

NEWSLETTER

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UPGRADING WATERLOO

When GEOWARE was first installed at the Region of Waterloo Landfill in the mid-eighties, the facility was quite simple and the systems main function was to get weights, calculate fees and produce a ticket. Since then, waste management has become much more complex. The Region now operates a number of transfer stations, progressive recycling and waste diversion programs, household hazardous waste drop off stations, a green bin organics pilot program, and a yard waste collection program. On a busy day, the Waterloo Waste Management Centre Transfer Station may have over 1300 incoming loads.

To adapt to the broad services and wide range of material collected, the Region recently added an additional scale to the Waterloo Waste Transfer Station and then upgraded their computer systems. In addition to simply upgrading their scalehouse systems from GEOWARE 3 to GEOWARE 4.1, the Region added three new modules to increase system functionality, flexibility and efficiency:

Currency Processing: The addition of this module allows GEOWARE to accept and track multiple payment types for a single load. Operators enter the payment type(s) and amount(s) and GEOWARE calculates the change due or balance owing. Furthermore, administrators can now use GEOWARE reports to reconcile cash collected with bank deposits. The Region also purchased APG Series 4000 cash drawers that automatically open during processing, making access to the cash more secure.

Remote Displays: Super-bright, outdoor LED displays were installed at three facilities. The inbound lane single-line displays show the gross weight, while the outbound dual-line displays show the net weight and fee. Displaying this information to customers improves communication and speeds up processing.

Traffic Control: With GEOWARE 3 the entry and exit lights at the scale were controlled manually by the operators who were constantly changing the status of the lights. Now, with the addition of GEOWARE 4.1 Traffic Control, the entry and exit lights on each scale automatically change during processing. The system is designed to adhere to weights and measurements regulations, thus the



Speed optimizations are important in the Region of Waterloo, where on a busy day, one site may process over 1300 loads

entry light only turns green once the scale has returned to a zero weight.

Although the Traffic Control module is designed to improve processing time, this became a challenge at the Region, where operators were used to changing the light to green in anticipation of the scale's return to zero. Thus, Geoware Inc. and the Region of Waterloo are currently working together to ensure regulatory integrity while maximizing performance and maintaining optimum customer service. One solution being offered is to configure the software so that, like an operator, it anticipates the scale returning to zero and changes the light to green a few seconds earlier. Another possible solution involves moving the traffic lights so that they are closer to the scale. As warm weather begins to bring more customers, we hope to see the best possible system performance while ensuring that regulations are adhered to.

In addition to possible slow downs due to the zeroing of the scale, the Region had general concerns about system performance after the upgrade to a graphical user interface. The development team at Geoware Inc. has recently addressed these concerns with a number of optimizations to GEOWARE 4.1. These optimizations include: improved loading time of large In-Progress Vehicle lists, reducing the time before tickets are printed, and other code improvements to make screen transitions faster. These updates are currently available for all GEOWARE 4.1 systems to upgrade before the busy season begins.

To further optimize processing, the Region has decided to configure *hot keys*. In GEOWARE 4.1,

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THE BENEFITS OF UPGRADING

If you're wondering why so many of our clients are upgrading to GEOWARE 4.1, this chart may provide some answers

<i>Requirement</i>	<i>GEOWARE 3.X</i>	<i>GEOWARE 4.1</i>
System support should be easy to access, and where applicable, internal IT staff should be utilized.	Geoware Support is available to help with problems, however on-site IT staff are generally not trained to troubleshoot problems with QNX Operating Systems.	Windows or Linux Operating Systems may be used for clients while servers run Linux. These certified platforms are easier to spec and procure, and on-site support is easier to access.
The database should deliver high levels of performance for fast GEOWARE reporting, as well as integrate well with third party tools.	The OnCmd Database is limited in speed, flexibility and integration capabilities.	The Oracle Database allows for faster reporting, more flexibility and improved integration. Furthermore, since many organizations use Oracle for other systems, database support can often be provided by internal IT departments.
Waste management sites often have high operator turnover and/or utilize light-duty staff. Thus, the system interface should be easy to use and intuitive.	The text-based interface with only keyboard input can be confusing and overwhelming for new users.	The graphical user interface with keyboard, mouse and touchscreen interface is much more intuitive for new operators and light-duty staff with no previous computer experience.
Upgrading from 3.X to 4.1 should be easy for experienced operators.	Processing screens, required input and function keys are virtually identical in both systems so current users can adapt quickly.	
IT departments want network based systems that are easy to buy, install and maintain.	QNX supports standard Ethernet technologies, but utilizes the proprietary QNX FLEET protocol which limits network switch technology and compatibility.	GEOWARE 4.1 systems deployed in either Windows or Linux fully support TCP/IP networks. This allows IT staff to deploy these systems and diagnose network issues.
Speed and accuracy of data is of utmost importance at busy facilities. Reducing the amount of input for common and/or obscure loads reduces processing time and increases data quality.	For all types of loads, all data must be entered or confirmed.	For loads with common attribute combinations, "Hot Keys" may be configured to automatically insert data values and skip input screens during processing.
With high costs of infrastructure, optimized work-flow is required to maximize throughput. Load processing must occur as quickly as possible while maintaining a high level of integrity. Waiting for the scale to stabilize and zero can be frustrating.	Allows vehicle identification before scale weight is stable.	Allows identification of the next vehicle before the current vehicle leaves the scale. GEOWARE Traffic Control ensures the scale is zeroed between weighing cycles.
Sometimes customers want to use more than one payment type. Also, many facilities accept specialized forms of payment such as coupons or vouchers.	Each transaction must be paid by a single payment type – either cash, cheque or charge.	With the Currency Processing module, multiple payment types are allowed for one transaction. Furthermore, payment types are configurable so coupons or vouchers can be used.
As transferring materials between facilities becomes more common, there is a need to weigh full vehicles on their way out and obtain tare weights when they return.	Loads of this type must be created in the Transaction Editor and weights entered manually.	New "Trips" functionality allows loads to be initiated on the outbound scale and completed on the inbound scale. Thus, the weight values come directly from the scale.
Information about loads recently entered into the system should be easily accessible.	To look up data for past transactions, operators must consult the Audit Trail.	The "Activity History" panel within the interface provides past load information on the screen.

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SUPPORT & MAINTENANCE FOR AD-HOC USERS

GEOWARE 4.0 scalehouse data is available from two applications: Scalehouse Services and Data Warehouse. While Scalehouse Services was designed to be used by administrators to configure data and run near real-time reports, Data Warehouse was designed for managers and planners to create higher level reports using large amounts of data spread over long periods of time.

Some customers have specific reporting requirements that are not met with existing GEOWARE reports and therefore connect to the data via third-party software. There has been some confusion regarding licences for GEOWARE applications users and these ad-hoc users.

Under GEOWARE 4.0, all named licensed users of Scalehouse Services are by default licensed users of Data Warehouse. In the case that a user

only requires Data Warehouse to run reports, they are not required to purchase a GEOWARE licence, however an annual support and maintenance fee applies. Ad-hoc users of GEOWARE data also fall into this category. Additionally, these named users must pay any fees related to being an Oracle named user.

Because people using only ad-hoc reporting or the Data Warehouse application are connecting to GEOWARE generated data, Geoware Inc. recognizes that there is a support and maintenance aspect to the data accessed via these connections. Therefore, ad-hoc users are required to pay the per-user annual support and maintenance fee. For matters where there are issues with the database, Geoware Inc. Support does not differentiate between an ad-hoc user and one who connects via a GEOWARE client.

WATERLOO

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custom function buttons, known as hot keys, may be developed which automatically insert data values and skip input screens during processing. Hot keys will be used by the Region to speed up the processing of typical, high volume loads.

With the growing complexity of the waste management industry, making changes to adapt to growth is a continuous process. GEOWARE 4.1 provides tools such as the Currency Processing, Remote Display and Traffic Control Modules to help manage expanding and complex facilities. However, every organization has different needs, thus implementing system changes requires strong communication and ongoing dialog to ensure the upgrade process provides the required results.

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copy of future newsletters,
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THE BENEFITS OF UPGRADING

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<i>Requirement</i>	<i>GEOWARE 3.X</i>	<i>GEOWARE 4.1</i>
Facility designs are becoming more complex with multiple scales, sometimes installed nowhere near the scalehouse.	Each workstation is restricted to a single mode: inbound, outbound, two-way or dual-scale.	One workstation may contain multiple process modes connected to different scales or not connected, making the system much more flexible. Operators may switch between process modes at any time. For instance, while waiting for an outbound debit transaction, a vehicle on a remote scale can be processed using the same system.
Controlling traffic flow can significantly slow down processing. Operators should be able to quickly view and change the status of lights and gates.	Control of traffic devices is limited within the software and requires users to enter a separate menu. Often operators have to go outside to look at devices to see their status.	With the Traffic Control Module, the status of lights, gates, beams and loop detectors are represented graphically. Output devices can be controlled within the software at any time during processing.
The ability to have diverse printing options and custom receipts that print quickly is important.	Receipts are restricted to basic text with dot-matrix or laser printers.	Thermal receipts may be used and configured to print virtually anything.
Communication with drivers is difficult when noise levels are high and/or intercoms are used.	A limited number of remote displays are available where information may be presented at the end of processing.	The Remote Display Module allows highly customizable, context specific messages which may present virtually any data available to the system at anytime. Embedded support for network display devices is included so the information may be displayed in other areas of a facility.

RECENT GEOWARE UPDATES

Over the last several months the development group has focused on adding support for multi-portion load processing. This new functionality within GEOWARE 4.1 allows multi-compartment recycling vehicles to tip individual compartments between weighing cycles. The multi-portion loads are represented by a single load (and load number), generating a single ticket with details on each compartment tipped. When this load data is exported for reporting, billing and analysis to the GEOWARE 4.0 Scalehouse Services and Data Warehouse applications, each load portion is represented as a separate transaction with a transaction number that is composed of the original load number followed by a part number suffix (e.g. LF123456-2). These transactions in GEOWARE 4.0 are identified in the database and reports as fractional loads. This exciting feature is the first of several anticipated mechanisms for supporting multi-portion loads.

With our customers experiencing the usual spring and summer increase in processing

volumes, Geoware Inc. remains committed to enhancing and optimizing the scalehouse processing environment. Many software changes have been made recently to significantly reduce vehicle processing cycle times. These changes were successfully deployed with a minimum of effort and disruption to site operations. This success can be attributed to recent development staff efforts to implement an automated testing framework for GEOWARE 4.1 products. This allows Geoware Inc. to be more responsive to changes in our customers' requirements since new features and functions can be developed with less concern of breaking any existing functionality.

GEOWARE 4.0

The Scalehouse Services and Data Warehouse applications have been updated as follows:

12 Character Transaction Numbers

Several reports have been modified to support the new 12 character transaction number format for multi-portion loads.

Additionally, support for fractional loads has been updated to be more consistent across all reports. Please see the README file on the ftp site to view which reports were affected.

Transaction By Rate Report

The Transactions By Rate report has been enhanced to now include transactions that are processed under fee exempt customers. This change makes this report easier to reconcile against other financial reports.

Fixed Weekly Time Study

A correction was made in the Daily Summary section to fix a weight unit conversion error for large daily volumes when the configured single load weight unit was different than the configured aggregate weight unit.

Material Marketing Report

A correction was made to fix the material type order in the material summary.

Offence Listing

This listing was corrected to fix a query error that occurred when running the listing against an Oracle 8i database.

GEOWARE 4.1

Speed Optimizations

Several changes have been implemented to reduce vehicle processing cycle times. Most notably that time to save the record and print the tickets have been reduced.

Scale Error Handling and Recovery

The ability to identify and recover from scale connection errors has been significantly improved to provide more reliable and intuitive system behaviours when the communications to the scale indicator starts to fail.

Multi-portion Load Handling

GEOWARE 4.1 now supports weighing individual portions of multi-compartment recycle vehicles.

Several updates were developed to resolve various system issues. The most notable of these issues included:

1. The in progress list would not display the correct vehicle licence number if the licence was modified using the in progress editor.
2. Systems would intermittently lockup when completing a load that had been removed from the in progress list several times.
3. Automated and manual refreshes to the in progress list would intermittently stop working until the application was restarted.
4. Scrolling data on NuMedia displays would sometimes become corrupted.
5. The outstanding balance of short paid loads would be incorrectly assigned to the inbound operator.

How to Update

Instructions for updating GEOWARE 4.0 and 4.1 are now available on our website at www.geoware4.com.

SWANA

Northern Lights Conference

May 30 – June 1, 2007 · Edmonton, Alberta

Geoware is a Gold Sponsor of this year's Northern Lights Conference. Be sure to visit us at our booth!

GEOWARE USERS' MEETINGS

May 29, 2007 · Edmonton, Alberta

June 6, 2007 · Waterloo, Ontario

GEOWARE will be hosting a Users' Meeting at the Fantasyland Hotel in West Edmonton Mall the day before the Northern Lights Conference. The following week, a second Users' Meeting will take place in Waterloo for our Ontario customers. The meetings will include the following topics:

- Planning a Successful GEOWARE Project
- New Challenges and Opportunities
- Geoware Training Development
- Sample Presentation of New Training Unit: "Data Warehouse to its Full Potential"

Contact our sales department for more information or to register: 1-800-900-4245 or sales@geoware4.com.