GEOWARE® 4

WASTE MANAGEMENT INFORMATION SYSTEMS

Now in Production:
GEOWARE 4.1 LOAD PROFILES

At the beginning of April, the Integrated Waste Management Facility (IWMF) in the Region of Peel began accepting organic waste from a curbside collection program. To facilitate this new program, the Region is using dual-compartment vehicles to collect both recycling and organics on the same route. When trucks arrive at IWMF, they weigh in, unload the recycling, then go to a remote scale before unloading the organics and weighing out.

Using a camera and an intercom, scalehouse operators are able to communicate with drivers on the remote scale. Through a high-speed network connection, the weight from the remote scale is entered automatically into the GEOWARE system.

To support this process, the Peel IWMF became Geoware's first client to use GEOWARE 4.1 Load Profile functionality. Load Profiles (known as "Split Loads" in GEOWARE 3.4) allow a number of material types to be associated with a single load. The screen shot below is from the GEOWARE 4.1 Editor, and shows a single load with two Load Portions – Single Stream Recycling and Organics.

In the case of the Peel IWMF, using the remote scale with GEOWARE Load Profiles has had a significant effect on the efficiency of the facility. Dual-compartment vehicles are not required to go back to the entrance scales, wait in line and re-weigh between dumping material types. Not only does this improve the process for dual-compartment vehicles, but it reduces the line-up for all other vehicles.

Data Entry

Load Portions

#	Material	Time	Gross	Tare	Net
1	Single Stream Recycling ▼	11:32	10000 kg	8500 kg	1500 kg
2	Organics ▼	11:50	8500 kg	7000 kg	1500 kg

Editing Load Portions in GEOWARE 4.1

A LOOK AT SUBSIDIES – PART I

As the waste management industry evolves, facilities are being pressured to divert more waste, increase revenue, and maintain high customer service levels. These goals are challenging, especially when it comes to dealing with residents. Since public facilities are funded through the tax base, residents often feel they are entitled to dispose their waste often and for little or no cost. This may result in high volumes of traffic and complaints to politicians about fee increases.

Subsidy programs can help to control these issues. Over the next year, we will be examining the benefits of using subsidies in the waste management industry. This part of our four-part series looks at how subsidies can influence residents' perspectives on the costs of managing waste. Future articles will discuss how subsidies can be used to control when and how often customers use facilities; how GEOWARE can be used to report lost revenue to council and citizens; and how subsidies can affect waste diversion.

Replacing Special Residential Rates with Subsidies

Many municipalities currently have special rates for residential loads, such as flat rates or even zero fees. Unfortunately, implementing residential rates in this way does not allow waste management departments to report on how much money is lost with these programs. The subsidy feature within GEOWARE allows rates to be set up that reflect actual costs. Then a subsidy may be applied to loads meeting certain criteria – so the cost to the customer does not change.

For example, suppose the true cost of handling a certain load was $15, but the customer was used to paying only $5. If the rate was set up as $15 with a $10

> Subsidies can make rate increases easier to explain politically and help to identify revenue loss associated with discounts given to residents.

subsidy applied, the customer would still only pay $5, but their receipt would show the true cost and the subsidy amount. This has a number of advantages:

- Knowing that the true cost of a load is actually $15 means the customer is less likely to complain about paying $5.

- Subsidies can be used in transition periods. First, educate the public about true costs while providing highly, publicized subsidies. Then slowly reduce the subsidy by changing the amount or adding restrictions (i.e. residents get one subsidized load per month). This can make rate increases easier to justify and explain politically.

- Educating customers of the true cost of waste disposal makes them appreciate why, strictly from a cost perspective (not to mention environmental reasons) that diversion is important.

- After full implementation, subsidy data clearly identifies revenue loss associated with discounts given to residents. This information can be communicated to the public and municipal council during budget and policy making processes.

As customers are encouraged to understand the true costs of running a waste management facility, subsidies will be more appreciated. Strategic use of subsidies can impact customer behavior and the management of costs. Through increased software functionality, complemented by our consulting and analysis support, Geoware Inc. can help make subsidies a valuable component of operational and management strategies.

DATA WAREHOUSE & SCALEHOUSE SERVICES
WHY DO WE NEED BOTH?

Scalehouse Services and Data Warehouse are two distinct but similar looking applications, each providing its own benefits. In a nutshell, both applications are required because they address different time frames.

Two Databases

Each application has its own database. The database for Scalehouse Services typically contains data from the beginning of the previous calendar year to the most recent update (from the various GEOWARE scalehouse servers). On the other hand, the database for Data Warehouse contains several years of data, depending on the amount of data that is chosen to be kept on-line.

Application Differences

Although they look similar, Data Warehouse and Scalehouse Services are very different programs. Scalehouse Services is used for ongoing, short-term management of GEOWARE including:

- Configuration of data such as adding businesses or changing rates;
- Management of facility operation through running daily, weekly and monthly reports;
- Validation of data transfers by checking and approving control totals; and
- Configuration and generation of invoices.

Appropriately, these functions are executed on the relatively short-term data, typically one to two years, in the Scalehouse Services database. Data Warehouse, on the other hand, adds the capability to report on 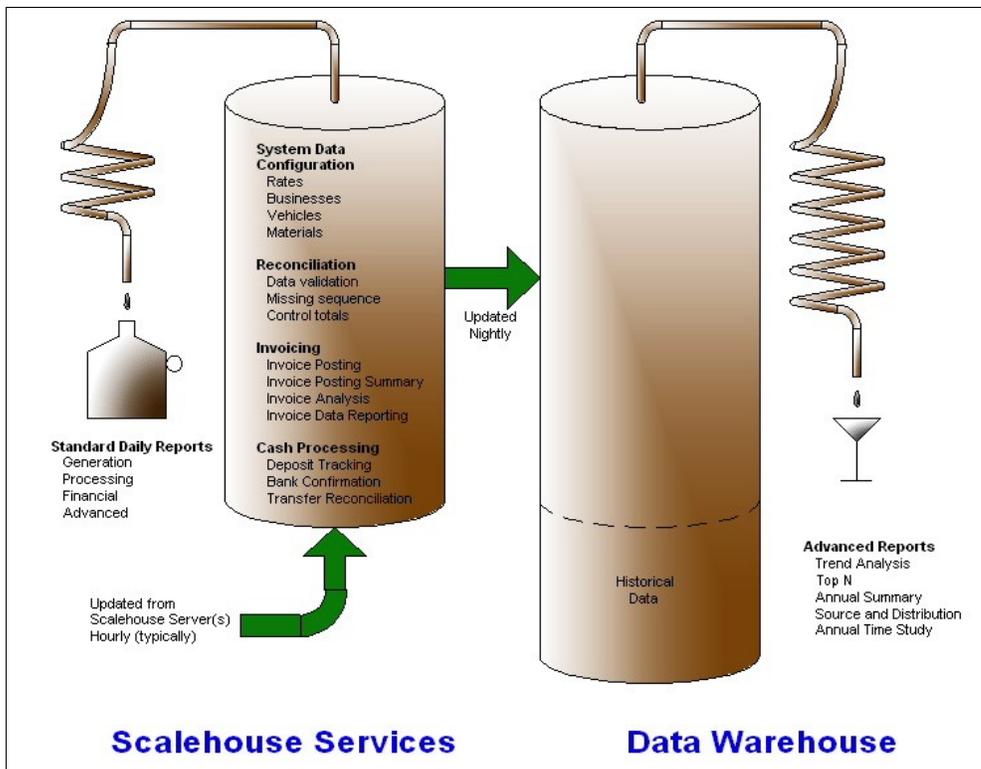a much greater volume of data. In fact, the data can extend back many years. The Data Warehouse database makes extensive use of *Materialized Views,* which means that the data is pre-queried overnight. Query results, which may include weekly or monthly totals or complex performance calculations, are ready to be displayed in a report before it is run. Use of *Materialized Views* allows Data Warehouse's Advanced Reports to run in minutes rather than the hours they required to generate similar reports in GEOWARE 3. Thus, there are long term reporting tools available in Data Warehouse that are not available in Scalehouse Services.

Tool for Managers and Planners

Data Warehouse was created for managers and planners to use for data analysis. As a consequence, Data Warehouse users have read-only access to the Data Warehouse database and therefore do not have the ability to make configuration changes, run invoicing, etc. Consequently, the read-only access nature of Data Warehouse users effectively limits their roles to generating reports – i.e., the desired functionality. Note that any ad hoc reporting tools connect to the Data Warehouse database using this same read-only access permission.

Business Practices

In order to best exploit the two applications, GEOWARE administrators should adopt a procedure whereby they close out the Scalehouse Services data to the Data Warehouse. For example, a monthly closeout process coincides well with typically monthly invoicing periods.

Scalehouse Services

System Data Configuration
Rates
Businesses
Vehicles
Materials

Reconciliation
Data validation
Missing sequence
Control totals

Invoicing
Invoice Posting
Invoice Posting Summary
Invoice Analysis
Invoice Data Reporting

Cash Processing
Deposit Tracking
Bank Confirmation
Transfer Reconciliation

Standard Daily Reports
Generation
Processing
Financial
Advanced

Updated from Scalehouse Server(s) Hourly (typically)

Updated Nightly

Data Warehouse

Historical Data

Advanced Reports
Trend Analysis
Top N
Annual Summary
Source and Distribution
Annual Time Study

RECENT GEOWARE UPDATES

Several enhancements and changes have been made this summer to GEOWARE 4.1 and 4.0. Most notably:

GEOWARE 4.1

Synchronization Optimizations
The methods used for synchronizing data between the administration and scalehouse servers have been optimized so that polling cycle times can be significantly reduced.

GSE550 Scale Indicator Support
Full support for the GSE550 including automated remote zeroing and out of range weight detection is now available.

Vehicle Default Handling
Several improvements have been made to how vehicle defaults are updated within mixed attended and unattended environments and for vehicles handling different activities.

Remote Display Behaviour
The updating of remote displays has been improved so that the entire processing cycle will have exclusive access to the display regardless of activity on other process modes.

ERROR HANDLING
The development group has been focusing its efforts over the last several months on making GEOWARE 4.1 more stable and resilient to errors including scale, operator and database errors.

Scale Error Handling
Errors associated with scale communication failures or timing issues are now presented to the operator as soon as the control panel is launched. Operators can choose between options to retry the scale operation or to disable the scale. Once the scale is disabled, operators can then manually enter the weights until the source of the scale error is resolved.

Driver Terminal Error Handling
In addressing several outstanding support issues, it was discovered that drivers were able to lock up the terminals by holding down keys for the duration of the processing session. This problem has been now corrected.

Database Error Handling
Intermittent errors while communicating with the database could leave the system in an unstable state without informing the operator. Theses errors are now identified and presented to the operator to assist with troubleshooting

GEOWARE 4.0

Daily Facility Report
Handling of activities other than material-based loads was improved so that the activity breakdown section now includes short payment and drawdown information.

Offence Listing
In order to facilitate surcharge reconciliation, an active transaction count column was added to the offence type summary at the end of the Listing.

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

TIPS & TRICKS:
THE NEW LOAD BUTTON

Did you know that in GEOWARE 4.1 operators can begin processing the next vehicle while the current vehicle is still on the scale?
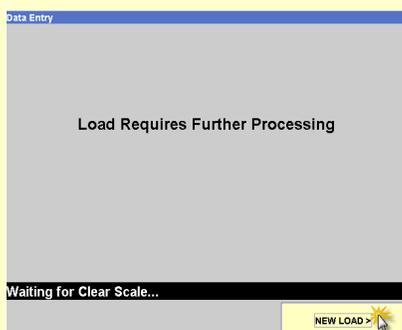
Simply press the **NEW LOAD >** button when the system is "Waiting for Clear Scale." The vehicle licence, hauler, customer and load details may be entered before the new vehicle stabilizes on the scale. But don't worry – GEOWARE will not accept the weight unless the scale has zeroed and stabilized.