



Session: 32CE

iSeries. mySeries.

iSeries Access for Linux The Native Linux Solution

Mark Vanderwiel
iSeries Access

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Agenda

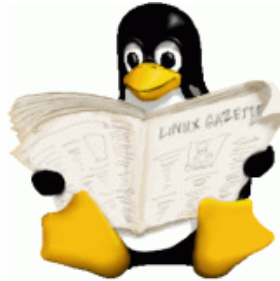
- **iSeries Access for Linux**
 - What is it?
 - Packaging and Ordering
 - Requirements
 - 5250 Emulator
 - ODBC Driver
 - Utilities
 - Using iSeries File and Print



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What is it?



What is iSeries Access for Linux?

- **A full-function native Linux 5250 emulator**

- Keyboard mapping
- Macro support
- Record/playback
- Pop-up/pull-down keypads
- Ability to provide a workstation/device ID
- Both 80 and 132 screen sizes
- Screen print
- and other capabilities

- **An ODBC Driver**

- Enables your Linux PC applications (OpenOffice, Apache/PHP, Perl, ...) to access information in DB2 UDB for iSeries

- **iSeries Access Utilities**

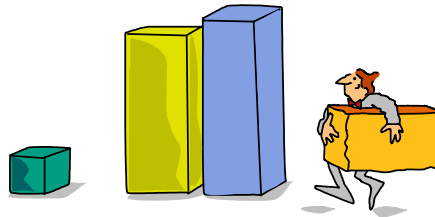
- RmtCmd, CwbRunSQL, CwbTrc, ...



Designed to run natively on INTEL and POWERPC Linux operating systems



Packaging & Ordering



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iSeries Access Family set of products - V5R3

Description	Product	Product Number
Family Name	iSeries Access Family	5722-XW1
Windows Client	iSeries Access for Windows	5722-XE1
Face of iSeries	iSeries Navigator	Packaged in 5722-XE1
Browser Access	iSeries Access for Web	5722-XH2
Browser Access	HATS LE V5	5724-F97-01
Handheld / Wireless	iSeries Access for Wireless iSeries Toolbox for Java ME	5722-XP1
Linux Client	iSeries Access for Linux	5722-XL1





You will need an iSeries Access Family license to use the iSeries Access for Linux 5250 Emulator

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iSeries Access Family - Ordering

 V5R3 5722-XW1 iSeries Access Family	 V5R2 5722-XW1 iSeries Access Family
• iSeries Access for Windows, 5722-XE1, V5R3	• iSeries Access for Windows, 5722-XE1, V5R2
• iSeries Access for Web, 5722-XH2, V5R2	• iSeries Access for Web, 5722-XH2, V5R2
	• WebSphere Host Publisher, 5724-B81, V4.0, 5724-B81, V4.01
• HATS Limited Edition V5.0, 5724-F97-01	• HATS Limited Edition V4.0 5724-D34-01 (after 6/30/2003)
• iSeries Access for Linux, 5722-XL1, V5R3	V5R2 customers can get V5R3 versions of iSeries Access products by ordering a no-charge Feature Number of Product 5722-XW1



Downloading the product

- **iSeries Access for Linux can be obtained in one of two ways:**
 - Download it from the iSeries Access for Linux web page at <http://www.ibm.com/eserver/series/access/linux/>.
 - The web site is always up-to-date with the latest version/fixes
 - The iSeries Access for Web V5R3 product provides a new download function to enable Linux users to install iSeries Access for Linux on their desktops.
 - PTF's are created for iSeries Access for Web to update the Linux download



Go to web page and download it



Over 3500
downloads
already -- from
60 different
countries!

iSeries Access

iSeries Access for Linux is the latest offering in the iSeries Access product line. It offers Linux based access to iSeries servers. iSeries Access for Linux allows you to access the DB2 Universal Database® (UDB) for iSeries using its ODBC Driver and to establish a 5250 session to an iSeries server from a Linux client.

Version 1.1 was supported on Linux operating systems with Intel processors.

What's new in Version 1.2 and later versions:

- Power PC support. Version 1.2 and later are supported on Linux operating systems with Intel processors and on Power PCs or an iSeries server logical partition (LPAR).
- New `ibm5250 -STAND_ALONE` command line option. This allows multiple Virtual Network Computing (VNC) and Linux Terminal Server Project (LSTP) users to easily use the 5250 emulator.

News

- **December 22, 2003** Version 1.3 of iSeries Access for Linux is available.
[Download](#)
- **December 15, 2003** Version 1.2 of iSeries Access for Linux is available.
- **September 22, 2003** Version 1.1 of iSeries Access for Linux is available.

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Download from web site...

Downloaded directly
from web page

Downloads

1 of 1 results

1. **iSeries Access for Linux**
This iSeries Access product runs natively on Linux operating systems. iSeries Access for Linux provides an ODBC driver to access iSeries database and a full-function 5250 emulator. | Platform: **IBM OS/400** | Version: **1.3** | File size: 2.6MB | Release date: **2003-12-17**

1 of 1 results

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Download via iSeries Access for Web...

Name	Description	File	Size	Action
iSeries Access for Linux (i386)	iSeries Access for Linux contains a full 5250 emulator and an enhanced ODBC driver. For more information see: http://www.ibm.com/eserver/iSeries/access/linux/ .	iSeriesAccess-5.2.0-1.0.i386.rpm	948,246	Download Work with
Test download		IEXPLORE.EXE	91,136	Download Work with
Windows AFP Viewer Plug-in	The AFP Viewer plug-in lets you view AFP documents from a Web browser.	gnsp32dm.exe	3,387,763	Download Work with

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Notes: Installing iSeries Access for Linux

Installing iSeries Access for Linux

1. Download the iSeries Access for Linux RPM package: `iSeriesAccess-5.2.0-xx.xx.i386.rpm` (where "xx.xx" indicates the version level that is available for download).
2. Enter the following command on the Linux client: `rpm -ivh iSeriesAccess-5.2.0-1.4.i386.rpm`

Notes:

- The files are installed to directory `/opt/ibm/iSeriesAccess` on your Linux system.
- The iSeries Access for Linux will automatically uninstall any previous version of the obsolete iSeries ODBC Driver for Linux product.
- If the installation fails because of a dependency on `libodbcbinst.so`, make sure you have the `unixODBC` driver manager installed. If the problem persists, run the installation command with the `--nodeps` parameter to stop dependency checking.
- For more logging information, add the `-vv` parameter to the end of the `rpm` commands.

Updating iSeries Access for Linux

To update, enter the following command: `rpm -Uvh iSeriesAccess-5.2.0-xx.xx.ppc.rpm`.
(where "xx.xx" indicates the version level that is available for download).

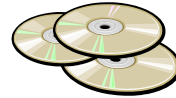
Uninstalling iSeries Access for Linux

To uninstall, enter the following command: `rpm -ev iSeriesAccess`

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Hardware and Software Requirements



Getting Started...

- **iSeries Server Requirements**

- The QUSER user profile must be enabled
 - From an iSeries command line type `DSPUSRPRF USRPRF(QUSER)` and press ENTER to display the status for QUSER
 - Use the `CHGUSRPRF` command to change the profile if necessary.



- **The host servers must be started**

- Type `STRHOSTSVR` and press ENTER to start the iSeries host servers.

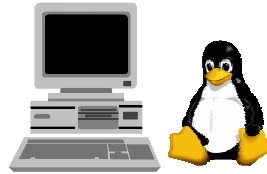
- **Same basic server requirements as the Windows product**

- See iSeries Information Center for details

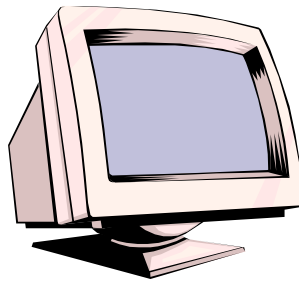
Getting Started...

- **Linux Requirements**

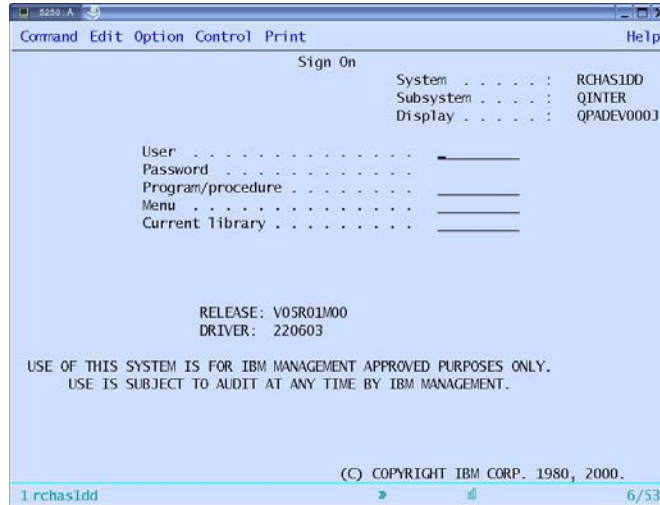
- Linux distribution
 - SuSE, Red Hat, ...
- GLibc 2.2
- RPM 3.0
- OpenMotif 2.0 or later for the 5250 emulator
- unixODBC 2.0.11 or later for the ODBC driver manager version



iSeries Access for Linux 5250 Emulation

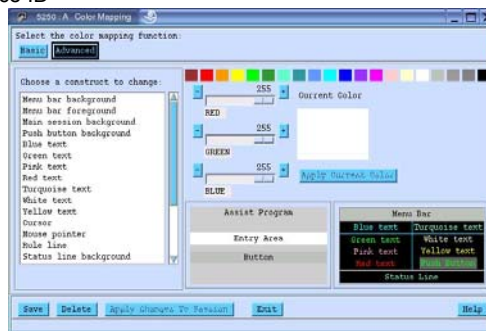


Linux 5250 Emulation



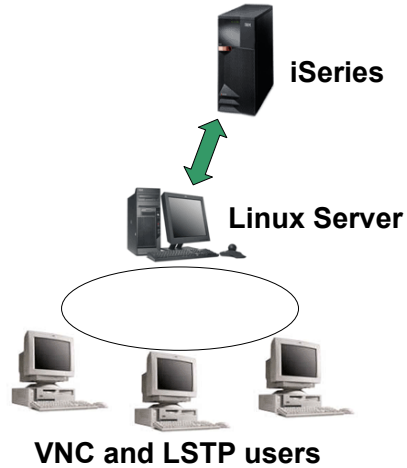
Full function, native 5250 emulator

- The 5250 emulator contains a variety of functions, such as:
 - Ability to provide a workstation/device ID
 - Both 80 and 132 screen sizes
 - Keyboard/Color mapping
 - Macro support
 - Record/playback
 - Pop-up/pull-down keypads
 - Screen print
 - and other capabilities
- It can also asynchronously display server messages



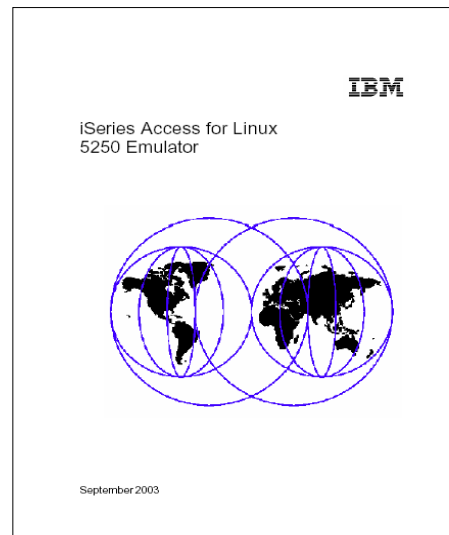
Support 3-tier environments...

- **Enable easy use of:**
 - Virtual Network Computing (VNC)
 - Linux Terminal Server Project (LSTP)
 - XDM Remote X thin clients
- **“-STAND_ALONE”**
 - ibm5250 command line option to enable multi-user environments



Users Guide

- Documentation explaining 5250 emulator functions
 - [//www.ibm.com/servers/eserver/iseries/access/linux/pdf/iseries_access_5250.pdf](http://www.ibm.com/servers/eserver/iseries/access/linux/pdf/iseries_access_5250.pdf)





National Language Support

- 5250 emulation menus and messages are available in 17 national language versions.
 - The main emulator window labels and helper applications are translated and will display based on the \$LANG system environment variable.
 - The command line value –LANGID may also be used to set the language.
- *DBCS is being investigated for a future version.*

Language	Locale	Description
2923	nl_NL	Dutch
2924	en_US	English
2928	fr_FR	French
2929	de_DE	German
2931	es_ES	Spanish
2932	It_IT	Italian
2939	de_CH	German Swiss
2940	fr_CH	French Swiss
2942	It_CH	Italian Swiss
2963	nl_BE	Belgium
2966	fr_BE	French in Belgium
2975	cs_CZ	Czech
2976	hu_HU	Hungarian
2979	ru_RU	Russian
2981	fr_CA	French Canadian
2994	sk_SK	Slovakian
2996	pt_BR	Portuguese Brazil



iSeries Access for Linux - Customer Reference

Thanks IBM!!!

Great job folks! For several months I had been looking for a software package to handle IBM's 5250 protocol for Linux. While there are a few projects out there none of them could fit our needs. IBM's developers have done a great job in setting up a very smooth running version of Client Access for Linux.

I was even more excited to see that the newest version would work with our LTSP system (Linux Terminal Server Project). We are now serving up 40+ desktops with full iSeries access from one Linux server with plans to expand the user base. Again, Great Job!

Eric Pell
Manager of Information Systems
Gainey Transportation Services
<http://www.gaineycorp.com>





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iSeries Access for Linux ODBC Driver

5	+2.688
0	+5.000
1	+1.500
0	+1.125
0	+1.062

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ODBC Applications



- **OpenOffice**
- **Apache/PHP for Web Servng**
- **unixODBC DataManager**
 - "Explorer" type of application to manage DSNs
 - Run and view results of SQL requests
 - unixODBC 2.2.3 version ships DataManagerII with additional features
- **cwbRunSQL**
 - Command line application for executing SQL scripts
- **unixODBC isql**
 - Command line application
 - Neat way to generate simple HTML page with data tables
- **Your own applications...**

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OpenOffice

	A	B	C	D	E
1	CUSNUM	LSTNAM	Data		
2	334456	Johnson	Sum - BALDUE		25
3			Sum - CDTDUE		50
4	397267	Tyron	Sum - BALDUE		0
5			Sum - CDTDUE		0
6	555666	Zeeman	Sum - BALDUE		70
7			Sum - CDTDUE		0
8	556467	Finane	Sum - BALDUE		50
9			Sum - CDTDUE		0
10	583990	Abraham	Sum - BALDUE		500
11			Sum - CDTDUE		0
12	593029	Williams	Sum - BALDUE		50
13			Sum - CDTDUE		0
14	593829	Pamas	Sum - BALDUE		0
15			Sum - CDTDUE		0
16	639283	Jones	Sum - BALDUE		200
17			Sum - CDTDUE		0
18	846283	Alison	Sum - BALDUE		20
19			Sum - CDTDUE		0
20	995560	Miner	Sum - BALDUE		0
21			Sum - CDTDUE		0
22	Total Sum - BALDUE				915
23	Total Sum - CDTDUE				50
24					

OpenOffice – DataPilot

Layout

	Column	
CUSNUM	Sum - BALDUE	
LSTNAM	Sum - CDTDUE	
Row	Data	

- CUSNUM
- LSTNAM
- INIT
- STREET
- CITY
- STATE
- ZIPCOD
- CDTLMT
- CHGCOD
- BALDUE
- CDTDUE

Drag the fields from the right into the desired position.

Buttons: OK, Cancel, Help, Remove, Options..., More >>

DMII

The screenshot shows the Data Manager MRV BETA 2.2.6 interface. On the left, a tree view displays the object hierarchy under ODBC, including Drivers, System Data Sources, and User Data Sources. The '1dd' data source is expanded, showing a list of objects with their types: MYXACOLL (LIBRARY), MRVTEST (LIBRARY), QGPL (LIBRARY), QIWS (LIBRARY), QCUSTCDT (TABLE), SpecialColumns, PrimaryKeys, and various columns like CUSNUM (NUMERIC), LSTNAM (CHAR), INIT (CHAR), STREET (CHAR), CITY (CHAR), STATE (CHAR), ZIPCOD (NUMERIC), CDLMT (NUMERIC), CHGCOD (NUMERIC), BALDUE (NUMERIC), and CDTDUE (NUMERIC), along with QMENU SRC (TABLE).

On the right, the 'RESULTS' window shows the output of a query. The query is: `RUN: filter sql=SELECT "CUSNUM", "LSTNAM", "INIT", "STREET", "CITY",`. The results table has 7 rows and 5 columns: CUSNUM, LSTNAM, INIT, STREET, and CITY. The status bar indicates: `RUN: 16 rows and 11 columns affected`.

	CUSNUM	LSTNAM	INIT	STR
1	839283	Jones	B D	218
2	555666	Zeeman	J K	345
3	593029	Williams	E D	485
4	846283	Alison	J S	787
5	397267	Tyron	W E	13 M
6	593829	Pamas	F N	9 Bri
7	839283	Jones	B D	218

ODBC Configuration

- A data source can be configured using the ODBC data source graphical user interface, ODBCConfig

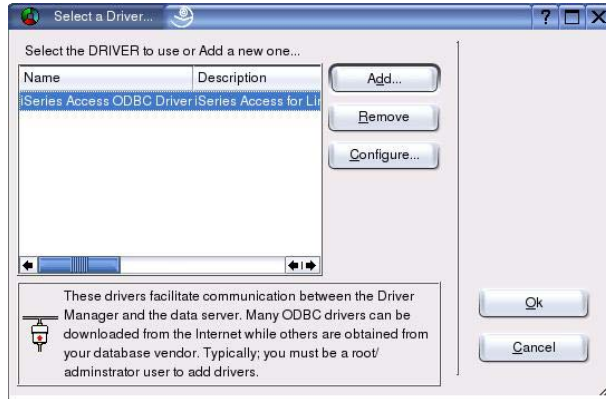
The screenshot shows the ODBC Data Source Administrator window. The 'User DSN' tab is selected. A table lists the configured data sources:

Name	Description	Driver
1dd	iSeries Access ODBC Driver	iSeries Access ODBC Driver

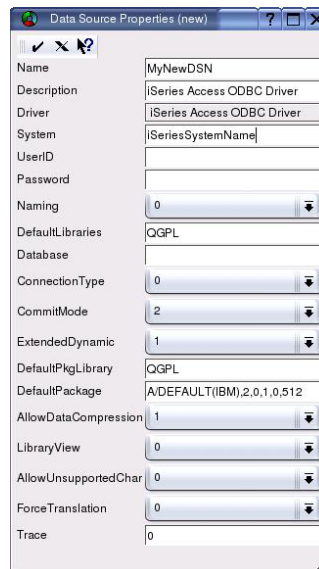
Buttons for 'Add...', 'Remove', and 'Configure...' are visible on the right. A note at the bottom states: "User data source configuration is stored in your home directory. This allows you to configure data access without having to be the system administrator." An 'OK' button is at the bottom right.

Creating a new ODBC Driver data source

- Select the "iSeries Access ODBC Driver", Then click "Ok"
- Note: The "Add..." button is only for adding more ODBC drivers.



Configuring an ODBC Driver data source





Connection String Keywords that are supported

- **General Properties**
 - DSN
 - DRIVER
 - PWD or Password
 - SYSTEM
 - UID or UserID
- **Server Properties**
 - CMT or CommitMode
 - CONNTYPE or ConnectionType
 - DBQ or DefaultLibraries
 - NAM or Naming
 - UNICODESQL
- **Format Properties**
 - DFT or DateFormat
 - DSP or DateSeparator
 - DEC or Decimal
 - TFT or TimeFormat
 - TSP or TimeSeparator
- **Package Properties**
 - DFTPKGLIB or DefaultPkgLibrary
 - PKG or DefaultPackage
 - XDYNAMIC or ExtendedDynamic
- **Performance Properties**
 - BLOCKFETCH
 - BLOCKSIZE or BlockSizeKB
 - COMPRESSION or AllowDataCompression
 - CONCURRENCY
 - LAZYCLOSE
 - MAXFIELDLEN or MaxFieldLength
 - PREFETCH
 - QUERYTIMEOUT
- **Sort Properties**
 - LANGUAGEID
 - SORTTABLE
 - SORTTYPE or SortSequence
 - SORTWEIGHT
- **Catalog Properties**
 - CATALOGOPTIONS
 - LIBVIEW or LibraryView
 - REMARKS or ODBCRemarks
 - SEARCHPATTERN
- **Translations Properties**
 - ALLOWUNSSCHAR or AllowUnsupportedChar
 - CCSID
 - GRAPHIC
 - TRANSLATE or ForceTranslation
- **Diagnostic Properties**
 - QAQQINLIB or QAQQINLibrary
 - SQDIAGCODE
 - TRACE
- **Other Properties**
 - ALLOWPROCCALLS
 - DB2SQLSTATES
 - DEBUG
 - TRUEAUTOCOMMIT

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Notes: Connection Keywords that are not supported

Connection string keywords can be used to change the behavior of the ODBC connection. The following lists the options that are not supported by the ODBC Driver in iSeries Access for Linux but are valid for the iSeries Access for Windows ODBC Driver.

Unsupported Keyword Description

- **SIGNON** - specifies what default user ID to use, if the connection cannot be completed with the current user ID and password information.
- **SSL** - specifies whether a Secure Sockets Layer (SSL) connection is used to communicate with the server. SSL connections are only available when connecting to servers at V4R4 or later.
- **XLATEDLL or Translation DLL** - specifies the full path name of the DLL to be used by the ODBC driver to translate the data that is passed between the ODBC driver and the server. The DLL is loaded when a connection is established.
- **XLATEOPT or Translation Option** - specifies a 32-bit integer translation option that is passed to the translation DLL. This parameter is optional. The meaning of this option depends on the translation DLL that is being used. Refer to the documentation provided with the translation DLL for more information. This option is not used unless the XLATEDLL property is set.
- **TRACEFILENAME** - specifies the full path name to either the file or the directory in which to put the internal driver trace data into. A path name to the file should be specified if MULTTRACEFILES is set to 0. A path name to a directory should be specified if MULTTRACEFILES is set to 1. This property has no effect unless the TRACE property has option 1 set.
- **MULTTRACEFILES or Multiple Trace Files** - specifies whether or not trace data from the internal driver trace will be put into multiple files. A new file will be created for each thread that the application is using. This property has no effect unless the TRACE property has option 1 set.
- **MAXTRACESIZE** - specifies the maximum trace size (in MB) of the internal driver trace. Specifying a value of 0 means no limit. This property has no effect unless the TRACE property has option 1 set.

For a list of supported keywords, refer to Connection String Keywords and Values.

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Linux ODBC Driver Restrictions

- **MTS is not supported**
 - Because MTS uses Windows specific components that are not available on Linux.
 - X/Open XA transactions and API's are supported
- **APIs that display a graphical user interface are not supported**
 - The API call will still complete but will behave as if displaying the GUI failed.
- **Translation DLLs are not supported**
 - Any attempt to use them will be ignored.
- **DSN connection option for userid/password prompting via a sign-on dialog is not supported**
- **DSN option for customizing package settings for an application is not supported**
 - Only the simple implementation of package settings is being ported to Linux.
- **Secure Sockets Layer (SSL) component**
 - The SSL component is not shipped with the Linux driver. Use a common SSL tunnel or Socks server instead.
- **Connection Timeout**
 - The connection timeout option is not supported with the Linux driver.
- **Some Connection String Keywords**
 - As noted on previous page

Differences between iSeries Access for **Linux** ODBC and iSeries Access for **Windows** ODBC



Differences in Linux Vs Windows ODBC Drivers

Linux ODBC Driver

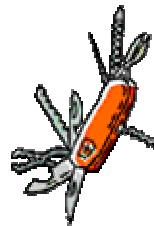
- The driver is an **ODBC 3.5 ANSI** driver with the ability to store and process Unicode data
 - An ANSI driver does not support Unicode strings passed as arguments to the APIs
 - Applications passing Unicode strings on APIs will work because the unixODBC driver manager maps these calls to the ANSI driver's narrow interfaces.
- To sign on you **must specify** a user ID and password when calling the connection API or have the userid and password entered into the DSN
 - The ODBC driver will not prompt for iSeries user IDs or passwords
 - User ID and password updates must be done through a telnet session with the iSeries.
- When binding a parameter or a column with SQL_C_WCHAR as the C type, wchar_t buffers **should not be passed in**
 - The driver manager and driver both handle the SQL_C_WCHAR data type as a 2 byte UCS-2 string.

Windows ODBC Driver

- The driver is an **ODBC 3.5 Unicode** driver
 - A Unicode driver accepts Unicode strings (UCS-2) as arguments to the APIs.
 - Applications passing ANSI strings on APIs will work because the driver manager maps these calls to the Unicode driver's wide interfaces.
- The user has **signon options** that control which userid and password to use when connecting
 - When connecting, cached passwords might be used. If a user's password has expired a dialog is displayed to allow a user to change it.
- When binding a parameter or a column with SQL_C_WCHAR as the C type, wchar_t buffers **should be passed in**
 - The driver manager and driver both handle the SQL_C_WCHAR data type as a 2 byte UCS-2 string.



iSeries Access for Linux Utilities



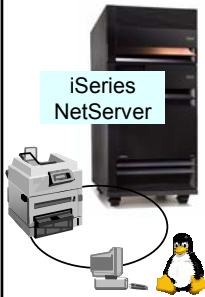
Commands provided for Linux

- **RMTCMD** – issue iSeries commands
- **RMTODBC** – issue iSeries commands via ODBC
- **CWBRUNSQL** – execute SQL scripts
- **CWBPING** - test the connection to the server
 - allows options: verbose, port mode, address mode, tcp service name (telnet, ftp), tcp port, user ID, password, ...
- **CWBTRC** - trace the iSeries ODBC Driver for Linux
 - allows options: path, wrap size, filter, timestamp, ...
- **CWBNLTBL** - download conversion tables
- **CWBCOPWR** - alter advanced communications settings
- **CWBMEDIC** – utility to gather service information into one file

iSeries Access for Linux Files and Printers



iSeries NetServer: Supports Linux Clients



iSeries NetServer

Linux clients

- Support for Windows Network Neighborhood (iSeries NetServer) is expanded to support Linux clients.
 - iSeries NetServer support of Linux (clients) provides the same file and print sharing function as the existing iSeries NetServer.
 - Linux clients (with kernel Version 2.4.3 and higher) with SAMBA (Version 2.0.7 and 2.2) can access the iSeries NetServer functions.
 - This function was available as a V5R1 PTF in 4Q01 and built into V5R2 and above
- For additional information, see:
 - <http://www.ibm.com/eserver/series/netserver>

This gives the iSeries administrator the ability to easily control what files or printers a Linux user can get access to.

Combine Access for Web - for a complete for Linux solution

My Personal Folder Print

- Printer output
- Printers
- Internet Printers
- Printer shares
- Output Queues

Database

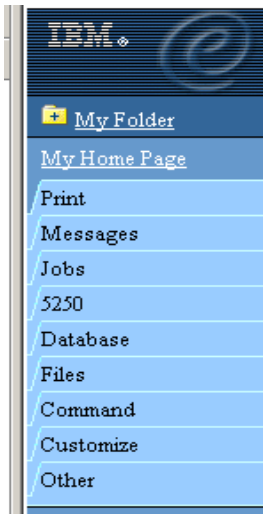
- Tables
- My Requests
- Run SQL
- Copy Data to Table
- Import Requests

5250

- Start 5250 Session

Commands

- Run CL commands



Files

- Browse Files (in IFS)
- File Shares (in NetServer)

Messages

- Display Messages
- Send Messages
- Operator Messages
- Message Queue

Jobs

- User Jobs
- Server Jobs

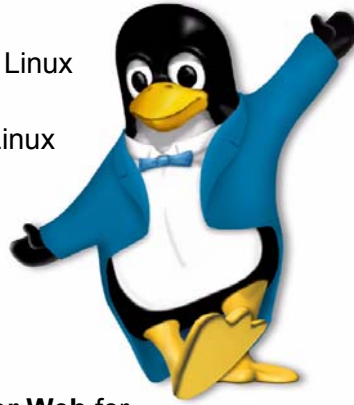
Customize

- Administrator controls access to functions by user or group of users:
 - Customize front page
 - Limit tasks that can be performed



Summary

- iSeries Access Family is investing in Linux
- iSeries Access for Linux is a native Linux solution and provides key functions
 - 5250 emulation
 - ODBC driver
- PowerPC and Intel support
- Can also use with **iSeries Access for Web** for a complete client solution



Screen Shot 1

Microsoft PowerPoint - [2002.4Q Linux Driver.ppt]

File Edit View Insert Format Tools Slide Show Window Help

Address: http://93.58.253.dobp4001.ibm.com

Welcome to the DB2/400 Linux, PHP, and ODBC demo. This set of web pages showcases Great DB2/400, Linux, PHP, and ODBC all working together.

Starting in Y2K1, a sample employee information database was shipped with OS/400. This application accesses the data stored in that database using an Apache web server, running as a Linux process on an iSeries system, and using the Great ODBC driver to retrieve data.

OS/400

SuSE Linux

Setup

The setup for this demo is fairly simple. You need:

- A system running PHP, probably under the Apache web server.
- PHP must be built with ODBC support compiled in.
- The Great osodbc driver must be installed.

If all of the above is true, the following link should work to start the demo:

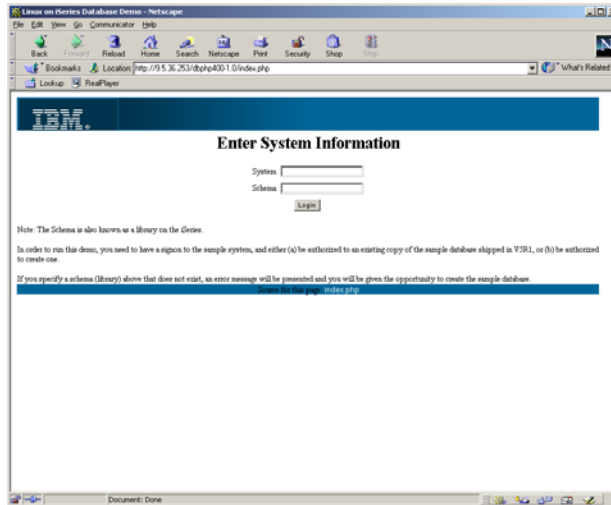
[Start](#)

Note that the newer browser supports cascading style sheets, the better the demo will look. IE5.5 looks good, Mozilla looks good, Netscape 4.7 doesn't look so good.

Note that at the bottom of each page is a link that will show you the source for the page.



Screen Shot 2

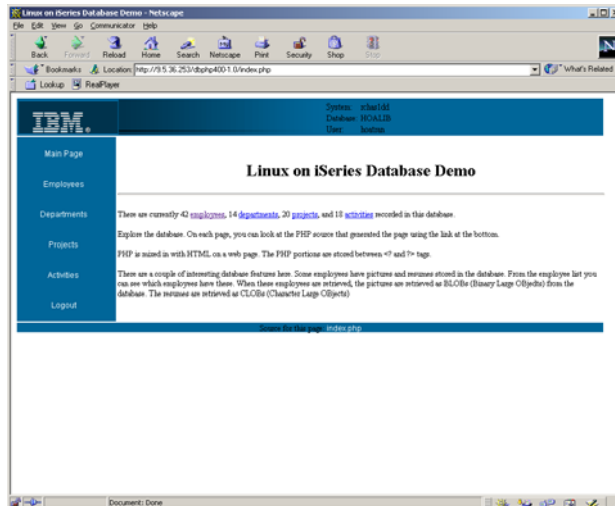


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iSeries. mySeries.



Screen Shot 3



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iSeries. mySeries.

Screen Shot 4

Name	Department	Photo Resume
ADAMSON, BRUCE	MANUFACTURING SYSTEMS	
ALONZO, BOY	SOFTWARE SUPPORT	
BROWN, DAVID	MANUFACTURING SYSTEMS	
COTTER, JOHN	SUPPORT SERVICES	
COUGHRIN, JASON	SOFTWARE SUPPORT	
HAAS, CHRISTINE	SHEFFY COMPUTER SERVICE DIV.	
HENDRICKER, DIAN	SHEFFY COMPUTER SERVICE DIV.	
HENDERSON, EILEEN	OPERATIONS	
JEFFERSON, JAMES	ADMINISTRATION SYSTEMS	
JOHN, KEBA	MANUFACTURING SYSTEMS	
JOHNSON, SYBIL	ADMINISTRATION SYSTEMS	
JONES, WILLIAM	MANUFACTURING SYSTEMS	
KEANE, SALLY	INFORMATION CENTER	
LEE, WENDY	SOFTWARE SUPPORT	
LUNCHESI, VINCENZO	SHEFFY COMPUTER SERVICE DIV.	
LUTZ, JENNIFER	MANUFACTURING SYSTEMS	
MARINO, SALVATORE	ADMINISTRATION SYSTEMS	
MERTA, RAMJAL	SOFTWARE SUPPORT	
MONTYFERRE, ROBERT	ADMINISTRATION SYSTEMS	
NATA, EDM	INFORMATION CENTER	
NICHOLS, HEATHER	INFORMATION CENTER	
O'CONNELL, BRAN	SHEFFY COMPUTER SERVICE DIV.	

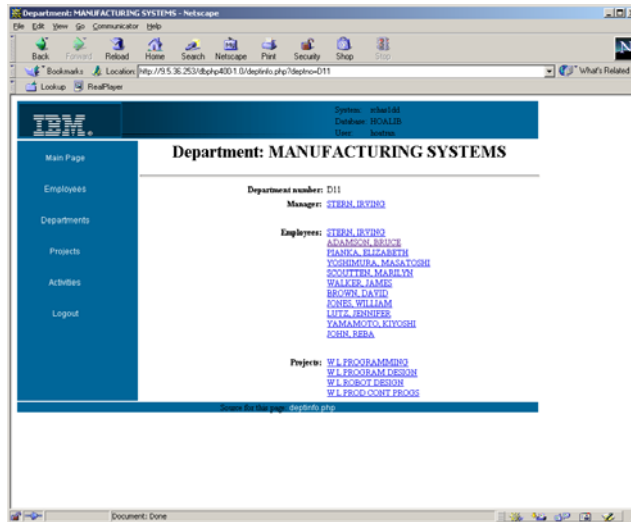
Screen Shot 5

Employee: ADAMSON, BRUCE

Photo:

Employee number: 000150
 Phone number: 4510
 Birth Date: 1947-05-17
 Sex: M
 Hire Date: 1972-03-12
 Bonus: [Click Here to Request Bonus](#)
 Salary: \$2000.00
 Base: \$500.00
 Commission: \$3022.00
 Department: MANUFACTURING SYSTEMS (D11)

Screen Shot 6



Web References

- Running Linux on the iSeries
 - <http://www.ibm.com/servers/eserver/iseries/linux/>
- iSeries Access for Linux home page
 - <http://www.ibm.com/servers/eserver/iseries/access/linux/>
- unixODBC home page
 - <http://www.unixODBC.com/>
- Windows ODBC
 - <http://msdn.microsoft.com/library/default.asp?url=/library/en-us/odbc/hdm/dasdkodbcoverview.asp>
 - <http://www.microsoft.com/data>
- iSeries Access Information Center
 - <http://publib.boulder.ibm.com/iseries/v5r2/ic2924/index.htm>
- DB2 SQL Reference
 - <http://publib.boulder.ibm.com/iseries/v5r2/ic2924/index.htm?info/db2/rbafzms02.htm>
- IBM Redbooks
 - <http://www.redbooks.ibm.com/>
- IBM iSeries Support
 - <http://www.ibm.com/servers/eserver/iseries/support>



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