

Information Technology Launches Data Warehousing Pilot

By Kevin Bertram

The title of this article may lead you to believe Information Technology is about to send (launch) its' first man (pilot) into space. This, however, is not the case. Although we are beginning a new era in the way Oakland County stores, accesses, and manages one of its major assets – “information”. The data warehouse is a revolutionary information management concept specifically geared to support organizations' growing needs for strategic information access. A Data Warehouse can be defined from 2 perspectives — Business and Technical.

Data Warehouse Business Definition

Basically, the data warehouse is a common collection of business data. The data warehouse allows a common understanding of the things, or “entities”, that make up an organization: its customers, its finances, its products, its services, etc. Over the years, organizations have widely deployed numerous information systems to support various business *functions*, e.g. order entry, inventory management, accounts payable/receivable, customer service, land management, etc. While these “operational” systems support *running the organization*, they are unable to provide a complete *understanding of the organization* for the following reasons:

The data is not combined. Instead, data is stored on different systems that were built at different times, in different locations, in different formats, with different codes, with different ways to access it.

Only current data is available. Most operational systems overwrite data as new data comes in. For example, an account balance changes over time. This lack of historical data prohibits an understanding of critical business trends.

The data warehouse solves this problem by integrating data from across the organization, converting unintelligible codes to common terms, organizing similar types of data together, incorporating historical data, and by including special applications for viewing and analyzing this information. **In short, the data warehouse turns data into information.**

Data Warehouse Technical Definition

Technically, the data warehouse is a unified information management architecture to support information delivery and access by multiple types of information users. Oakland County has amassed a great wealth of data, and now has a need to integrate, access and analyze the data—hence the advent of the data warehouse. The data warehouse is based on four simple tenets. The data warehouse is a collection of data that is:

Subject Oriented

organized by entity for ease of navigation, access and understanding

<i>Integrated</i>	Incorporating overlapping and redundant data from throughout the organization
<i>Time Variant</i>	including “snap-shots” of the data at regular intervals for historical analysis and forecasting
<i>Nonvolatile</i>	data is only added to the data warehouse, not updated or overwritten

These data warehouse characteristics allow the type of data access, understanding, analysis, and decision making that have been previously unfeasible. The bottom line? **We're talking one huge database!**

More Buzz Words and Phrases

Get ready! As if the computer industry doesn't have enough buzz words and phrases, Data Warehousing has a set of its own. Soon you'll be hearing IT Data Warehouse team members and customers spouting things like: “**atomic data acquisition**” (no fear of radiation here), “**cleanliness**” (no respect to personal hygiene), “**data mining**” (no construction equipment needed), “**granularity**” (no reference to a type of beach sand), “**OLAP**” (not pig Latin for “O Ley!”).

There are a few terms that will help you begin the dialogue with the Data Warehousing folks as well as help you better understand what comprises the Data Warehouse. The lowest level of data in the Warehouse is known as the **Atomic Level Data**. Data in a Warehouse is often summarized (totaled, counted, etc) or combined (accounts totaled together to give a picture of similar type accounts). Atomic Level Data however is NOT summarized or combined, it is the original data, in its original state when it was entered into the Warehouse. Just as the Atom is the lowest level building block for all things, so is the Atomic Level Data - it is the data from which all other data is summarized or combined.

Once the Atomic Level Data is established in the Warehouse, Oakland County can create other **Data Marts** (no relation to K-Mart) from this Atomic Data. Data Marts are basically multiple subsets or aggregates of the Atomic Data structured to provide particular business solutions for distinct user communities.

Finally, because of the sheer magnitude of information in the Data Warehouse, it also contains **Metadata** to help people navigate and understand the data warehouse. While the information in the data warehouse itself provides *content*, the Metadata gives the information its *context*, describing where the data came from, what it means, how and when it was integrated, how it was transformed, etc. Metadata is seen as critical to both the development and usage of the data warehouse.

Data Warehousing Pilot

The Board of Commissioners has approved funding to implement a Data Warehouse to initially contain a portion of the County's land information. This pilot will include the acquisition and installation of a high performance computer to be used as the Data Warehouse server which will deliver and provide access to the wealth of data. It will also include the necessary Data Warehousing software, consulting, and end-user software tools. An end-user Tool Selection Committee comprised of representatives from multiple County Departments and Divisions has already been meeting to review software vendor Request for Proposals, perform software testing, and assist with the final software and vendor selection.

The pilot project will begin late September 1997 and conclude end of first quarter 1998. At that time the pilot project will be evaluated and the future of Data Warehousing as an on-going program will be determined. The Data Warehouse Pilot is viewed as an integral, strategic, project that will not only deliver data and information to assist County Departments and Divisions improve their operations, but provide the vehicle to support the Geographic Information System and the Enhanced Access initiatives.

Update on Department Acquired Software Policy

In July 1996, the Department of Information Technology implemented the Computer Hardware/Software Usage and License Policy. This policy reinforced the County's commitment to comply with legal requirements pertaining to the use of computer hardware and software. It communicated the requirements and limitations of purchase, use and ownership of computer hardware and software. A copy of the policy was distributed to each County employee at the time of implementation. A copy can also be reviewed online on the County-wide publish drive, specifically "o:\infotech\standard\software.wpd".

Recently, Information Technology has found it necessary to document important information on the standard software which is loaded on your PC. Should your department/division choose to purchase additional devices and/or software, please do so by giving consideration to compatibility with Oakland County's established configuration described in this article. Questions or concerns about a product's affect on your system's integrity should be addressed in advance through your Information Technology Project Representative. When deciding to purchase additional devices and/or software, it is important to remember that there are many Windows 3.X and DOS-BASED programs that will corrupt or adversely affect the integrity of your system. When loading software, please be advised that all independent installations are "loaded at your own risk". The Department of Information Technology **can only certify and provide support for devices and/or applications which meet the stated standards**. A copy of this document can be reviewed online on the County-wide publish drive, specifically "o:\infotech\standard\standard.wpd".

On July 17, 1997, the Board of Commissioners approved revisions to the original Computer Hardware/Software Usage and License Policy. These revisions now require that only Information Technology relocate hardware to insure the County's hardware is not exposed to interference, corruption or damage as a result of relocation, to maintain accurate asset location and configuration information for support and service purposes. It also further clarifies that Departments can relocate Departmentally Acquired Software in so much as the software is first removed from the original processor, prior to being re-installed on another existing or replacement processor - all in accordance with the software's licensing restrictions. A copy of this document is also available on the County-wide publish drive, specifically, "o:\infotech\standard\software.wpd".

Experiencing Dial-In Problems Using the ReachOut Software?

In September 1996, ReachOut became Oakland County's standard software application for remote control access to the Network. Since that time approximately 100 individuals have been given the ability to dial-in and directly connect to the Network from a laptop or a PC at a remote location. Some County employees are using ReachOut from remote work locations such as Community Mental Health Outreach sites, Sheriff's Department substations, etc. as well as having the ability to dial in to the Network from their homes, client's residences, or while on business trips.

Some recent enhancements have been made to the ReachOut system to alleviate the following problem:

Users are able to dial-out. The modem at Information Technology's end answers; however, the user is never prompted to enter their PIN and Secure ID number. Usually, if they keep trying (hang-up and re-dial), they will eventually be able to get the prompt. Sometimes they are disconnected once getting into the system (no carrier).

The problem is generally a result of inconsistencies in the telephone line being used. Sometimes the frequency levels drop out of specification and are too low, or there will be "noise" on the line that interferes with the data transmission (the user may not be able to hear the noise). A new enhancement has been implemented to assist in correcting this issue.

If you encounter this problem in the future, follow these simple steps:

1. Hang-up, wait 5 minutes, and re-dial.
2. If #1 is not successful, they should contact the Hardware Help Desk at 858-5265 to make sure that a line has not hung and needs to be reset.

3. If #2 is not successful, the user should contact their telephone provider (Ameritech or GTE) and report a problem with their phone line. They should say that they are transmitting data via their phone line, and that the transmission speed is not fast enough. The line should be checked for low levels and/or noise. If the user is at a hotel, they should contact the main desk and report the problem and explain that they are transmitting data via the phone line.

Hot ReachOut Tip: To ensure prompt and reliable access to the ACORN network while using ReachOut, please be sure to double-click on the “**Netware**” logout icon located on the desktop when exiting the ReachOut system.

Netscape Navigator Correction

In the June 1997 edition of the Information Technology Quarterly, on page 3 under the heading “Netscape News - Upgrade to Netscape Gold 3.0”, it was incorrectly stated that the upgrade would be to Netscape Gold 3.0. It should have been stated that the upgrade would be from Netscape Navigator 2.0 to Netscape Navigator 3.0. The County of Oakland is not licensed for Netscape Gold 3.0, but is licensed for Netscape Navigator 3.0. We are sorry for inconvenience or confusion this may have caused the readers.

New Help Desk System Allows Customer to Electronically Log Help Desk Calls

As most of you are aware, the new Q-Support Help Desk system was implemented May 5, 1997. Over 5,300 calls have been logged since implementation. Q-Support has enabled Information Technology to better capture, act on, and track help requested from our customers. Information Technology now has the ability to improve customer support and response time, as well as improve communication and customer expectations. QMail, a component of Q-Support, was implemented in July 1997. QMail was designed to integrate Q-Support with GroupWise to provide the following functionality:

- Customers can log help desk calls directly into Q-Support. This eliminates the need to telephone the help desk(s) with **non-urgent** calls. Any urgent call should still be placed by telephone to allow expedient resolution of the problem.

The call will automatically be converted and logged in Q-Support. After the call has been received, either the Hardware or Software help desk will contact the Customer for any additional information in processing the call, if needed.

- Customers can receive a receipt of call number and initial status through GroupWise. The help desk staff has the ability to automatically send a response from Q-Support to the customer which identifies the call number and comments with regard to the call. The customer will receive the response through a GroupWise mail message.
- Help Desk and support staff can resolve calls where necessary via GroupWise e-mail. An example would be: if a customer calls to ask how to compact and repair

an Access Database, the Q-Support system already contains step-by-step instructions which allow staff to walk the customer through the process over the phone. With **QMail**, the help desk and support staff can automatically e-mail the instructions from Q-Support to the customer and they can walk through the steps at their convenience.

To Send a Help Desk Call via GroupWise E-Mail:

1. Open **GroupWise**.
2. Select **Send...New Mail**.
3. Type **QDAEMON** in the **To:** text box.
or
Select **Address**, select the **HelpDesk** last name, and select **OK**.
4. Type **New Help Desk Call** in the **Subject:** text box.
5. In the **Message:** text box, include the following information:
 - a. Your telephone number. (If you are reporting a call for someone else you will need to include the individual's name and telephone number as well.)
 - b. The time you can be reached.
 - c. The PC tag #.
 - d. The Location of the PC/Printer/etc. (address/building/floor/room #)
 - e. The description of the problem. The more specific you can be the better. Things to think about,
 - C has the problem happened before;
 - C can you still work on the PC;
 - C have you or someone else installed any software on the PC;
 - C has the PC been moved;
 - C is anyone else in your area having the same problem;
 - C if it's an error message, you will need to record the exact message and the results of any selections you make while clearing the error message;
 - C what application are you working in;
 - C what feature are you working with in the application; and
 - C any other information that could be helpful.
1. Select **Send**.
2. The message will be sent and logged into Q-Support.

If you have any problems sending a help desk call through GroupWise please contact the Software Help Desk at 858-8812.

GroupWise E-Mail: Help Us Keep the Network Running Smoothly

In the September 1996 Information Technology Quarterly we asked for your help. Information Technology is once again asking for your help to ensure the network continues to run smoothly.

- Refrain from any customization of the GroupWise views. Including graphics as part of a mail message view increases the size of the view, which in turn increases the size of the messages being transmitted.
- Please do not send messages to all GroupWise users (i.e., a broadcast message). If you need your message sent and distributed to all County employees there is a mechanism in place for these messages. All requests should be made to Janette Wager at Information Technology. The requests should be from a supervisor, manager, or department head. The request should include the exact message that you would like to distribute as well as the date you need the message sent. The message will be sent after hours or during a slow peak time in network use. The message will be sent to all department/division representatives who will distribute the message to their employees. Please send your requests at least one to two days in advance of the date you want the message sent.

Thank you for your assistance in keeping the network running smoothly. If you have any questions please contact Tina Ramey at 858-4082 or Janette Wager at 858-0893.

Tips from the Software Help Desk: Compacting Access Databases

As you change data in an Access database, the database file can become fragmented. A file is fragmented when it becomes too large for your PC to store in a single location on a disk (your hard drive). When this happens, your PC splits the file up and stores it in pieces. You can use fragmented files, but it takes your PC longer to access them. The file also uses more disk space than necessary.

To make the best use of your disk space, you should periodically compact the database. Compacting makes a copy of the database, rearranging how the database file is stored on disk if it is fragmented. The compacted database file is usually smaller and often provides better performance.

To Compact a Database:

1. Open **Access** (*do not open the file*).
2. Select **File...Compact Database**.

September 1997, IT Quarterly Newsletter Archive

In the **Database to Compact From** dialog box,

3. Select the database you want to compact.
4. Select **OK**.

In the **Database to Compact Into** dialog box,

5. Specify a name, drive, and directory for the compacted database.
6. Select **OK**.

NOTE: You can use the same name as the original for the compacted database file, or you can use a different name to create a separate file. If you use the same name and the database is compacted successfully, Microsoft Access automatically replaces the original file with the compacted version. If you use a different name to create a separate file, after a successful compact of the database, you will need to delete the old database file and use the new database or rename the new compacted database file. **Information Technology recommends that you use the same name as the original database file, especially if other users access and use the database.**

Tips to think about when compacting:

- To compact a database, you must have Modify Design permission for all tables in the database. Otherwise, the compact operation fails.
- The compact operation fails if you don't have enough storage space on your disk for both the original and compacted versions of the database.
- You can't compact a database when it is open. In a multi-user environment, the compact operation fails if another user has the database open.
- If you delete records from the end of a table that has a Counter field, when you compact the database, Microsoft Access will reset the next counter number to a value of 1 more than the last undeleted counter number.
- The Compact Database method copies all the data and the security permissions settings from the original database to the new compacted database.

Backup Document for Windows 95 Now Available on the Publish Drive "O"

Procedures for using Backup, Restore and Copy Disk can now be found on the County-Wide Publish drive "O", specifically "o:\infotech\training\win95bu.pro".

Copies of the procedures will be mailed to those students that have attended the Upgrade or Introduction to Windows 95 class. Copies will also be provided in the training rooms at Information Technology.

Backup procedures for Windows 3.1 have been renamed from "o:\infotech\training\backup.pro" to "o:\infotech\training\win31bu.pro".