

- Support for Industry Canada approved weigh scales.
- Support for facility access control via PIN code and access cards.
- Ruggedized touch screen based driver interface utilizing pull-down menus, radio button style pick-lists, lexicographic data entry boxes and other user-friendly interface methodologies to ensure maximum ease of use and minimum data entry error.
- Ability to interface into head office business management system utilizing industry standard database interface protocols and WAN infrastructure both to obtain facility configuration and transaction authorization related data and return transaction data generated at terminal locations.
- Ability for terminal to operate in a stand-alone mode with no communication to head office for a minimum of forty-eight hours.
- Ability to retain a minimum of thirty days of transaction data at the terminal location.
- Support for contracted volume restriction enforcement.
- Support for access restriction based upon driver, carrier and equipment qualifications, licenses, inspections, insurance and certifications.
- Support for automatic linkage of terminal transaction activity to customer contracts within the head office business management and accounting systems.
- Ability to interface with PLC based facility control system for the purpose of supporting supervisory control functionality and exchanging transaction data for the purpose of reconciliation product movement.

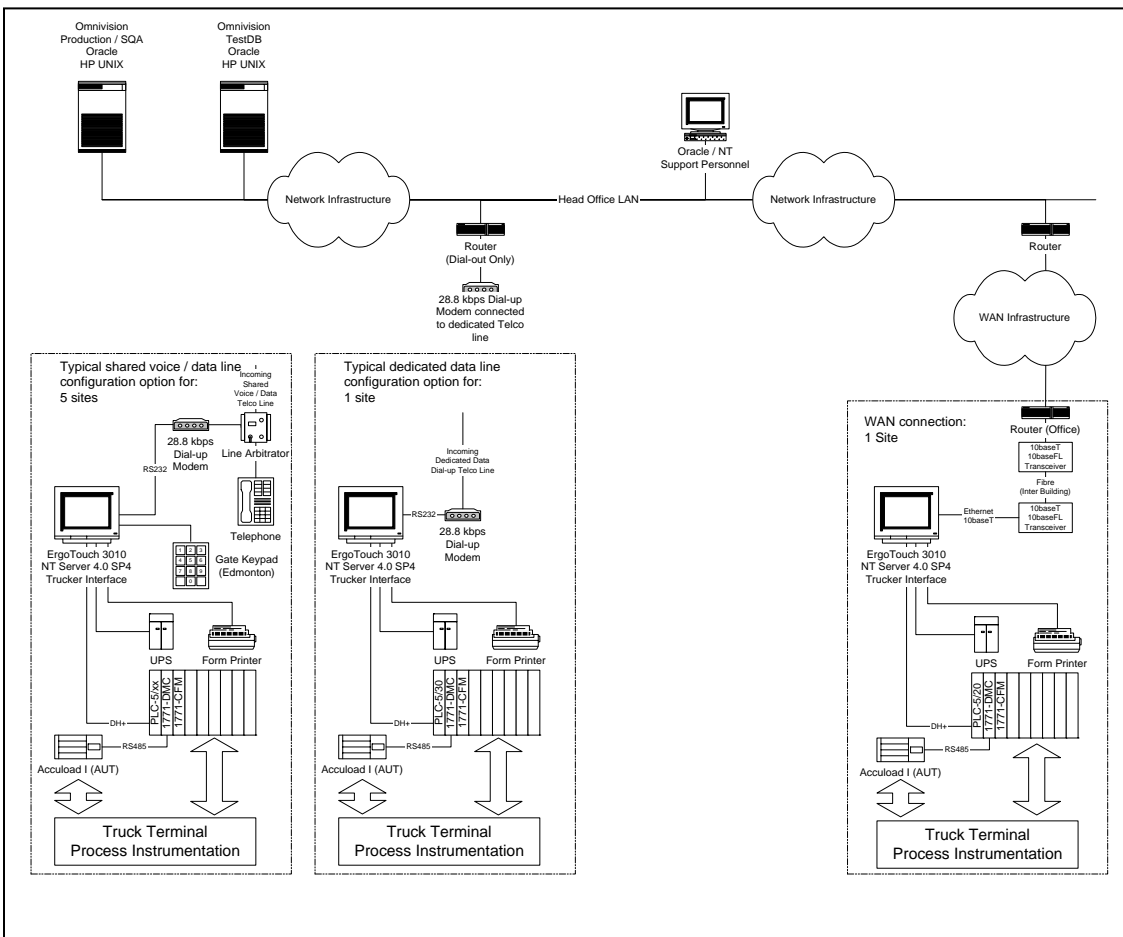


Based on these specifications, Plains Marketing Canada selected ProSoft Technology's TermLinx System.

TermLinx is a new product offering for ProSoft Technology, known throughout the industrial automation world as a superb interface communication company.

"We are extremely excited about incorporating Truck Terminal Automation into our product offerings," said Doug Sharratt, President of ProSoft Technology. "This type of technology fits very well with our current product lines and has created an excellent opportunity for us."

The TermLinx architecture centered around an industrial touch screen PC running an Windows NT 4.0/2000 operating system. The field located TMS units were interfaced to the head office business and accounting system either via a dial-up PPP connection established by a CISCO router in the head office location (smaller field locations) or a dedicated frame relay WAN connection between the offices (larger field office locations). At the field office locations serviced by a dial-up PPP connection a telephone line arbitrator was installed to support shared access to the telephone circuit. Interface to the Allen-Bradley PLC-5 based control system was accomplished by the insertion of a 1785-KTX Data Highway Plus interface card in the TMS computer.



All terminal islands utilized the Smith Meters Accuload™ 1 (now upgraded to Accuload III) preset controller as an Industry Canada approved metering device and also to facilitate trucker interface at the loading island. Interface to the Accuload preset controller(s) was accomplished using multi-drop RS485 serial communications which is supported via ProSoft Technology's time-proven MVI

Communication Module residing in the PLC. Similar connectivity was also accomplished at sites requiring gate access control.

“Our objective was to provide easy access for Plains Marketing Canada clients and, at the same time transaction records for accounting and billing in one fast, easy and cost-effective package,” said Michael Rush, Business Development Manager, Terminal Automation and Measurement Solutions for ProSoft Technology.

A total of nine terminals located across Western Canada are now interfaced to the Host System located in the Head Office in Calgary. The Oracle database at each terminal is easily managed from the Head Office. The database may be managed locally in emergency conditions if required.

Four key benefits were achieved through the implementation of the TermLinux System:

- The ability to control product lifting via truck relative to the customer’s contracted volumes, which was not supported by the previous system. This has provided the business unit’s logistics and marketing groups with unprecedented access to reliable product inventory availability and product movement forecasts.
- Elimination of labor associated with manual data transfer and manual reconciliation of truck loading transaction tickets with customer contracts.
- A reduction in liability risk due to the ability to control carrier and driver access to the facilities and monitor compliance with regulatory and corporate standards.
- Centralized management of TMS database on a company-wide basis, resulting in a significant labor cost savings at truck loading facilities.