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Session:

iSeries. mySeries.

iSeries Access for Linux The Native Linux Solution

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Agenda

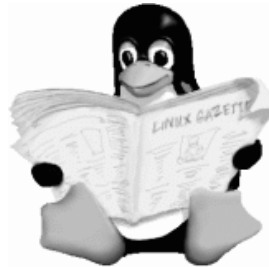
- **iSeries Access for Linux**
 - What is it?
 - Packaging and Ordering
 - Requirements
 - 5250 Emulator
 - ODBC Driver
 - Using iSeries File and Print



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What is it?



What is iSeries Access for Linux?

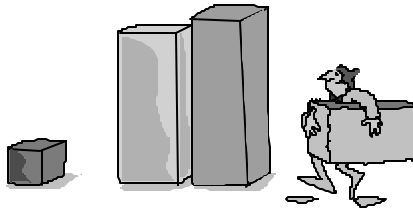
- Contains the following capabilities:
 - A full-function 5250 emulator
 - Keyboard mapping
 - Macro support
 - Record/playback
 - Pop-up/pull-down keypads
 - Ability to provide a workstation/device ID
 - Both 80 and 132 screen sizes
 - Screen print
 - and other capabilities
 - An ODBC Driver
 - This functions enables your Linux PC applications to access information in DB2 UDB for iSeries
 - iSeries Access API's
 - RmtCmd, NLS, System Object, ...

Designed to run natively  **on Linux operating systems**



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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	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

iSeries Access for Linux can be obtained in one of two ways:

1. Download it from the iSeries Access for Linux web page at <http://www.ibm.com/eserver/iseries/access/linux/>. As enhancements or fixes are made to the product, new versions are placed on this web page.
2. The iSeries Access for Web V5R3 product provides a new download function to enable Linux users to install Access for Linux on their desktops. As you acquire iSeries CUMTAPES or Access for Web PTFs, you can also acquire new versions of Access for Linux via the Access for Web download feature.

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Go to web page and download it



Over 3000
downloads
already -- from
60 different
countries!



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Download information...

- This is iSeries Access for Linux V1.3
- Downloaded directly from Linux page



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Can also download code via iSeries Access for Web



- This is iSeries Access for Linux V1.3.
- If you download directly from Linux page, you get the latest version.

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Notes: 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-xx.xx.i386.rpm`
 - Enter the actual name of the file that is downloaded in step 1. For example: `iSeriesAccess-5.2.0-1.3.i386.rpm`.

Notes:

1. The files are installed to directory `/opt/ibm/iSeriesAccess` on your Linux system.
2. The iSeries Access for Linux will automatically uninstall any previous version of obsolete iSeries ODBC Driver for Linux product.
3. If the installation fails because of a dependency on `libodbcinst.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.
4. iSeries Access for Linux was packaged using RPM version 3.0.6.
5. For more logging information, add the `-vv` parameter to the end of the rpm commands.

Updating iSeries Access for Linux

- Enter the following command to update iSeries Access for Linux after an initial installation: `rpm -Uvh iSeriesAccess-5.2.0-xx.xx.xxxx.rpm`.

Uninstalling iSeries Access for Linux

- To uninstall iSeries Access for Linux, enter the following command: `rpm -e iSeriesAccess`
- Note: the `/opt/ibm/iSeriesAccess/conv_tables` directory might not be removed during uninstall because of downloaded conversion tables. The directory needs to be removed manually.

Manually adding iSeries Access for Linux to unixODBC Driver Manager

- The iSeries Access for Linux RPM package will automatically add the ODBC driver to the list of ODBC drivers available through unixODBC.
- The RPM package uses the unixODBC driver install program "odbcinst", and the iSeries Access for Linux ODBC Driver file "unixodbcregistration" to complete this task.
- You can also use the unixODBC ODBCConfig program to configure additional features of the ODBC Driver in iSeries Access for Linux.



Hardware and Software Requirements



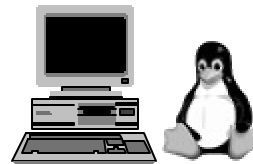
Getting Started...

- 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...

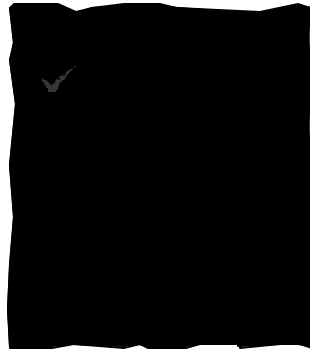
- Linux Requirements
 - **GLibc 2.2**
 - **RPM 3.0**
 - **OpenMotif 2.0 or later for the 5250 emulator**
 - We are avoiding explicitly naming the supported platforms because there are so many out there that should work.
 - The main distributors of these are:
Red Hat 8 and 9, SuSE 8 and 9, SLES 8, RHEL 3
 - **unixODBC driver manager version 2.0.11 or later must be installed on the client**
 - Go to the [unixODBC Project web site](#) for more information on the driver manager and to download the latest level of the driver manager.
 - **Note:**
 - If you recompile the unixODBC driver manager, the `.configure --prefix` default is `/usr/local`
 - If you use this default, you may need to update your shared library (`/etc/ld.so.conf`) and executable paths to include it.





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iSeries Access for Linux



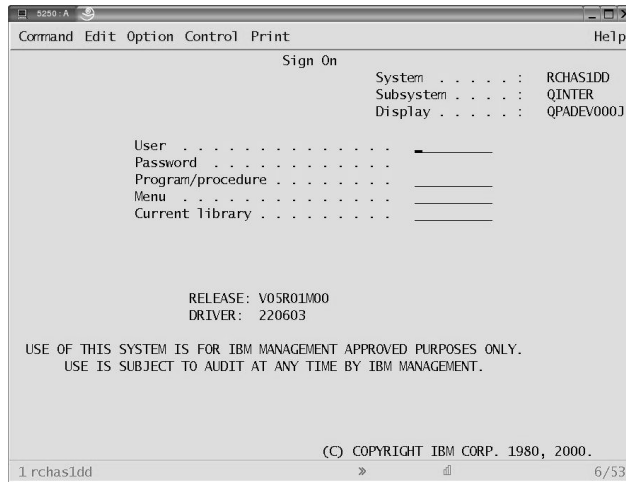
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Linux 5250 Emulation

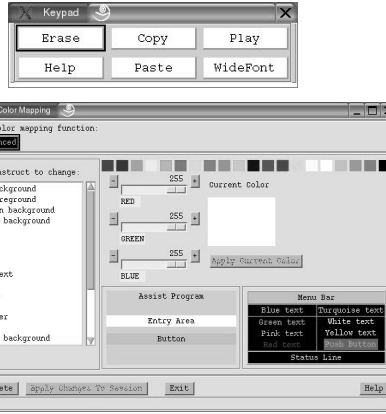


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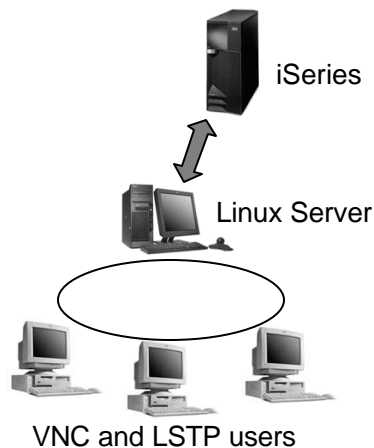
Full function, native 5250 emulator

- 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...

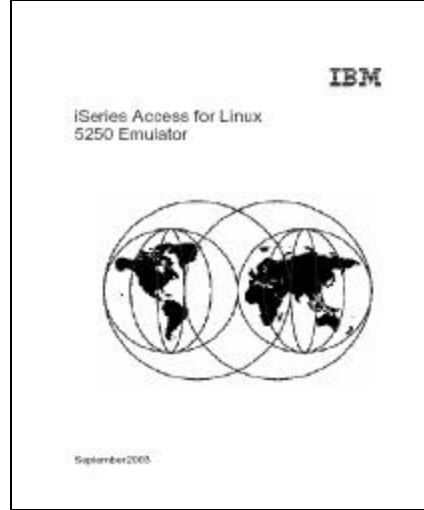
- New ibm5250 command line option
 - “-STAND_ALONE”
- Enable easy use of :
 - Virtual Network Computing (VNC)
 - Linux Terminal Server Project (LSTP)





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
2922	pt_PT	Portuguese in Portugal
2924	en_US	English
2925	fi-FI	Finnish
2926	da_DK	Danish
2928	fr_FR	French
2929	de_DE	German
2931	es_ES	Spanish
2932	it_IT	Italian
2933	no_NO	Norwegian
2937	sv_SE	Swedish
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
2980	pt_BR	Portuguese in Brazil
2981	fr_CA	French Canadian



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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>



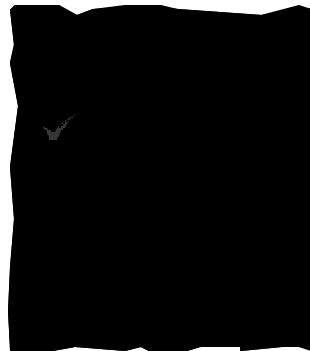
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iSeries Access for Linux - Customer Reference



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ODBC Applications

- OpenOffice
- ODBC and PHP for Web Serving
- ODBC and Perl
- 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
- unixODBC isql
 - command line application
 - neat way to generate simple HTML page with data tables
- Your own applications...



OpenOffice

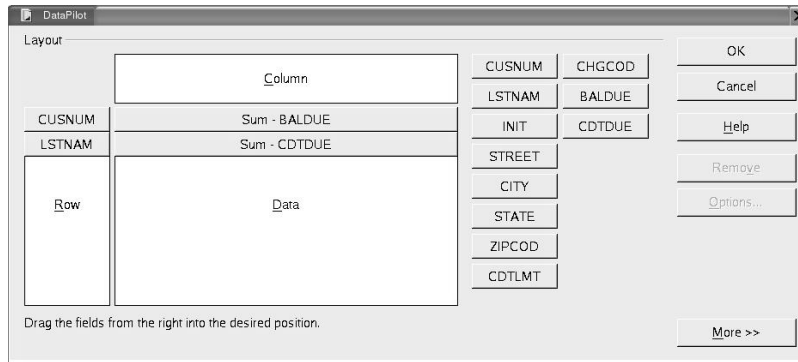
The screenshot shows an OpenOffice spreadsheet window titled 'qcust.sxc - OpenOffice.org 1.1.0'. The spreadsheet contains the following data:

	A	B	C	D
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	839283	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				



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OpenOffice



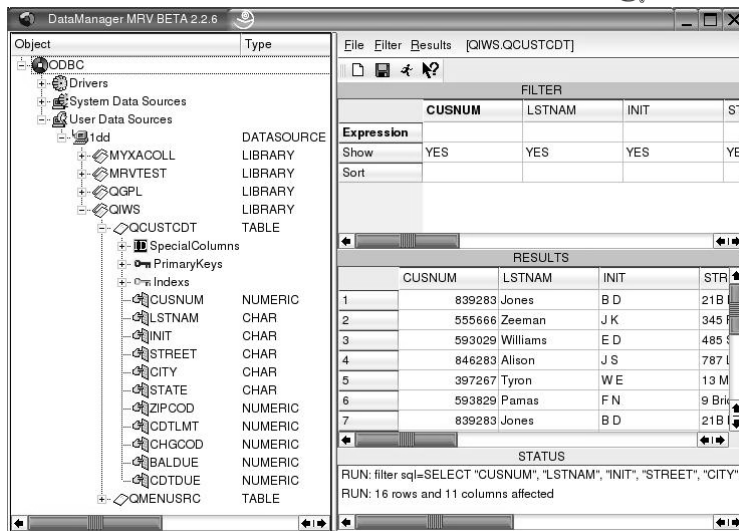
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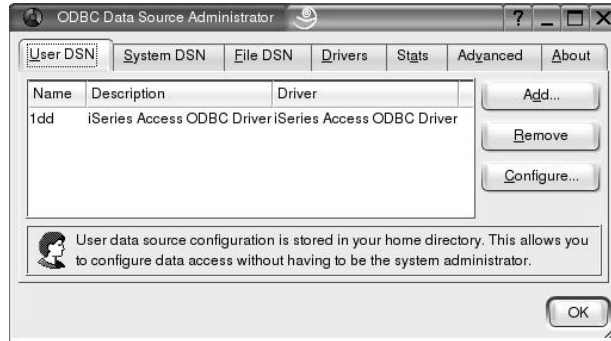


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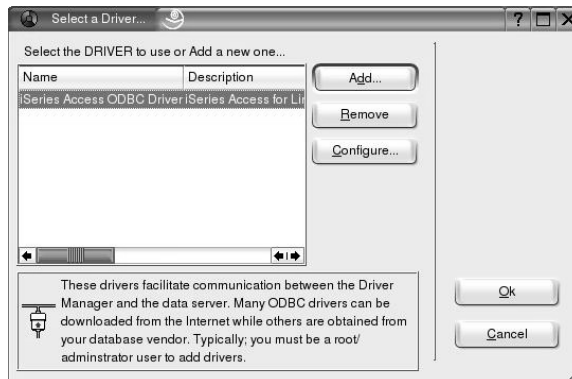
ODBC Configuration

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



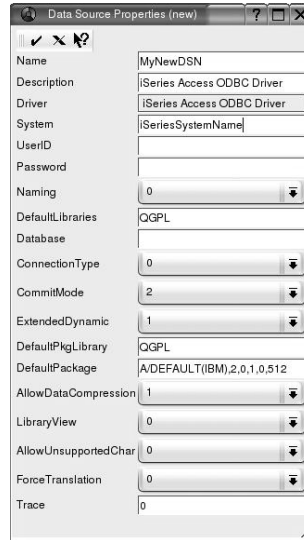
Creating a new ODBC Driver data source

- 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
 - ALLOWUNSCHAR or AllowUnsupportedChar
 - CCSID
 - GRAPHIC
 - TRANSLATE or ForceTranslation
- Diagnostic Properties
 - QAAQINILIB or QAAQINILibrary
 - SQDIAGCODE
 - TRACE
- Other Properties
 - ALLOWPROCCALLS
 - DB2SQLSTATES
 - DEBUG
 - TRUEAUTOCOMMIT



Notes: Connection String 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.



Linux ODBC Driver Restrictions

- MTS is not supported
 - Because MTS uses Windows specific components that are not available on Linux.
 - 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

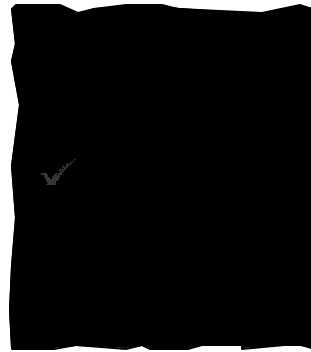
Linux ODBC Driver

- 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.

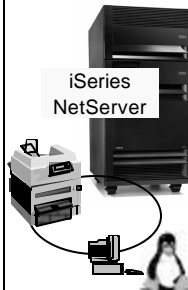
Windows ODBC Driver

- 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 calls 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



iSeries NetServer: Supports Linux Clients



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/iseries/netserver>

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

iSeries Access for Linux



Combine Access for Web - for a complete for Linux solution

My Personal Folder

Print

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

Database

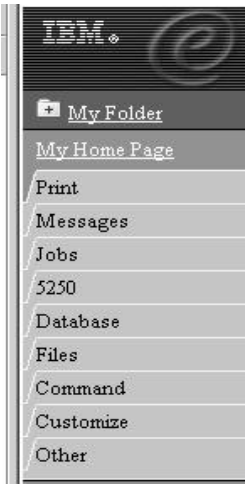
- Tables
- My Requests
- Run SQL
- Copy Data to Table
- Import Requests

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

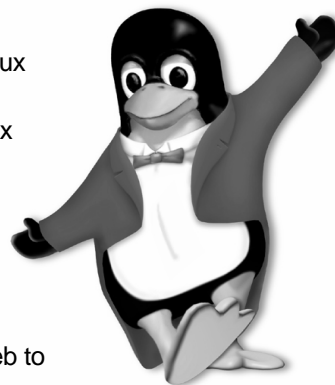
- Administrator controls access to functions by user or group of users:
 - Customize front page
 - Limit tasks that can be performed

Commands provided for Linux

- RMTCMD – issue iSeries commands
- RMTODBC – issue iSeries commands via ODBC
- 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

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 to work with other iSeries resources



Screen Shot 1



Screen Shot 2





Web References

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



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	iSeries	

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