

Discoverer: A New World of Reporting

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Introduction - Oracle Discoverer is an under-utilized tool. Discover real-world tips for deploying Discoverer in an Oracle Applications environment. To be successful, you must move beyond the installation guide and consider the organization structure and the skill sets of the IT support staff. This paper discusses provides advice and best practices for a successful Discoverer installation in an Oracle Applications environment. Emphasis is placed on the staffing and project management decisions required ensure success. Actual production report examples and statistics will be used in this paper. The Discoverer version discussed in this paper is release 4i. The intended audience of this whitepaper is Project Managers and Technical/Functional Leads. Directors and Technology Managers may also find this paper helpful in planning for staffing needs and training requirements. This white paper has two appendixes at the end. Appendix A lists common Discoverer terminology while Appendix B is a compilation of sample reports used at GISD (including comments).

Legacy Reporting Limitations – Oracle Applications provides a large number of standard reports. However, these reports were developed during the late 20th and early 21st century. Information technology has advanced in the last 10 years resulting in an outdated appearance and functionality of these reports (Exhibit A). The outdated appearance is a result of using a single sized font without any style changes such as bold, underline and italics. Line and column spacing are often misaligned, with line wrapping occurring in awkward areas of the report. The result is a report that is difficult to read and cannot be used as formal presentation document.

In addition to the poor appearance of the legacy reports, functionality is limited. Legacy 6i/9i reports often contain too much information or are missing one critical piece of information. The most common report customization request is to add a piece of information to an existing report. For example, the AP Invoice Register (Exhibit A) is considered by many to be missing a Purchase Order reference.

The final limitation of existing legacy 6i reports is that they require technical expertise to develop and maintain. A fully trained Reports Developer must attend a five day PL/SQL training class and an additional five day Reports class. Additionally, the developer must be familiar with the Oracle Applications environment and database schema structure. An entire technical specialty has risen out of the need to develop and maintain legacy reports.

Enter Discoverer: A New World of Reporting – An often heard criticism of Modern ERP (Enterprise Resource Planning) systems is that “information cannot be pulled out of the system.” Business Intelligence and Discoverer seek to fill these perceived information inadequacies while addressing limitations discussed in the previous section. The Discoverer product comes in three distinct versions, Discoverer Plus Desktop, Discoverer 4i Plus and Discoverer 4i Viewer. Understanding the differences and the pros and cons of each version is critical to the successful implementation of Discoverer. Some organizations opt for all three types of Discoverer while other organizations settle on one version. In addition to the client versions of Discoverer, there is a System Administration version which must be installed on a Windows client. Since the System Administration application is required in all Discoverer installations, the client versions and their differences will be discussed below.

Discoverer Desktop (Exhibit B): This version of the Discoverer suite is the most versatile and feature rich. It must run on a Windows client. The targeted audience for this version are business analysts, budget analysts, financial analysts, project managers and senior managers and directors. In order to adequately use this version, each user must be familiar with Excel.

Advantages: The client runs on Windows and behaves as a traditional Windows application. Standard shortcuts, icons and menus are utilized. Performance is completely dependent on the client and is usually fast when used with a contemporary computer. As with any Windows application, stability can be an issue. Stability is primarily affected by the number of applications consuming RAM (Random Access Memory) and the length of the query. The Discoverer Desktop can hang occasionally on extremely long queries (queries which exceed an hour). Another advantage of the Discoverer Desktop is that it can be tightly integrated with Excel.

VBA (Visual Basic Application) code and macros can be written to automate formatting and other special reporting requirements.

Disadvantages: Each version of Discoverer Desktop requires a special license. The expense is often minimal since the number of users of this version tends to be low. Another disadvantage is that the Discoverer Desktop is a client application which must be installed and configured on each Windows desktop. Installation and configuration is a quick task for an experience Oracle technical resource but is often beyond the abilities of typical desktop support staff. The limited number of Discoverer Desktop users can make the installation a poor choice for network installations. More effort may be required to package the application than in performing the actual installation. At GISD, Oracle team members perform this duty.

Discoverer 4i Plus (Exhibit C): This version of Discoverer uses Java Swing technology as its code base. The version executes entirely through the network and the only required client software is an Oracle Applications JInitiator. Most Oracle Applications users have this plug-in and will not require any additional downloads.

Advantages: Several of the disadvantages of the Desktop version are addressed in Discoverer 4i Plus. There are no additional licensing costs for using Discoverer 4i Plus. This attribute encourages large scale adoption of Discoverer. Since it is completely browser based, there is no need for desktop support above what is required for Oracle Applications. Often, Discoverer 4i Plus is used by the same desktop user. This version can be used at a remote location if needed. Overall, this edition sacrifices some user experience for reduced support and licensing costs.

Disadvantages: Since Discoverer 4i Plus is a browser based application; it is completely dependent on the network. If a network outage or degradation occurs, the application can become agonizingly slow and eventually time out completely. Another disadvantage is that user experience in any browser based application is slower than what can be obtained through a client application. Some minor functionality has been left out of this edition. Finally, Java has progressed through multiple iterations since being introduced. It is not uncommon for multiple Java applications to be executed on the desktop. Each application may require and inadvertently update the Java stack creating a stability issue.

Discoverer 4i Viewer (Exhibit D): The final version of Discoverer clients is the Viewer. This variant is based on Java Server Pages (jsp). It is intended for a wide audience and offers little in the way of advanced analysis and reporting. The audience for this variant is typically clerks, field personnel and other personnel engaged in day to day operational duties. GISD uses this tool to distribute employee numbers and campus assignment locations. Basic Purchasing information is often passed via Discoverer Viewer.

Advantages: Similar to Discoverer 4i Plus, this variant is purely browser based. Additionally, a JInitiator is not required. This feature allows for the smallest possible desktop footprint and an ideal reporting solution for someone who accesses the system through the self-service framework. Since major functionality has been removed, training is negligible and information can be accessed through a tightly defined parameter driven path.

Disadvantages: Discoverer Viewer is limited to specific pre-defined report. While not as static as the standard 6i legacy reports, this edition is a shadow of the reporting flexibility of Discoverer Desktop and 4i Plus. The Java issues discussed in the previous section also apply to the Viewer as well. However, the server pages are not as susceptible to Java and browser versions as the standard Oracle Professional Interface Pages.

Explorers of a Brave New World, Staffing the Implementation: The installation of Discoverer is a moderately complex task but not beyond the means of an experienced Oracle technical professional. The actual intricacies of installation and setup are beyond the scope of this paper. However, a few considerations are covered in the next section: Implementation Considerations. It is the people who will be performing the installation and follow up support that is critical to the success and adoption of Discoverer. Rolling out a new product requires management support and approval. However, the eventual success of Discoverer will depend on the adoption and use of the application. This paper's author has interviewed several Discoverer installations and has discovered a common thread of marginal use. The usual behavior is for the IT department to install the application and turn it over to the user community without explanation. The user community typically does not have the time to fully explore and lead the adoption effort. The end result is that this tremendous tool sits idle and unused. In order to prevent this scenario from occurring, two key types of personnel are critically needed; the super/power users and the Discoverer champion.

Super users: The super users are typically the same employees who will use the Desktop edition. They are involved in analytical and control functions within the organization. Discoverer requires some dedication and computer savvy to master. A good super user is one who is comfortable with Excel. Discoverer resembles Excel in both layout and functionality. Therefore, Excel competence is a strong indicator that a potential super user can master some of the technical intricacies of Discoverer. Other qualities include a willingness to teach and help others. The early adopting super user can be a strong advocate to a successful adoption.

Discoverer Champion: The single most critical element to a successful Discoverer rollout is the champion. The word champion was deliberately because it accurately reflects the dogged determination of this individual. The champion needs strong technical skills, especially PL/SQL. The champion does not need to be the organization's strongest technical resource. In fact, the technical superstar is probably poor choice for this role. This role requires a person with that unique blend of both technical expertise and marketing genius. The champion has to be able to communicate, listening is extremely important, as well as understand the technical capabilities of Discoverer. In the early stages of post-implementation; the champion's mission to seek out business needs and use Discoverer to fill those needs.

Once the super users and champion have been identified, they need to attend training. One of the best training avenues is through Oracle University. Super users will need to attend a two day user's class. The champion should attend the two days user class in addition to a three day administrator's class. These trained individuals are the nucleus for the Discoverer user community. At GISD, the Discoverer user community includes: 1 Discoverer Champion, 2 Discoverer Developers/Administrators, 20 Discoverer Desktop Users and 200 Discoverer Viewer Users.

Implementation Considerations: Once the super users and champion have been selected, the next phase is the installation and configuration of Discoverer. As stated previously, it is not the intent of this paper to explore the technical details of installation. Instead, general guidance and advice will be given. Discoverer is a standalone product and can be used for custom applications. However, if the intent is to install the tool in an Oracle Applications environment, Discoverer needs to be installed in applications mode (*Metalink note 139516.1: Discoverer 4i with Applications 11i*). Applications mode provides a security model which mirrors and utilizes the user's Oracle Application's responsibilities.

An optional, and *highly recommended*, installation step is to implement the BIS (Business Intelligence System, see patch 2921686) functionality. The BIS functionality provides a starting point for Discoverer reporting. BIS installation provides pre-built views, business areas and a few workbooks for all of the major Oracle Application modules. The installation can save hundreds of development hours.

One final optional installation component is the Discoverer Metadata Business Area (*Metalink note 259122.1*). This installation will create a business area which contains information on the EUL (End User Layer). After installation, Discoverer management reports can be created regarding performance and usage. The worksheets from this business area can be used to measure user adoption, the critical success factor in Discoverer

implementation. Regular analysis of this business area can provide valuable insight to where the tool is utilized and areas of under-utilization. Armed with that information, the Discoverer champion can identify problem areas before user frustration sets in. Two reports from this business area are included in Appendix B: Sample Reports.

Post-Implementation Considerations: After Discoverer has been installed, there are a few additional process decisions which need to be made. Naming conventions need to be derived to prevent confusion with workbooks and business areas. Security rules need to be discussed and implemented. Discoverer uses the same responsibilities as the Oracle Applications. However, Discoverer has an additional security layer which can prevent or allow workbooks being saved to the database, workbook scheduling, workbook sharing and business area access. These need to be fully explored before implementation since it is more difficult to restrict access once granted. Discoverer is a mildly disruptive and de-centralized technology. Workbook creation cannot be completely centrally controlled and should be handled in a manner similar to Excel spreadsheets. Workbook sharing can be especially problematic since the workbook can be shared directly between two, or more, users without an administrator having access. An administrator can view all of the saved database objects through the Metadata business area (see previous section). The author recommends against a formal migration process for Discoverer worksheets. It is his opinion that the one of the strengths of the tool is the rapid development time and fast information retrieval speeds. However, this point is contentious and will need to be considered with the organization change management team and polices.

An additional consideration is performance and database load. DBA (Database Administrators) have often been vocal critics of Discoverer. Discoverer does have a governor to shut down lengthy queries. Workbooks can also be scheduled for times of low database utilization. Discoverer can also take advantage of materialized views and summary tables. DBA concerns should not be permitted to stop progress on a Discoverer implementation. The Oracle database and technology stack is highly sophisticated and should be able to perform any reporting necessity.

Conclusion: Discoverer is an exciting new method to report on information contained in the bowels of ERP applications. Implementing Discoverer is a moderately complex technical task. The real challenge is to create a successful adoption campaign. The key to the adoption effort is the Discoverer Champion, an individual with both technical skills and marketing panache. Super users are also required in order to create a groundswell of acceptance. Once adoption has occurred, a new world of reporting is opened up. The ultimate goal of any reporting system is to extract accurate, precise information in a timely manner; allowing decision makers to make informed decisions and successfully lead their organizations.

Frequently Asked Questions: The following section provides answers for some common questions.

Q: How current is the data?

A: Every time you enter a workbook or press the Refresh button, the database is queried and new information is retrieved.

Q: I need to see data that is not in a folder, can I still report on this information?

A: Any field on a form is stored in the database and can be made available in Discoverer. The folders may need to be added through the Administration Edition.

Q: My report is slow, how can I make it faster?

A: Try using conditions to narrow your search. Also, a Discoverer Administrator may be able to modify your query and/or create summary tables.

Q: How can I find more training and/or information on Discoverer?

A: Discoverer online manuals and help, Oracle Education has Discoverer classes, Oracle TechNet, Oracle Application Users Group (OAUG) and Oracle Press has a book titled *Oracle Discoverer 10g Handbook*.

Exhibit A – Legacy Invoice Register Report

Garland ISD

Invoice Register

Report Date: 12-OCT-2007 06:51

Page: 1

Supplier Name: GRAINGER

Entered By:

Accounting Period:

Invoice Type:

From Entered Date: 01-SEP-07

Cancelled Invoices Only: No

Batch:

To Entered Date: 30-SEP-07

Unvalidated Invoices Only: No

Currency: USD

Batch: BA-08312007-11

Supplier Name	Invoice Number	Invoice Date	Original Amount	Amount Remaining	Description	Invoice Type

Type	Line	Account	Amount	Description	Accounting Date	Income Tax Type Tax Code Accounted

GRAINGER		9444956487	30-AUG-07	300.19	0.00	CAREER & TECHNOLOGY Standard
Item 1	699.81.6200.049.63999.99.000	00.000332.00.0000	71.14	Adjustable Arm, For 1RL24	31-AUG-07	Yes
Item 2	699.81.6200.049.63999.99.000	00.000332.00.0000	229.05	Polyurethane Chair, Five Legge	31-AUG-07	Yes
GRAINGER		9445323844	31-AUG-07	148.50	0.00	CAREER & TECHNOLOGY Standard
Item 1	699.81.6200.049.63999.99.000	00.000332.00.0000	148.50	Boltless Shelving, Shelf Capac	31-AUG-07	Yes

Exhibit B – Discoverer Plus Desktop

Oracle Discoverer - [Food Service Rev and Exp]

File Edit View Sheet Format Tools Graph Window Help

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Exhibit C – Discoverer 4i Plus

Oracle Discoverer - [Food Service Rev and Exp]

File Edit Sheet Tools Graph Help

Page Items: Period Year: 2007 Fund: 758

									Period Name	Sep-06	Oct-06	Nov-06	Dec-06
Fund	Function	Department	Campus	Account	PIC	Activity	Project	Grade		Revenue Total PTD	Revenue Total PTD	Revenue Total PTD	Revenue Total PTD
758	00	0000	000	11002	00	00000	000000	00		75.50	130.95	93.63	-1
				12601	00	00000	000000	00		-625.50	0.00	0.00	-1
				12634	00	00000	000000	00					
				12647	00	00000	000000	00		0.00	0.00	0.00	
				12678	00	00000	000000	00					
				21100	00	00000	000000	00		0.00	1,614.97	-1,160.97	
				58002		000000	00			0.00	0.00	0.00	
				58802		000000	00			0.00	0.00	0.00	
				21701	00	00000	000000	00		0.00	0.00	1,614.97	
				21708	00	00000	000000	00		0.00	0.00	0.00	
				21734	00	00000	000000	00		-75.50	0.00	0.00	
				21778	00	00000	000000	00					

Page 1 of 1

25 Rows per Page

Revenue 2 Cross Tab of FS Funds by A... Cross Tab of FS Funds N... Cross Tab of FS Catering Budget and Actuals P&L by Campus Cross Tab of FS Funds b...

Exhibit D – Discoverer Viewer

ORACLE
Discoverer™ 4i Viewer

New Connection Open Workbook Options Exit Help

Worksheets
Employee Number

Employee Number.DIS - Employee Number
[Rerun Query](#) | [Table Layout](#) | [Presentation Options](#) | [Printer Friendly Version](#) | [Export Data](#)

Parameters
[Hide Parameters](#)
 Location: SEWELL ELEMENTARY SCHOOL
[Edit Parameters](#)

Data
[Hide Data](#)

Page 1 25 rows per page

	Person Name	Employee Number	Position Description	Email Address	
1	Abercrombie, Brenda J	3886	TEACHER-4th GRADE	BJAbercr@garlandisd.net	Sewe
2	Allende, Marina Cecilia	2495	TEACHER-BILINGUAL-KINDERGARTEN	MCAlland@garlandisd.net	Sewe
3	Anderson, Julie-Erin Ubil	5583	TEACHER-KINDERGARTEN	JEUAnder@garlandisd.net	Sewe
4	Bell, Alaina A	6756	TEACHER SPED-CBSE CONTENT MASTERY	AABell@garlandisd.net	Sewe
5	Bocanegra, Julia R	5271	TEACHER-BILINGUAL-2nd GRADE	JRBocane@garlandisd.net	Sewe
6	Brown, Susan L	7100	TEACHER-4th GRADE	SBrown@garlandisd.net	Sewe
7	Bullard, Billie Jo	596	SPEECH-LANGUAGE PATHOLOGIST-SPED	bjbullar@garlandisd.net	Sewe
8	Bullin, Sherry A	3515	TEACHER-1st GRADE	SABullin@garlandisd.net	Sewe
9	Birmingham, Leslie D	6499	TEACHER-3rd GRADE	LDBurmin@garlandisd.net	Sewe
10	Burns, Jennifer L	9025	TEACHER-PE	JLBurns@garlandisd.net	Sewe
11	Carev, Laurie A	9326	DIAGNOSTICIAN-SPED	LACarev@garlandisd.net	Sewe

Appendix A – Discoverer Terminology

Business Area – A Logical Collection of Folders, Similar to a Database Schema/Functional Area

End User Layer (EUL) – A Database Schema Used to Store Meta-Data

Folder – Based On a Single Table, View or Query

Items – Individual Columns from a Table/View

Workbooks – A Collection of Worksheets. Similar to an Excel Workbook. Workbooks Have Distinct File Names

Worksheets – Similar to Excel Worksheets. A Single Tab/Spreadsheet of Information

Appendix B – Sample Reports: These sample worksheets were built using a standard three step process.

1. Determine Information Requirements: Each workbook tab will ideally one specific question such as: How many Purchase Orders were printed in Marc? What is the Food Service profit margin for 2007?
2. Build Workbook/Analyze Information: This step leverages standard spreadsheet functionality including summation, grouping, sorting and filtering.
3. Disseminate: Discoverer supports multiple export formats including a specific toolbar button for exporting to Excel. One tip is to use Discoverer to extract the data and Excel to format the information or perform additional analysis.

Payroll Costing: This report allows a user to view payroll costing information for a specific General Ledger account string, notice the “Page Item” pull down.

TDMOUTON.GISD Costing by Position							
By Org							
Page Items: Costing: 199-11-0000-003--11-00000-000000-00-0000----							
	Position Org	Employee	Percent	Employee Number	Position Code	Position Type	Position
1	HUMAN RESOURCES	Dunham, Karen Blake	100%	2848	SUMMER	PAY OFF (SUMMER)	HRSMPP.0002 POSITION PAYOUT TEACHER_LIBRARIAN
2				Count Distinct: 1			
3	NAAMAN FOREST	White, Debra Rose	60%	10976	HIGH SCHOOL	TEACHER	NFHSTE 1052 TEACHER-ART
4				Count Distinct: 1			
5	SOUTH GARLAND	Albrecht, Tanya G	100%	8970	HIGH SCHOOL	TEACHER	SGHSTE 0168 TEACHER-HEALTH
6	SOUTH GARLAND	Alexander, Roman F	100%	7158	HIGH SCHOOL	TEACHER	SGHSTE 0150 TEACHER-HEALTH
7	SOUTH GARLAND	Atwood, Timothy	60%	1703	HIGH SCHOOL	TEACHER	SGHSTE 0083 TEACHER-MATHEMATICS
8	SOUTH GARLAND	Barron, Stacy Lynn	100%	10923	HIGH SCHOOL	TEACHER	SGHSTE 0094 TEACHER-SCIENCE
9	SOUTH GARLAND	Baxter, Laura B	75%	6835	HIGH SCHOOL	TEACHER	SGHSTE 0123 TEACHER-LATIN
10	SOUTH GARLAND	Beard, Cayle	100%	8686	HIGH SCHOOL	TEACHER	SGHSTE 0108 TEACHER-SOCIAL STUDIES
11	SOUTH GARLAND	Beasley, Michael T	100%	942	HIGH SCHOOL	TEACHER	SGHSTE 0140 TEACHER-BAND DIRECTOR
12	SOUTH GARLAND	Benton, Amanda M	100%	7976	HIGH SCHOOL	TEACHER	SGHSTE 0069 TEACHER-MATHEMATICS
13	SOUTH GARLAND	Bert, Cornelius M (Neal)	100%	10456	HIGH SCHOOL	TEACHER	SGHSTE 0074 TEACHER-MATHEMATICS
14	SOUTH GARLAND	Bidwell, Stephen C	100%	8687	HIGH SCHOOL	TEACHER	SGHSTE 0245 TEACHER-SCIENCE
15	SOUTH GARLAND	Black, Karen Elizabeth	33.33%	5992	HIGH SCHOOL	TEACHER	SGHSTE 0088 TEACHER-ESL

Encumbrance Analysis: In the Public Sector, encumbrance is an essential part of the accounting process. The report below allows an analyst to examine encumbrances in detail. This report is an essential tool in locating encumbrances which may need to be cleared and provide a more accurate funds available balance.

GISD PO Encumbrance Analysis									
Page Items: Fund: 211									
	Purchase Order	Status	Approved Date	Vendor	Encumbered Amount	Billed Amount	Remaining Encumbrances	Account	
1	5010084	APPROVED	09-NOV-2005	ACS DATALINE LP	\$950.00	\$0.00	\$950.00	211.11.3205.101.63999.24.00000.000000.00.0000	
2	5010084	APPROVED	09-NOV-2005	ACS DATALINE LP	\$950.00	\$0.00	\$950.00	211.11.3205.129.63999.24.00000.000000.00.0000	
3	5010245	APPROVED	09-NOV-2005	BOYD ELECTRIC LTD	\$800.00	\$800.00	\$0.00	211.11.3205.101.63999.24.00000.000000.00.0000	
4	5010245	APPROVED	09-NOV-2005	BOYD ELECTRIC LTD	\$800.00	\$0.00	\$800.00	211.11.3205.129.63999.24.00000.000000.00.0000	
5	5035565	APPROVED	24-MAY-2006	CORPORATE EXPRESS	\$315.51	\$0.00	\$315.51	211.61.2305.000.63910.24.00000.000000.00.0000	
6	5035565	APPROVED	24-MAY-2006	CORPORATE EXPRESS	\$505.03	\$0.00	\$505.03	211.61.2305.000.63912.24.00000.000000.00.0000	
7	5035566	APPROVED	24-MAY-2006	CORPORATE EXPRESS	\$66.52	\$0.00	\$66.52	211.61.2305.000.63199.24.00000.000000.00.0000	
8	5035567	APPROVED	24-MAY-2006	CORPORATE EXPRESS	\$90.83	\$0.00	\$90.83	211.61.2305.000.63912.24.00000.000000.00.0000	
9	5035565	APPROVED	25-MAY-2006	SCHOOL SPECIALTY INC	\$55.11	\$0.00	\$55.11	211.61.2305.000.63211.24.00000.000000.00.0000	
10	5035834	APPROVED	30-MAY-2006	SCHOOL SPECIALTY INC	\$57.42	\$0.00	\$57.42	211.61.2305.000.63999.24.00000.000000.00.0000	

Purchase Order Printing and Vendor Labels: The previous samples illustrated Discoverer's typical role as a financial analysis tool. The following two examples illustrate additional uses of the application. The Purchase Order Printing workbook is used to verify and audit purchase orders printing. This information can be provided to a vendor when they report a missing purchase order. The Vendor Labels worksheet pulls all vendors from a specific bid. This information is downloaded to Excel and vendor labels are affixed to bid packages.

Oracle Discoverer - [Mon Faust PDB.DIS]

File Edit View Sheet Format Tools Graph Window Help

Print

	Creation Date Day	Creation Date	PO Number	Vendor Name	Vendor Site Code	Fax Area Code	Fax	Printed Date	Type Lookup Code	Cancel Flag	Authorization Status
1967	22-Feb-2008	22-Feb-08 14:08:35	5088069	SCHOOL NURSE SUPPLY INC	SCHLAUMBURG	1800	4852738	22-Feb-08 14:15:51	STANDARD		APPROVED
1968	22-Feb-2008	22-Feb-08 14:10:20	5088070	HIGHSMITH CO INC	FT ATKINSON	1800	3506236	22-Feb-08 14:25:05	STANDARD		APPROVED
1969	22-Feb-2008	22-Feb-08 14:11:05	5088071	HIGHSMITH CO INC	FT ATKINSON	1800	3506236	22-Feb-08 14:25:15	STANDARD		APPROVED
1970	22-Feb-2008	22-Feb-08 14:12:10	5088072	LANGUAGE CIRCLE ENTERPRISES	BLOOMINGTON	1952	8846787	22-Feb-08 14:25:25	STANDARD		APPROVED
1971	22-Feb-2008	22-Feb-08 14:13:22	5088073	PRINT TO SUIT INC	ROWLETT	972	8403028	22-Feb-08 14:35:25	STANDARD		APPROVED
1972	22-Feb-2008	22-Feb-08 14:13:50	5088074	PRINT TO SUIT INC	ROWLETT	972	8403028	22-Feb-08 14:35:32	STANDARD		APPROVED
1973	22-Feb-2008	22-Feb-08 14:14:30	5088075	PRINT TO SUIT INC	ROWLETT	972	8403028	22-Feb-08 14:35:32	STANDARD		APPROVED
1974	22-Feb-2008	22-Feb-08 14:14:48	5088076	SHI GOVERNMENT SOLUTIONS	GRAND PRAIRIE	1512	7320232	22-Feb-08 14:45:46	STANDARD		APPROVED
1975	22-Feb-2008	22-Feb-08 14:14:48	5088077	XEROX CORPORATION	IRVING SUPPLIES	214	2776004	22-Feb-08 14:45:52	STANDARD		APPROVED
1976	22-Feb-2008	22-Feb-08 14:14:55	5088078	PRINT TO SUIT INC	ROWLETT	972	8403028	22-Feb-08 14:45:55	STANDARD		APPROVED
1977	22-Feb-2008	22-Feb-08 14:15:21	5088079	SOCCER CORNER	PLANO	972	5190241	22-Feb-08 14:55:04	STANDARD		APPROVED
1978	22-Feb-2008	22-Feb-08 14:15:54	5088080	BSN SPORTS	DALLAS	1800	3657653	22-Feb-08 14:55:15	STANDARD		APPROVED
1979	22-Feb-2008	22-Feb-08 14:16:32	5088081	UNIQUE PRINTING SERVICES INC	N RICHLAND HILL	1817	5819595	22-Feb-08 14:55:37	STANDARD		APPROVED
1980	22-Feb-2008	22-Feb-08 14:17:05	5088082	EASTERN PLUMBING SUPPLY	DALLAS	214	2210261	22-Feb-08 15:05:43	STANDARD		APPROVED
1981	22-Feb-2008	22-Feb-08 14:17:32	5088083	UNITED RENTALS	IRVING	972	5791841	22-Feb-08 15:05:55	STANDARD		APPROVED
1982	22-Feb-2008	22-Feb-08 14:18:10	5088084	OCBURN TRUCK	GARLAND	972	2729690	22-Feb-08 15:05:55	STANDARD		APPROVED
1983	22-Feb-2008	22-Feb-08 14:19:41	5088085	FISHER SCIENCE EDUCATION	HANOVER PARK	1800	9550740	22-Feb-08 15:15:04	STANDARD		APPROVED
1984	22-Feb-2008	22-Feb-08 14:20:06	5088086	FLINN SCIENTIFIC FOUNDATION	BATAVIA	1866	4521436	22-Feb-08 15:15:05	STANDARD		APPROVED
1985	22-Feb-2008	22-Feb-08 14:30:00	5088087	CHEFS PRODUCE	DALLAS	972	4948820	22-Feb-08 15:15:13	STANDARD		APPROVED
1986	22-Feb-2008	22-Feb-08 14:30:11	5088088	CHEFS PRODUCE	DALLAS	972	4948820	22-Feb-08 15:25:21	STANDARD		APPROVED
1987	22-Feb-2008	22-Feb-08 15:04:10	5088089	CORPORATE EXPRESS	ARLINGTON	1808	6643311	22-Feb-08 15:25:34	STANDARD		APPROVED
1988	22-Feb-2008	22-Feb-08 15:13:38	5088090	DEMCO INC	MADISON	1888	3294728	22-Feb-08 15:25:41	STANDARD		APPROVED
1989	22-Feb-2008	22-Feb-08 15:13:54	5088091	COCA COLA BOTTLING CO	DALLAS-CANNED	214	4896202	22-Feb-08 15:35:48	STANDARD		APPROVED
1990	22-Feb-2008	22-Feb-08 15:14:49	5088092	CHEFS PRODUCE	DALLAS	972	4948820	22-Feb-08 15:35:56	STANDARD		APPROVED
1991	22-Feb-2008	22-Feb-08 15:30:05	5088093	SCHOOL SPECIALTY INC	APPLETON	1877	4647196	22-Feb-08 15:35:58	STANDARD		APPROVED
1992	22-Feb-2008	22-Feb-08 15:33:26	5088094	CORPORATE EXPRESS	ARLINGTON	1808	6643311	22-Feb-08 15:45:05	STANDARD		APPROVED
1993	22-Feb-2008	22-Feb-08 15:33:26	5088095	CORPORATE EXPRESS	ARLINGTON	1808	6643311	22-Feb-08 15:45:20	STANDARD		APPROVED
1994	22-Feb-2008	22-Feb-08 15:46:14	5088096	CORPORATE EXPRESS	ARLINGTON	1888	6643311	22-Feb-08 15:55:43	STANDARD		APPROVED
1995	22-Feb-2008	22-Feb-08 15:46:14	5088097	CORPORATE EXPRESS	ARLINGTON	1888	6643311	22-Feb-08 15:55:47	STANDARD		APPROVED
1996	22-Feb-2008	22-Feb-08 15:52:18	5088098	CORPORATE EXPRESS	ARLINGTON	1888	6643311	22-Feb-08 16:05:27	STANDARD		APPROVED
1997	22-Feb-2008	22-Feb-08 15:52:18	5088099	CORPORATE EXPRESS	ARLINGTON	1888	6643311	22-Feb-08 16:05:31	STANDARD		APPROVED
1998	22-Feb-2008	22-Feb-08 15:59:48	5088100	SCHOOL SPECIALTY INC	APPLETON	1877	4647196	22-Feb-08 16:05:41	STANDARD		APPROVED
1999	22-Feb-2008	22-Feb-08 16:00:04	5088101	CORPORATE EXPRESS	ARLINGTON	1808	6643311	22-Feb-08 16:15:51	STANDARD		APPROVED

Oracle Discoverer - [Vendor Mailing Labels]

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	Vendor Name	Address Line1	Address Line2	City	State	Zip	Phone Number
1	ADVANCE SALES & MARKETIN	1801 ROYAL LN	STE 1012	DALLAS	TX	75229	214 722 2534
2	ALPHA FOODS CO	8209 DUNLAP ST		HOUSTON	TX	77074-0000	713 778 3019
3	APANI SOUTHWEST INC	5401 N 1ST		ABILENE	TX	79603-0000	325 690 1550
4	B AND B BEVERAGES	PO BOX 8398		FT WORTH	TX	76124-0398	817 299 9988
5	BARTUSH SCHNITZIUS CO	PO BOX 396		LEWISVILLE	TX	75067-0000	214 219 1270
6	BASIC AMERICAN FOODS	2999 OAK RD		WALNUT CREEK	CA	94596-0000	214 625 0593

Workbook Query Stats and Workbook Queried by Users: These workbooks are part of the Metadata/EUL Analysis business area. They are crucial in determining business needs and monitoring the Discoverer adoption process. Notice that the “Page Items” can be used to pivot the from the horizontal to the vertical axis.

