

A Visual Guide to Microsoft Access Front-Ends with MySQL

A MySQL[®] White Paper

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Executive Summary

For many years, Microsoft Windows has been the most popular development platform and second most popular production platform for organizations delivering MySQL applications. In early 2009 we conducted our annual survey and what we found is that 66% percent of those surveyed used Windows for development and 48% ultimately deployed into production on Windows. Given that so many users deploy MySQL on Windows for production, it makes sense to explore the possibility of leveraging Windows specific technologies in conjunction with MySQL. Many MySQL customers are migrating from Microsoft Access because they have concluded that the combination of enhanced scalability (both in terms of concurrent user load and overall data volume), cost-savings, platform freedom, and feature set of MySQL make for a compelling business case to offload some or all their Access applications to MySQL. In this paper we explore how to get started with leveraging Microsoft Access front-ends with MySQL.

Why MySQL on Microsoft Windows?

MySQL continues to be an excellent choice on the Windows platform due to MySQL's:

- Lower TCO
- Ease of use
- Reliability
- Performance
- Fully featured database with no functional limitations

Windows related downloads at mysql.com continue to be strong for the MySQL server, tools and connectors averaging an astonishing 45,000 downloads per day during the first half of 2009.

What is Microsoft Office Access?

Microsoft Office Access, previously known as **Microsoft Access**, is a relational database management system from Microsoft that combines the relational Microsoft Jet Database Engine with a graphical user interface and software development tools. It is a member of the Microsoft Office suite of applications and is included in the Professional and higher versions for Windows and also sold separately.¹

Why Access Front-Ends with MySQL?

Our 2009 customer and user survey showed that roughly 20% organizations make use of both MySQL and Access. However, we also found that these same organizations when asked if they are going to increase their usage, roughly 75% said they do not plan on increasing their deployments of Access while over 60% said that were planning on increasing their deployment of MySQL. One may surmise that within organizations familiar with both products, MySQL presents enough advantages to consider deploying more aggressively than Access.

Although not labeled a 'lite' database, Microsoft Access is generally targeted for low-end applications and as such, carries with it a number of restrictions and limitations that MySQL does not suffer from.

¹ http://en.wikipedia.org/wiki/Microsoft_Access



The following is a list of a few of the more important weaknesses of Microsoft Access to consider:

- Access can at most support a 2GB database, MySQL can scale up to multi-terabytes.
- Access is not able to handle many concurrent users, MySQL can handle thousands of concurrent users.
- File databases such as Access do not take advantage of modern hardware with many CPU's or cores; MySQL makes use of the advances in today's hardware to deliver a high performance database server.
- In terms of data protection, if an Access database is open and/or users are accessing it, it cannot be backed up. MySQL offers many forms of backup options while users are connected to and using the database.

For more information concerning Access 2007 limitations, visit:

http://blogs.msdn.com/access/archive/2006/06/05/access-2007-limits.aspx

While Access is typically deployed in a simple desktop environment, oftentimes the database and/or application will grow and when it does, it is likely it will hit the limits mentioned above. Rather than start out with Access and then be forced to switch to another DBMS as time goes by, it is often times smarter to begin with a database like MySQL that future-proof's your application's needs.

Scope and Purpose of this Guide

In this guide we will cover the fundamentals on how to migrate the sample Northwind application included by default in Access 2007 to MySQL. As all migrations are different and present their own unique challenges, we encourage you explore these additional resources:

A Guide to Migrating From Microsoft Access to MySQL

http://www.mysql.com/why-mysql/white-papers/mysql_wp_migrate-from-access.php

MySQL Forum: Migration from Microsoft Access

http://forums.mysql.com/list.php?65

We should also consider the fact that in general Access will query MySQL tables as if they are Access tables, so there will special considerations to observe when writing new queries, or troubleshooting migrated ones.

Step 1: Install and Configure MySQL

Install MySQL 5.1

First, we'll need to download a copy of the current version of MySQL, which can be obtained at:

http://dev.mysql.com/downloads/mysql/5.1.html

For details on how to install MySQL on Windows, go to:

A Visual Guide to Installing MySQL on Windows

http://www.mysql.com/why-mysql/white-papers/visual guide to installing mysql windows.php



Create a blank database

Using your favorite graphical MySQL administration tool or the MySQL command line client, create an empty database named "northwind".

mysql> create database northwind;

Step 2: Configure the ODBC driver

The MySQL ODBC connector provides connectivity for Access to MySQL. The current ODBC connector can be downloaded from:

http://dev.mysql.com/downloads/connector/odbc/5.1.html#win32

Run the installer. (For the purposes of this guide, a **typical** installation should suffice.)

Next, configure the **Microsoft ODBC Data Source Administrator**. Select the **File DSN** tab and click **Add**.

Scroll down and locate the **MySQL ODBC 5.1 Driver** and type a name for the .dsn file. In this case we used **localhost**.

 Name Microsoft Paradox Driver (*.db.)	<u> </u>
Microsoft Paradox-Treiber (*.db.)	2
Microsoft Text Driver (*.txt; *.csv)	4
Microsoft Visual FoyPro Driver	2
Microsoft Visual FoxPro-Treiber	
MySQL ODBC 5.1 Driver	5
SQL Server	2
SQL Server Native Client 10.0	² 🕶
	>
	Advanced

MyS	QL Connector/ODBC	C Data Source Configuration
Mı Co	usqu onnector/ODB	c 🔤
	Connection Parameters	
	Data Source Name:	localhost
	Description:	
	Server:	localhost Port: 3306
	User:	root
	Password:	******
	Database:	northwind Test
	Details >>	OK Cancel Help

Finally, configure the Connector/ODBC connection. Here we specify **localhost** as the server, supply login credentials and choose **northwind** as the database.



Step 3: Export Northwind Tables and Data into MySQL

Using Access for Single Table Migrations

For Access databases with a small number of tables, you can use the built-in object exporter inside of Access 2007. This wizard only allows for the export of tables one at a time, so it may not be practical for Access databases with many tables.

Select a table to export, in this example we chose the **employees** table. Next, click on the **External Data** tab and then select **More** in the **Export** group and select **ODBC Database**



Name the table we will be creating on the MySQL database, in this case we leave it the same, **employees**





Select the ODBC connection to use for MySQL. In this case we use the previously configured **localhost.**

Depending on how you have configured your ODBC driver, you may also be able to create a connection via the Machine Data Source tab



Supply MySQL connectivity credentials, select the **northwind** database and select the appropriate flags after clicking on Details. For the purposes of our example we chose **Return matched rows instead of affected rows** and **Allow big result sets.** You may then choose to save your Export settings if desired

M⊾ Co	nnector/ODBC			
	Connection Parameters			
	Data Source Name:			
	Description:			
	Server: loc	alhost	Port:	3306
	User: ro	ot		
	Password: **	****		
	Database: no	rthwind	• I	est
	Flags 1 Flags 2 Flags 3	Debug SSL Se s instead of affec s as INT columns (see documentatii connect S_NULL / function results	ttings ted rows on) as character da	ta
-				
	Details <<	ОК	Cancel	Help

C:\WINDOWS\system32\cmd.exe - mysql -uroot -p
mysql> create database northwind; Query OK, 1 row affected (0.00 sec)
mysql> use northwind; Database changed mysql> show tables; +
Tables_in_northwind
l employees
1 row in set (0.00 sec)

C:\WINDOWS\system32\cmd.exe - mysql -uroot -

mysql> use northwind; Database changed mysql> select count(*) from employees; +-----+ | count(*) | +-----+ | 9 | +-----+ 1 row in set (0.00 sec) mysql>

Verify that the table was created using the **SHOW TABLES** command

Verify that the data was successfully exported

using the SELECT COUNT(*) FROM employees

command and comparing to the row count in

Access



MySQL Partner Solutions for Access Migrations

There are a variety of commerical and free tools available for more sophisticated migrations of Access databases to MySQL beyond the simple table by table process that Access natively supports. MySQL offers a free graphical tool called "Migration Toolkit" which is available for download at:

http://dev.mysgl.com/downloads/gui-tools/5.0.html

Another good place to start in locating an appropriate solution, is MySQL's Partner Solution pages located at:

http://solutions.mysql.com/solutions/

A partial list includes:

- DBConvert for MS Access and MySQL •
- DBForms from MS Access to PHP + MySQL •
- DBSync for Access and MySQL •

Migrating Multiple Tables with Access to MySQL

For the purposes of this paper we have chosen to use the program Access to MySQL (Freeware) from Bullzip available for download at:

http://www.bullzip.com/download.php

Although the workflow and features may differ depending on the tool you choose to use, of the several we tested, they all followed a very similar process.

MS Accore to MxSOL (3.0.0.117)

	Source Database Specify which MS Access database to use as data source for the transfer.			
Browse and select the northwind.accdb file (or .mdb if using an older version of Access)	Filename: C:\Documents and Settings\jguerrero\Desktop\Northwind Security If your Access database is password protected you can enter you settings below. Some databases only require a password where you specify the system database and username for others as well. System DB:	2007.ac r security bu must		
	< Back Next > Cancel	Help		



Select the target MySQL database, in this case **northwind**, provide connectivity credentials and choose either a **direct transfer** or the creation of a **dump file**

🗊 MS Access to MySC	QL (3.0.0.117)		
Destination Databas Specify the MySQL desti	e nation database and connect	ion information.	
Direct transfer MySQL Connection Opti	Create dump file		
Host:	localhost		
Port:	3306		
Username:	root		
Password:	*****		
MySQL Destination Data	base		
Destination Database:	northwind Sto	rage Engine: InnoDB	~
K Back Next	>	Cancel	Help

Next **select all tables but exclude the following columns** which we will create after the migration to resolve issues with default values²

- Inventory Transactions Transaction Created Date Transaction Modified Date
- Invoices
 Invoice Date
- Orders
 Order Date
- Purchase Orders Creation Date



² The Access 2007 version of the sample Northwind database introduces an incompatibility concerning default values. Specifically, the DATETIME MySQL datatype does not accept the NOW() function as a default value. For more information concerning this issue please consult:

http://dev.mysql.com/doc/refman/5.0/en/data-type-defaults.html http://bugs.mysql.com/bug.php?id=27645



Select the appropriate **migration options** ensuring that indexes, relationships data and default values are selected

💷 MS Access to MySQL (3.0.0.117)	
Transfer Options Use this page to set some options that will affect the database to	
 Drop and recreate destination database Transfer indexes Transfer records Include column list in INSERT statements Create tables Unicode (utf-8) Enable autocommit Field Information ✓ Default value properties ✓ Auto number properties 	Save Settings
< Back Run Now	Cancel Help

🗊 MS Access to MySQL (3.0.0.117)	
Conversion Result This page displays a summary of the conversion.	
 Table 'Purchase Orders' created 28 records moved Table 'Sales Reports' created 5 records moved Table 'Shippers' created 3 records moved Table 'Strings' created 62 records moved Table 'Suppliers' created 10 records moved 	
	Save Settings
K Back Exit	Help

Examine the conversion results and exit

Add Missing Columns with Appropriate Default Values

Execute the following statements to create the columns we previously excluded or create them using your favorite MySQL Administration GUI:

ALTER TABLE `northwind`.`inventory transactions` ADD COLUMN `Transaction Created Date` TIMESTAMP DEFAULT '0000-00-00 00:00:00', ADD COLUMN `Transaction Modified Date` TIMESTAMP DEFAULT NOW() ON UPDATE NOW(); ALTER TABLE `northwind`.`invoices` ADD COLUMN `Invoice Date` TIMESTAMP DEFAULT NOW() NULL ; ALTER TABLE `northwind`.`orders`



ADD COLUMN `Order Date` TIMESTAMP DEFAULT NOW() NULL ; ALTER TABLE `northwind`.`purchase orders` ADD COLUMN `Creation Date` TIMESTAMP DEFAULT NOW() NULL ;

At this point you may choose to verify that the table, row counts, indexes are correct using your favorite MySQL administration tool.

Step 4: Create Table Relationships

The following relationships in the original Access Northwind database need to be created in MySQL's version of the Northwind database:

Foreign Key Table.Source Column	Primary Key Table.Target Column
employee privileges.employee ID	employees.ID
inventory transactions.Transaction Type	inventory transaction types.ID
order details.status ID	order details status.Status ID
inventory transactions.Customer Order ID	orders.Order ID
orders.Employee ID	employees.ID
order details.Order ID	orders.Order ID
orders.Customer ID	customers.ID
invoices.Order ID	orders.Order ID
orders.Status ID	orders status.Status ID
orders.Tax Status	orders tax status.ID
employee privileges.Privilege ID	privileges.Privilege ID
order details.Product ID	products.ID
inventory transactions.Product ID	products.ID
purchase order details.Product ID	products.ID
purchase order details.Inventory ID	inventory transactions.Transaction ID
purchase orders.Created By	employees.ID
inventory transactions.Purchase Order ID	purchase orders.Purchase Order ID
purchase order details.Purchase Order ID	purchase orders.Purchase Order ID
purchase orders.Status ID	purchase order status.Status ID
purchase orders.employees	employees.ID
orders.Shipper ID	shippers.ID
purchase orders.Supplier ID	suppliers.ID



You can use your preferred MySQL GUI tool or simply execute the DDL statements below to reestablish the relationships lost in the initial migration.

ALTER TABLE `northwind`.`employee privileges` ADD CONSTRAINT `FK_employee privileges` FOREIGN KEY (`Employee ID`) REFERENCES `employees` (`ID`);

ALTER TABLE `northwind`.`inventory transactions` ADD CONSTRAINT `FK_inventory transactions` FOREIGN KEY (`Transaction Type`) REFERENCES `inventory transaction types` (`ID`);

ALTER TABLE `northwind`.`order details` ADD CONSTRAINT `FK_order details` FOREIGN KEY (`Status ID`) REFERENCES `order details status` (`Status ID`);

ALTER TABLE `northwind`.`inventory transactions` ADD CONSTRAINT `FK_inventory transactions_ord` FOREIGN KEY (`Customer Order ID`) REFERENCES `orders` (`Order ID`);

ALTER TABLE `northwind`.`orders` ADD CONSTRAINT `FK_orders_employees` FOREIGN KEY (`Employee ID`) REFERENCES `employees` (`ID`);

ALTER TABLE `northwind`.`order details` ADD CONSTRAINT `FK_order details_orders` FOREIGN KEY (`Order ID`) REFERENCES `orders` (`Order ID`) ON DELETE CASCADE ;

ALTER TABLE `northwind`.`orders` ADD CONSTRAINT `FK_orders_customers` FOREIGN KEY (`Customer ID`) REFERENCES `customers` (`ID`);

ALTER TABLE `northwind`.`invoices` ADD CONSTRAINT `FK_invoices_orders` FOREIGN KEY (`Order ID`) REFERENCES `orders` (`Order ID`) ON DELETE CASCADE ;

ALTER TABLE `northwind`.`orders` ADD CONSTRAINT `FK_orders_orders_status` FOREIGN KEY (`Status ID`) REFERENCES `orders status` (`Status ID`);

ALTER TABLE `northwind`.`orders` ADD CONSTRAINT `FK_orders` FOREIGN KEY (`Tax Status`) REFERENCES `orders tax status` (`ID`);

ALTER TABLE `northwind`.`employee privileges` ADD CONSTRAINT `FK_employee privileges_privileges` FOREIGN KEY (`Privilege ID`) REFERENCES `privileges`

ALTER TABLE `northwind`.`order details` ADD CONSTRAINT `FK_order details_products`

(`Privilege ID`);

ALTER TABLE `northwind`.`inventory transactions` ADD CONSTRAINT `FK_inventory

FOREIGN KEY (`Product ID`) REFERENCES `products` (`ID`);

transactions_products` FOREIGN KEY (`Product ID`) REFERENCES `products` (`ID`);

ALTER TABLE `northwind`.`purchase order details` ADD CONSTRAINT `FK_purchase order

details_inventory_transactions` FOREIGN KEY (`Inventory ID`) REFERENCES `inventory

details_products` FOREIGN KEY (`Product ID`) REFERENCES `products` (`ID`);

ALTER TABLE `northwind`.`purchase order details` ADD CONSTRAINT `FK_purchase order

ALTER TABLE `northwind`.`purchase orders` ADD CONSTRAINT `FK_purchase orders_employees` FOREIGN KEY (`Created By`) REFERENCES `employees` (`ID`);

ALTER TABLE `northwind`.`purchase order details` ADD CONSTRAINT `FK_purchase order details_purchase_orders` FOREIGN KEY (`Purchase Order ID`) REFERENCES `purchase orders' ('Purchase Order ID') ON DELETE CASCADE ;

ALTER TABLE `northwind`.`inventory transactions` ADD CONSTRAINT `FK_inventory

transactions` (`Transaction ID`);



ALTER TABLE `northwind`.`purchase orders` ADD CONSTRAINT `FK_purchase orders_purchase_orders_status` FOREIGN KEY (`Status ID`) REFERENCES `purchase order status` (`Status ID`);

ALTER TABLE `northwind`.`purchase orders` ADD CONSTRAINT `FK_purchase orders_employees_ID` FOREIGN KEY (`Created By`) REFERENCES `employees` (`ID`);

ALTER TABLE `northwind`.`orders` ADD CONSTRAINT `FK_orders_shippers` FOREIGN KEY (`Shipper ID`) REFERENCES `shippers` (`ID`);

ALTER TABLE `northwind`.`purchase orders` ADD CONSTRAINT `FK_purchase orders_suppliers` FOREIGN KEY (`Supplier ID`) REFERENCES `suppliers` (`ID`);

Step 5: Create a New Access Database

Within Access create a new database. In this example we have named it **mysql_northwind**





Remove any default objects so that the database is blank



Select the source and destination of the data

Specify how and where you want to store the data in the current database

Step 6: Link the MySQL Tables to Access

From the External Data tab select Import and ODBC Database



Select the Link to the data source by creating a linked table option



Select the **ODBC connection** to use for MySQL. In this case we use the previously configured **localhost**

Select Data Source	? 🗙			
File Data Source Machine Data Source				
Look in: Data Sources	• 🗈			
() localhost				
DSN Name: localhost	New			
Select the file data source that describes the driver that you wish to connect to. You can use any file data source that refers to an ODBC driver which is installed on your machine.				
0K Cancel	Help			



X

	M <u>i</u> Co	J <mark>sq</mark> L onnector/ODB	с		
Supply MySQL connectivity credentials select the northwind database and select the appropriate flags. For the purposes of our example we chose Return matched rows instead of affected rows and Allew his result acto		-Connection Parameters Data Source Name: Description: Server: User: Password: Database:	localhost root ************	Port:	3306
and Allow dig result sets		Flags 1 Flags 2 Flag Return matched Allow big result s Use compression Treat BIGINT col Enable safe optic Enable safe optic Enable safe optic Always handle bi	s 3 Debug SSL 5 rows instead of affe ets umns as INT column: ons (see documental creconnect O_I5_NULL inary function result:	ettings ected rows s tion) s as character da	ita Help

MySQL Connector/ODBC Data Source Configuration



Select all tables and check the save password option if desired (although less secure)



You should now see all the MySQL tables linked inside of Access. At this point you may choose to verify that the table and relationships are correct

A 19 · (2 · 10 · 10)	=		mysal northwind :	Database (Access)	2007) - Microsoft Access (Trial)	- = X
Home Create Fr	tern	al Dat	Database Tools			0
Saved Imports SharePoint List	S	aved ports	Excel	Create Manage E-mail Replies	Work Synchronize Online SharePoint List	Move to SharePoint
All Tables			and a set			
All Tables	۲	**				
inventory transaction types	*					
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inventory transactions	*					
* inventory transactions						
invoices	\$					
* 🕥 invoices						
order details	*					
° 🎯 order details						
order details status	*	=				
🕈 🎯 order details status						
orders	\$					
* 🕥 orders						
orders status	\$					
🔊 🕥 orders status						
orders tax status	\$					
* 🕥 orders tax status						
privileges	\$					
* 🕥 privileges						
products	\$					
* 🕥 products						
purchase order details	\$	-				
Ready						

Step 7: Import Queries, Forms, Reports, Macros and Modules

From the **External Data** tab select **Access** from the **Import** group. Next browse and select the original **Northwind 2007.accdb** file and the **Import tables, queries, forms, reports, macros, and modules into the current database** option

Get External Dat	a - Access Database	? 🗙
Select the s	ource and destination of the data	
Specify the sour	ce of the data.	
Elle name:	C:\Documents and Settings\jguerrero\Desktop\Northwind 2007.accdb	Browse
Specify how and	I where you want to store the data in the current database.	
Import If the d	rt tables, queries, forms, reports, macros, and modules into the current database.	a number to the
name c	specified object does not exist, access will deale it, in the specified object aready exists, access will append of the imported object. Changes made to source objects (including data in tables) will not be reflected in the	current database.
C Link to Access source	o the data source by creating a linked table. I will create a table that will ministrian a link to the source data. Changes made to the data in Access will be ref and vice versa. NOTE: If the source database requires a password, the password will be stored with the lin	lected in the ked table.
	ОК	Cancel



?×

ΟК Cancel Select All Deselect All Options >>

~

Import Queries

As Queries

O As Tables

Import Objects	? 🗙
Tables Queries Forms Reports Macros Modules	
Customers Employee Privileges Employees Investory Transaction Types Investory Transactions Invoices Order Details Order Status Orders Status Orders Status Orders Status Privileges Products Purchase Order Details Purchase Order Details Purchase Order Details Purchase Order Status Sales Reports Sales Reports Strings Suppliers	OK Cancel Select All Deselect All Options >>

Tables Queries Forms Reports Macros Modules

Deselect all the tables as we have already linked to them in MySQL in the previous step

Customers Extended Employees Extended Inventory on Hold Inventory on Order Inventory Purchased Inventory Sold Invoice Data Order Details Extended Order Potalis Extended Order Sutotals Order Summary On the Queries tab select all the gueries and select the Import Import Tables Relationships Objective termination and Data Menus and Toolbars O Definition Only ✓ Import/Export Specs 🔽 Nav Pane Groups

appropriate Import options. For our purposes we have selected all the import options. Similarly select all the forms, reports, macros and modules in the respective tabs. Save the import options if desired.

You should now see all the imported objects in Access. The grouping of the objects should look identical to the original Northwind database except that all the tables are now linked tables in MySQL





Step 8: Simple Application Tests

Testing

At this point you should verify that all your forms, queries and reports return the desired results and accept valid inputs.

Example: Enter a new employee

	Employee Details								
	John	Doe							
	Go to	🗸 E-mail i	Create Ou	itlook Contact	Save and New				Qose
	Consul								
	General Orders								
	First Name	John				E-mail jo	n.doe@sun.co	m	
	Last Name	Doe Sue Mir				Web Page w	ww.sun.com		
	Job Title	Softwar	rosystems e Engineer						
ter a new employee		obrenar	e engineer						
nployee Details form	Phone Numbers				Notes				
	Business Phone	(123)45	5-7890						~
	Home Phone	(123)45	5-7890						
	Mobile Phone	(123)45	5-7890						
	Fax Number	(123)45	5-7890						
	Address								
	Street	4150 Ne	twork Circl	e					
	City State/Province	Santa Cl	ara						
	Zip/Postal Code	95054			-				
	Country/Region	USA							
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Employee List form. see a total of 10	Record: K 4 13 of 13) Record: K 4 13 of 13) Home Create View Paste Base Customers employees privileges employees Employees Extended Divoice Data	► H H2 Vo External D2 Form Form * ≪ *	No Filter	icerch rthwind : Databa arse Tools I I I I I I I I I I I I I I I I I I I	ase (Access 2007) - Refresh t Employee List da ya Ennil Acof F - Last Name - Cencini Dop	Microsoft Access (New 😰 Totals Save 🏵 Spelling Delete + 📑 More - Records rom Qatook Enn E-mail Ad andrew@northy Ion dne@sun co	Triab	✓ Selection ~ Advanced ✓ ✓ Toggie Filter & Filter Business Phr (123)555-0100 (123)455-7900	Find Sun Construction
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Double-click on the You should now records



Step 9: Advanced Configuration

Datatype Mappings

MySQL client

Depending on how you have chosen to migrate your tables and their definitions, there will likely be modifications which have been made to the original Access datatypes. You should verify that the datatype conversions that have been made are suitable for your application. Below are some recommended Access to MySQL datatype mappings.

Access Datatype	MySQL Suggested Dataype
AUTONUMBER	AUTO_INCREMENT
BINARY(SIZE)	BINARY
BYTE	TINYINT
CURRENCY	NUMERIC OR DECIMAL
DATE	DATE OR DATETIME
DECIMAL	DECIMAL
DOUBLE	FLOAT
GUID	IDENTITY COLUMN
INTEGER	SMALLINT
LONGBINARY	VARBINARY
LONG INTEGER	INT OR BIGINT
MEMO	VARCHAR(SIZE) OR TEXT
SINGLE	REAL
TEXT	VARCHAR(SIZE)
YESNO	TINYINT

Sun



Function Mappings

As with the migration of datatypes, you should also verify that any functions that have been migrated are suitable for your application.

Below is a table containing popular Access functions and their suggested MySQL equivalents.

Access Function	MySQL Suggested Function				
asc	ascii				
ccur	convert(decimal)				
cdbl	convert(float)				
chr	char				
chr\$	char				
cint	convert(smallint)				
cIng	convert(int)				
csng	convert(real)				
cstr	convert(varchar)				
cvdate	convert(datetime/date)				
date	convert or cast				
day	day				
hour	hour				
int	floor				
lcase	lower				
lcase\$	lower				
len	length				
ltrim\$	ltrim				
mid	substr or substring				
mid\$	substr or substring				
month	month				
now()	now()				
minute	minute				
rtrim\$	rtrim				
right\$	right				
sgn	sign				
second	second				
space	space				
time()	time				
str\$	strcmp				
ucase	upper				
ucase\$	upper				
weekday	dayofweek				
year	year				



MySQL on Windows Case Studies

Below are some examples of MySQL customers realizing lower TCO by running MySQL on Windows.

Adobe Relies on MySQL to Make Creative Professionals More Productive

Adobe Systems is one of the largest software companies and is the leading provider of creative tools for print, web, interactive, mobile, video and film. Adobe embeds MySQL into several Adobe Creative Suite 3 components, including Adobe Acrobat CS3, Adobe® Bridge CS3, and Adobe® Version Cue® CS3 so that workgroups can work more efficiently on complex projects. For more information, please visit:

http://www.mysql.com/why-mysql/case-studies/MySQL CaseStudy Adobe.pdf

NetQoS Delivers Distributed Network Management Solution with Embedded MySQL

NetQoS delivers products and services that enable some of the world's most demanding enterprises to improve network performance. American Express, Barclays, Boeing, Chevron, Cisco, Citrix, DuPont, Sara Lee, and Schlumberger are among the corporations that rely on NetQoS performance management solutions to ensure consistent delivery of business critical applications, monitor application service levels, troubleshoot problems quickly, contain infrastructure costs, and manage user expectations. To find the right embedded database solution to fit its innovative product architecture, NetQoS evaluated everything from flat-files to proprietary databases. NetQoS found that MySQL provided the ideal combination of performance, reliability, and ease of administration on Windows. For more information, please visit:

http://www.mysql.com/why-mysql/case-studies/mysql-netqos-casestudy.pdf

For a complete list of case studies and other resources concerning organizations making use of MySQL on Windows, please visit:

http://www.mysql.com/customers/operatingsystem/?id=109

Conclusion

In this paper we presented a guide for getting started with migrating an existing Access application to use MySQL as a back end database. Although every migration presents unique challenges, migrating from Access to MySQL holds many benefits for administrators and users alike. Many parts of the migration process can be made easier by understanding the limitations and functional equivalents of each product. In conclusion, many MySQL customers are migrating from Microsoft Access because they have reached the conclusion that the combination of enhanced scalability (both in terms of concurrent user load and overall data volume), cost-savings, platform freedom, and feature set of MySQL make for a compelling business case to offload some or all their Access applications to the MySQL database server.

Resources

White Papers

http://www.mysql.com/why-mysql/white-papers/



Case Studies

http://www.mysql.com/why-mysql/case-studies/

Press Releases, News and Events

http://www.mysql.com/news-and-events/

Live Webinars

http://www.mysql.com/news-and-events/web-seminars/

Webinars on Demand

http://www.mysql.com/news-and-events/on-demand-webinars/

About MySQL

MySQL is the most popular open source database software in the world. Many of the world's largest and fastest-growing organizations use MySQL to save time and money powering their high-volume Web sites, critical business systems and packaged software -- including industry leaders such as Yahoo!, Alcatel-Lucent, Google, Nokia, YouTube and Zappos.com. At http://www.mysql.com, Sun provides corporate users with commercial subscriptions and services, and actively supports the large MySQL open source developer community.

To discover how Sun's offerings can help you harness the power of next-generation Web capabilities, please visit <u>http://www.sun.com/web</u>.