

1. Corrected reporting of key lengths returned by SQLStatistics function. Incorrect key lengths were resulting in GPF's under certain conditions.
2. Changed handling of Views to solve Out-of-Memory problems. Views are now defined as having no keys and therefore, cannot be 'linked' in Microsoft Access.

NOTE: Using an ORDER BY with large result sets from a View can be memory intensive and may still yield an Out-of-Memory condition.
3. Added a Divide-by-Zero error report. Errors occurred when using only aggregate columns with an empty record set.
4. Modified the application of SQL_QUERY_TIME to running functions. The timeout was being reported incorrectly by some functions.
5. Improved logic for updating files with extended records.
6. Corrected missing records caused by specifying a WHERE condition with the field on the left being longer than the field on the right. For example, "Item123" padded with spaces to 20 long would skip records where "Item123" was padded with spaces to 15 long.
7. Corrected processing of INI file on UNIX/Linux platforms to properly ignore comment lines. Comment lines containing an equal sign "=" were not being handled properly.
8. Resolved a Client/Server problem where indexed files did not return all records.
9. Fixed a licence count issue on the UNIX server that was caused by a single client opening multiple connections.

1. Key words "OUTER" and "INNER" are now optional when specifying a LEFT [OUTER] or [INNER] JOIN.
2. Added support for keyword(s) "CROSS JOIN". "CROSS JOIN" is the long-winded equivalent of a comma in the FROM list. For example,
SELECT * FROM Customer CROSS JOIN Sales
is equivalent to
SELECT * FROM Customer, Sales
3. Force the debug log file name to end in .txt or .log to prevent a malicious user from overwriting executable files (i.e. .exe or .dll).
4. Added support for SQLStatistics Parameters SQL_INDEX_UNIQUE and SQL_INDEX_ALL. The driver now reports the columns that correspond to the various keys on the file (primary and alternate).
5. SQLPrimaryKeys now reports the key name. This is currently limited to "KEY" + the key number (zero-based). Future releases will report the key name stored in the file.
6. SQL_QUERY_TIMEOUT bug has been fixed. The statement timeout value was incorrectly being saved at the connection level resulting in the driver erroneously reporting a timeout error.

7. Added support for right justified data. For example, where the customer number is stored with leading spaces, " 123456".
Usage:
Set the class to "RIGHT". For example, the INI definition would contain:
CLASS=RIGHTnnn
where nnn is the decimal value of the fill character. If a fill value is not supplied then the fill value defaults to a space (Decimal 32).
8. Corrected issue with activation during new install of windows driver. The activation screen would fail to appear during a new installation of the local and client/server drivers.
9. Corrected display of description text on the control panel applet. The text was not being displayed.
10. Significantly reduced the network calls for improved client/server performance.
11. Corrected issue with result set missing records under some conditions.
12. About page of control panel applet now displays the version of the applet.
13. Corrected issue with bookmarks returning wrong record when server is AIX.
14. Modified memory allocation to allow server to run on Redhat Linux 8 and higher. Shared memory allocation was failing on Redhat Linux 8 and higher due to memory alignment issue.

ProvideX Client/Server ODBC 3.31 Driver - README.TXT September 2003

1. SQLGetInfo called with parameter SQL_DBMS_VER now returns the major code of the ProvideX version supported. This is currently version 5.
2. The "User ID" has been increased to 64 characters from 63 characters.
3. Corrected an issue where a column whose length was less than or equal to zero would result in an endless loop. The driver will now report a column definition error.
4. New Datasource Name (DSN) screen. To allow for future enhancements the DSN screen has been redesigned. It now appears as a tabbed property sheet.
 - There is a new field, "Views DLL", on the Options tab. In version 3.30, the location of the "pvxwin32.dll" was specified by including the appropriate directory in the prefix. If the "Views DLL" entry is empty and the user attempts to open a View, then the prefix will be used to locate the Views dll.
 - The "ODBC cache" entry has been removed as this functionality is currently unavailable (see 3.30 Known Issues note).
 - "Connection String " button on Debug tab. This button will display the connection string returned by the driver. If using SQLDriverConnect then the information displayed in the area above the button is the connection string representing the currently saved DSN attributes.
 - "Test Connection" button on Debug tab. Selecting this button will establish a connection to the configured database. If successful, then the area above will contain the text:
Connection succeeded.
Datasource includes X tables.
where X represents the number of tables reported for the database.
- The location and name of the debug log is now under user control. If the field is left blank then the driver will generate log files in

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C:\ with pvxodb32.log as the default for the regular driver and pvxodc32.log for the client-server version.

5. Corrected an issue with Microsoft Office 97. The 3.30 driver caused a stack overflow or GPF when used with Microsoft Office 97.
6. SQL_QUERY_TIMEOUT is now supported. A timeout for a statement can be initiated by either setting the connection attribute (SQLSetConnectAttr with parameter SQL_QUERY_TIMEOUT) or the statement attribute (SQLSetStmtAttr with parameter SQL_ATTR_QUERY_TIMEOUT).
7. Corrected an issue with string values using a format mask. String values with a format mask were resulting in no records found as the formatted string was being compared to the unformatted data.
8. Resolved an issue which could be caused by removing a large number of records from a file in a very specific sequence resulting in a damaged key chain. The damage caused to the file does not result in the loss of data.
9. SQLSetConnectAttr with parameter SQL_ACCESS_MODE has been implemented. Files will be opened read-only if SQL_ACCESS_MODE is set to SQL_MODE_READ_ONLY. Attempts to write to a read-only connection will result in an error. The default is to open files for read-write access (SQL_MODE_READ_WRITE). If a file cannot be opened in read-write mode, and SQL_ACCESS_MODE is read-write then an error will be returned.
10. Corrected an issue where no records were returned if the SQL statement contained a WHERE condition based only on the first segment of a multi-segmented alternate key.
11. Resolved an issue with "DECIMAL DELIMITED" data type. Fields of this data type were being inserted into the file with incorrect data.
12. Corrected a problem where an update would fail if a key segment was changed from null to not-null.
13. Accessing a View will now result in the 'IZ' (ignore maximum memory setting) and 'XF' (extended file channels) parameters being enabled. This is due to the fact that multiple connections will use a single instance of the Pvxwin32.dll and therefore requires the maximum amount of memory and file handles be available.
14. Corrected cascading of login permissions. If a user-specific entry exists, and a generic entry (ie. *) exists and the user-specific fails, then the generic rule will be tested. For example:
For company "ABC", user ID "John" is denied access to the dictionaries in c:\abc_j, however everyone has access using the dictionaries in c:\abc_all.
In previous versions of the driver, user id "John" could not connect using the c:\abc_all dictionaries because of the denial of access to c:\abcj_j.

Known Issues in Version 3.31

1. When using Views, pressing a refresh button prior to completion of the previous query could result in a GPF. An unsupported fix is available, but has not been fully regression tested and should be applied only to systems experiencing this specific issue. To obtain the unsupported fix please contact support@pvx.com.

ProvideX ODBC 3.30 Driver - Changes/Corrections/Enhancements

1. Improved INI table processing:
 - Leading spaces will be stripped from the alternate INI name
For example:
Customer=/usr/data/customer.dat, /usr/data/customer.ini
Spaces following the comma will be stripped. Previously, this would generate an error and the column definitions would not be found
 - Relative paths are now supported.
2. Added support for new ProvideX Version 5.10 file options:
 - Compressed files
 - Extended records
 - driver versions prior to 3.30 will truncate values being read and could result in a GPF when attempting to update or insert a field in excess of 255 bytes
 - Auto-increment keys
 - Password protected files with and without encryption.
3. Improved handling of files with external keys. This resolves several issues related to the insertion and update of records with external keys.
4. New activation dialog screen.
5. Improved filtering of records when:
 - using a key containing a date field
 - using non-delimited fields.
6. Added support for Views. In order to use Views, the path to pvxwin32.dll must be specified in the Prefix field of the DSN.

NOTE: Requires the Views objects shipped with ProvideX Version 5.12.0000 (or higher).
7. Fixed insert / update handling of numeric fields:
 - Added truncation of least significant digits from a numeric field when attempting to insert or update a value larger than the defined field length
 - Improved insert / update handling of NULL numerics
 - Correction to validation of a number where "." is the first character, a number without leading digit was previously reported as invalid.
8. Made overall improvements to insertion, update and deletion of records.
9. Corrected several potential memory leaks when reporting errors.
10. Corrected scaling of sub-stringed numerics with implied decimal.
11. Added a Silent option:
 - when Silent is specified then all message boxes, except for the activation dialogue are suppressed. If debugging is enabled then errors will be written to the log file.
12. Added a pre-release notice to the DSN setup screen. When running a beta version of the ODBC driver the word "PRE-RELEASE" appears on the DSN screen below the OK button.
13. Added Session ID support. "%s" will be replaced with the value entered in the Session ID field. If %s exists in the physical path and no value is supplied then the table will not be made available to the user.

14. Added the ability to include Session ID as part of User ID on a connect string.
Syntax:
UID=User|Company|SessionID
15. Correct path resolution when starting with ".\" (without the quotes).
16. Revised prefix search rules. If the absolute path to physical file is used then the Prefix entry is ignored.
17. Added support for Unsigned Integer numerics in INI definition.
 - Keyword is "UNI".
18. An unsigned integer whose length contains a scaling factor will cause a 'Bad data type' error to be reported.
19. Revised the handling of Binary numeric data. Fields returned by the driver provide support for 6-byte values up to the current 14-digit precision limit supported by ProviderX. Write-back support for Binary numeric data in this version of the driver (and all previous versions) is limited to 4-byte values.
20. Corrected issues with reading embedded data dictionary:
 - Reading of embedded data dictionary will skip non-column records
 - Only the first record definition will be read. No support is provided for variant record definitions embedded in file.
21. Added a new keyword "I86" which will swap the bytes of a field. For example, writing a field whose definition is ProviderX SWP(BIN(N,4)) requires I86 as part of the INI file definition.
22. Addressed an issue with Microsoft Access which resulted in the 201st character of a MEMO field to be lost.
23. Improved the logic that processes a file using alternate keys.
24. Corrected a GPF that resulted from attempting to write to a file which was read-only.
25. Corrected a resource leak of icon in control panel applet and DSN setup screen.
26. Addressed an issue where records were missing from the result set when accessing the file on an alternate key, and the key requested was shorter than the defined length of the field.
27. Revised the logic used to determine which sort index best applies to processing a file when restriction conditions exist. This change favours the sort index that best matches restrictions rather than the index which is better suited for sorting.
28. Improved key lookup logic
The logic used to locate a specific record in a file has been revised to provide quicker access to the data.
29. Support for INNER JOIN
The ODBC driver now supports the keyword(s) "INNER JOIN" using the following syntax:
{ oj Table1 INNER JOIN Table2 ON Table1.Column = Table2.Column }
30. Fixed issue with HAVING
The ODBC driver checked an incorrect buffer when evaluating the HAVING clause thus returning (or not returning) the correct result set.

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31. SQLGetInfo InfoType SQL_DRIVER_VER correction
A call to SQLGETInfo with an InfoType of SQL_DRIVER_VER would return an incorrect driver version.
32. GPF when updating a NULL Decimal numeric
Corrected an issue that would cause a GPF when attempting to update a column defined as DECIMAL NUMERIC when it contained a NULL value.
33. Scalar functions LEN and SUBSTR
Added aliases LEN (MS SQL Server) and SUBSTR (Oracle) to the supported scalar functions.
Usage: { fn LEN(string_exp) } and
 { fn SUBSTR(string_exp, start, length) }

 Note: A complete list of scalar functions can be found at www.pvx.com.
34. Renamed the UNIX configuration file to pvxodbs.conf.sample to prevent an upgrade install from overwriting an existing conf file. If pvxodbs.conf does not exist when the server starts then the .sample file will be copied to pvxodbs.conf.
35. Changed the error message displayed when server is unable to open socket:
 "Unable to open socket #####. Another process may be using it."
 where ##### is the socket the server is attempting to use
36. Improved the connection logic. If the IP address is provided, then the driver will not attempt to resolve the host name.
37. Corrected the cascading of access permissions. For example, User A / Company B was given read-write access for directory C, and INI file D, then User A / Company B was previously given read-write access for all directories and INI files.
38. Addressed an issue where shutting down the server with active clients would cause the server to GPF.

Known Issues in Version 3.30

1. Use of the ODBC driver cache has been disabled. The value of the field "Cache Size MB" on the DSN setup screen is ignored in this version of the driver. Use of the cache resulted in the return of incorrect record sets.
2. When using the 'Get ExternalData' feature in Microsoft Access to retrieve data from a ProvideX Views source, choose the 'Import' option rather than the 'Link Tables' option. The type of information required by MS Access to continually refresh linked data will not be available due to the dynamic nature of the Views interface.

ProvideX Client/Server ODBC 3.22 Driver - README.TXT

Jul 2002

ProvideX ODBC 3.22 Driver - Changes/Corrections/Enhancements

RECOMMENDATION: Best Software Canada Ltd. recommends that all Microsoft Windows users of previous versions of the ProvideX ODBC driver upgrade to Version 3.22 to avoid potential file damage when doing simultaneous updates from both the ODBC driver and another external tool (such as from ProvideX itself).

1. Corrected the Attribute Names for fields as returned from the SQL GetInfo

command to comply with the ODBC 3.0 standard specification.

2. Changed the size of the working buffer for INI processing from 16K to 64K.
3. Added a ',' (comma) as a valid separator for the entries in the Prefix field (DSN setup).
4. Fixed a memory leak during disconnects.
5. Fixed a resource leak of file handles when reading MAS90 format Data Dictionary's
6. Added a new Null Date option to the DSN setup. Turning this ON will force the driver to validate on the fly all date entries in the entire table. Where a date is invalid, the driver will substitute the date with a NULL value.
7. Added a new Date Class to Data Dictionary, and INI file definitions to help with the processing of wrong or invalid dates in columns. You may now define a column using CLASS=DATE-UNKNOWN. This will tell the driver to process all entries in this column as a string without any formatting and/or date conversions. This option is meant for Debugging purposes only, as the dates within the files should be corrected to match their specifications.
8. Fixed a Crystal 8 GPF issue. When Crystal 8 executed a previously prepared query, Crystal 8 would GPF if the data source was no longer accessible. We have added a data source validation and an appropriate error message.
9. Extended support for DOUBLE SQL data type. A fix for the driver's write routine make writing a numeric value back to the file consistent, whether the driver has 'Enforce DOUBLE' option checked or not.
10. Enhanced the error messages returned by the ODBC driver to include additional messages from the ProvidEX KIO modules.
11. Added relative path support within INI specifications.
12. Enhanced the multi-segmented file support to open the segments in the same way as the primary file.
13. Corrected a typo in error message #14: "Unable to allocate memory to perform requested operation".
14. Corrected embedded Data Dictionary processing for indexes (key chains). When an index has been removed, processing will continue for the next available index. (Key has been dropped).
15. Corrected a possible GPF when updating ProvidEX Indexed files.
16. Improved Threading logic to handle fast multi-threaded applications, such as IIS in windows 2000.
17. Corrected the Insert/Update logic for Sort files.
18. Corrected " AS 'alias' " SQL syntax used by MS Query.
19. Added support for UNC path names in the Prefix.
20. Added support for sorted INI definitions. This allows an INI file to have columns defined in an order other than the specific physical order that the columns appear in, within the physical file. Added a "SORTTABLE"

key word.

Example:

[*Tables*]

Invoice_History_Dtl=C:\ODBC\Wn11.ini,C:\ODBC\WnODBC.ini, SORTTABLE

You may then place the fields within the INI definition in any order you wish, as long as you inform the driver of the physical ordering of the fields by using "FIELD=Number" within the field declarations. The "Number" is the physical field location within the data record

Example: CST_ID=Length=10,Field=10
CST_NAME=Length=35,Field=2

21. Correction to the handling of Negative Binary values (BIN).
22. Resolved a potential file locking conflict in windows versions of the ProvideX ODBC drivers. Where a file that was being updated concurrently by the windows ODBC driver(s) and another tool (ProvideX for example), could result in files being damaged.
23. Fixed a problem updating existing security setting entries in the ODBC Server Control Panel applet.
24. Fixed a problem in the INI processing routine for the ODBC server on UNIX platforms.
25. Added new Command Line Options for the UNIX servers:
 - d or --debug Turns on debug output. The log file: pvxodbs.log will be created in the current directory.
 - h or --help Display help information for command line switches.
 - v or --version Display program version information.
25. File Locking Enhancements / Corrections:
 - 4.1 Added a timed delay to the UNIX server program to retry locks automatically after the timer expires (30 sec.)
 - 4.2 Corrected the Burst Mode logic to ensure that any interim file locks are flushed before returning. This issue could cause other applications, including standard ProvideX sessions, to wait until the locks were released.
26. Enhanced Burst Mode to return larger record sets with fewer network operations.
27. Corrected the command line switch for Port Number where it would not previously override the setting in the .conf file. The command line switch now takes precedence.
28. Changed the User Licensing in the ODBC Servers to ensure that if an invalid license key was entered, the server will work in 1 User - DEMO mode. This change also adds a message box on the user's workstation to inform them that they are connected to a demo licensed server.
29. Corrected an "Access Denied" message in the windows ODBC Server when the user is running the server setup and is also editing the windows registry at the same time.
30. Corrected an issue with Fixed Length records when they are accessed via the Client/Server driver.
31. Enhanced the .conf file parsing to allow for \$OD\$'s existing at the end of lines. This change allows the .conf file to still be parsed if the file

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was transferred to the server in binary mode instead of ASCII mode.

32. Added a check for the PROVIDEX.DDF in upper case. The server will now look for the providex.ddf file in all lowercase letters. Failing that, it will search for the file in all UPPERCASE letters.
33. Corrected the use of ascending order "ORDER BY fields ASC" in Client/Server
34. Added a "Not Activated" message on the client side when the server is not properly activated.
35. Resolved a user licensing issue for the UNIX versions of the ODBC where the servers where not correctly implementing user counting logic.

ProvideX Client/Server ODBC 3.21 Driver - README.TXT Oct 2001

ProvideX ODBC 3.21 Driver - Changes/Corrections/Enhancements

IMPORTANT Use of the 3.21 ODBC Server, requires that you use at least a 3.21 Client Driver on the workstations.

1. Fixed a bug in processing doubly defined tables (where both DD and INI are given in a DSN) when a relative path is used.
2. Performance improvement: Speed of obtaining the list of available tables from Mas90 Data Dictionaries was greatly improved. Affects users with Mas90 Data Dictionaries only.
3. Performance improvement: Speed of obtaining the list of available tables was increased for doubly defined tables only.
4. The buffer size to keep an internal list of tables defined from an INI file was increased from 8K to 64K.
5. Added 60 second timeout for client and server TCP communications.
6. Product Re-Branding has occurred to reflect our new company name of "Best Software Canada Ltd.". This has altered the location of any registry keys used. The driver will copy its settings from the old registry location if the registry keys do not exist in the new location.
7. Tested and verified for use with Microsoft windows XP, and Microsoft Office XP.

Note: UNIX Versions of Server now available for limited set of operating systems. Redhat, SCO and AIX

ProvideX Client/Server ODBC 3.20 Driver - README.TXT Aug 2001

ProvideX ODBC 3.20 Driver - Changes/Corrections/Enhancements

IMPORTANT Use of the 3.20 ODBC Server, requires that you use at least a 3.20 Client Driver on the workstations.

1. Re-compiled using a new version of the keyed File-I/O module, which includes the follow changes / enhancements:
 - 1.1 Added support for the latest ProvideX File "KEY" features for file features up to ProvideX 4.20. This includes, upper / lower case converted keys, translated keys and Unique Keys.
 - 1.2 Corrections and enhancements for Multi-Segmented Files.
 - 1.3 Corrected INDEXed file handling when writing more than 1 record.
2. Note, for DD and INI paths with DSN configurations, multiple paths must be semi-colon separated and NOT comma or space separated.
3. Corrected an issue where data parsing at the client was done incorrectly if the file contained field separators other than the standard \$8a\$

ProvideX Client/Server ODBC 3.12 Driver - README.TXT May 2001

ProvideX ODBC 3.12 Driver - Changes/Corrections/Enhancements

1. Corrected NULL padding of records with external key and non-delimited fields
 2. Corrected the rounding of binary numbers
 3. Corrected sign logic for binary numbers
 4. Corrected NULL value for delimited numeric fields in MAS90 data files
 5. Corrected the write of a field with CLASS=DATE1900
 6. Corrected handling of files with an internal key which referenced field zero. i.e. internal key of 10 long defined as [0:1:10]
 7. Corrected the logic for updating files with fixed record size
 8. Corrected updating of padded segments in external key to use SPACE's instead of Null's
 9. Corrected the insert of new records which contained a field defined as "last substring"
 10. New logic for files with external key processing
 - Added support for external keys composed of multiple fields which are duplicated in the data record
 - Enhanced the definition of external keys in the INI file:
 - For and external key segment line added:
KEY=..... ,
 - For the corresponding data field in the record added
SAMEAS=external_key_segment_name
- Syntax for "KEY=" is:
KEY=KeyNum:Segment:Sort Order:Length:Offset
where
KeyNum is always 1 (that means external key)
Segment is a number of the segment within the external key (for support of multi-segmented keys)
Sort Order A (ascending) or D (descending)
Length Length of the segment (Optional)
Offset Offset to the value within the data field (Optional)

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Note:

- a) Do not include the Length and Offset parameters when the external key matches the corresponding data field.
- b) The 'KEY' keyword is not required if an external key consists of only one data field

INI examples with the external key duplicated on the data record:

```
[ExtAll]
;External key and all fields delimited
DATUM1 = STRING, LEN=10,KEY=1:1:A
;DATUM1 = STRING, LEN=10,FIXED this is functionally equivalent to above
X_DATUM1 = STRING, LEN=10,SAMEAS=DATUM1,HIDE
DATUM2 = NUMERIC, LEN=8.2
DATUM3 = STRING, LEN=8
```

```
[ExtNum]
;External key with non-delimited strings and delimited numeric's
DATUM1 = STRING, LEN=10,KEY=1:1:A
X_DATUM1 = STRING, LEN=10,FIELD=1,FIXED,SAMEAS=DATUM1,HIDE
DATUM5 = STRING, LEN=199,FIELD=1,OFFSET=10,FIXED
DATUM3 = STRING, LEN=8,FIELD=1,OFFSET=209
DATUM4 = NUMERIC, LEN=7
DATUM2 = NUMERIC, LEN=8.2
```

```
[ExtNon]
;External key with non-delimited fields
DATUM1 = STRING, LEN=10,KEY=1:1:A
X_DATUM1 = STRING, LEN=10,FIELD=1,FIXED,SAMEAS=DATUM1,HIDE
DATUM2 = NUMERIC, LEN=8.2,FIELD=1,OFFSET=10,FIXED
DATUM3 = STRING, LEN=8,FIELD=1,OFFSET=18,FIXED
DATUM4 = NUMERIC, LEN=7,FIELD=1,OFFSET=26,FIXED
DATUM5 = STRING, LEN=199,FIELD=1,OFFSET=33
```

11. Corrected read/write of Indexed files
12. Accept FIXED keyword for the last part of external key in INI definition
13. Added support for fields whose length is greater than 255. The ODBC driver will now report these fields as long varchar (MEMO field). Update to the ProviderX file is not supported for this data type
14. Changed the maximum allowed MAS90 year from 2500 to 5999
15. Changed the write of an SSI date to use uppercase for consistency with PVX
16. Removed the version number from the ProviderX ODBC NT Service Name.
17. Corrected socket resources leak.
18. Corrected issue with server terminating on win2000 during first read.
19. Changed the testing of access rights to be case insensitive.
20. Corrected an issue where an informational message box would inform the user, that a Data Truncation may have occurred on a numeric data field. However the message may have displayed even though no truncation had physically happened.
21. Added support to the ODBC Drivers for 3 new data formats which are available in ProviderX version 5.
 - A) Signed Fixed Numeric. SGN(Length, Scale)
This type maintains the sign, the decimal point is implied and

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the field does not end in a delimiter.

Example: Length=10 Scale=2 value in DD (10.2)

Stores -1 as 000000100-

Stores 123.45 as 000012345+

SIGNED (SIG is the short form) keyword in an INI

Example INI: NumFld = NUM, LEN=10.2, SIG

B) Decimal. DEC(Length,Scale)

This type maintains the sign, the decimal point is explicit, and the field does not end in a delimiter.

Example: Length=10 Scale=2 value is DD (10.2)

Stores -1 as ^^^^^-1.00 (where ^ represents a space)

Stores 123.45 as ^^^^123.45 (where ^ represents a space)

DECIMAL (DEC is the short form) keyword in an INI

Example INI: NumFld = NUM, LEN=10.2, DEC

C) Decimal Delimited. DEC(Length,Scale,SEP=SEP)

This type maintains the sign, the decimal point is explicit, and the field does end in a delimiter.

Example: Length=10 Scale=2 value is DD (10.2)

Stores -1 as ^^^^^-1.00 (where ^ represents a space)

Stores 123.45 as ^^^^123.45 (where ^ represents a space)

DELIMITED (DEL is the short form) keyword in an INI

Example INI: NumFld = NUM, LEN=10.2, DEL

22. A new DSN setup parameter has been added. 'Enforce DOUBLE', to allow customers to enforce using DOUBLE data type for numerics. Some applications do not support a DECIMAL data type.
23. Added a '/' to '\' conversion for Table path/name. This process simplifies DD and INI usage when the dictionary is on a UNIX server, and the files within are pathed based on accessing a UNIX server.
24. Fix a bug in the driver parser when using the SQL syntax 'SELECT table.* FROM table'. This would cause a GPF in the MS SQL Server 7.0 DTS (Data Transformation Services Wizard).

Note: The ODBC driver does not support binary fields which are delimited

ProvideX ODBC 3.11 Driver - Changes/Corrections/Enhancements

1. Alternate INI and redefinition (DD+INI) in DSN
A bug was found, when both a Data Dictionary and an INI file were defined in a DSN, and the INI definition contained an alternate INI entry, the alternate should have taken precedence over all other dictionary entry types.

Current Precedence in order:
Alternate INI
ProvideX DDF DDE
Embedded Data Dictionary
Standard INI definition
2. Insert record with substringed key.
Corrected an issue where inserting a new record, with a key composed of either fixed or substring fields was returning an error.
3. Insert new record, key only, no data.
Corrected an issue where inserting a new record would not write the correct data, if inserting a key and the data record fields all contained null values.

4. Prefix

Enhanced the DSN definition screen, added a new field called Prefix. This prefix provides a search path for data files which are defined in either the data dictionary or INI definitions with relative pathing. This will not affect files defined with absolute paths.

Multiple entries may be used in the Prefix, each must be semi-colon delimited, the last entry in the Prefix list does not require a semi-colon.

5. MAS90*YEAR date data type corrected, where an invalid value was being written to the record during a write operation. This bug only affected the MAS90*YEAR data type which contains just a year value in packed format.
6. Correct the MAS90 Password validation logic to allow for passwords with spaces.
7. Corrected an error where writing an Date data types with no value or null value would write invalid data in the field.
8. Corrected a GPF when attempting to insert the first record into empty data file.
9. Changed the behaviour of a Update Record, whereby if the value of a field which is part of the primary key of a file, will remove the original record, and insert a new record for the new key value.
10. Corrected an issue where you would get an error, if reading or writing files where the length of the data in the primary key was less than the defined length of the key. The driver will now truncate the key to length or in the case of a multi-segmented key, will pad all the segments (with nulls) to the length defined except the last segment.
11. Corrected an issue with a primary key composed of 2 or more segments where any segment which had a null value would fail with an error. The logic now allows for segments with null values, however at least 1 segment must have a value greater than null.

Providex ODBC 3.10 Driver - Changes/Corrections/Enhancements

Changes:

- Added READ/WRITE support for binary numeric data type
This field type requires "NUMERIC","LEN=n.n","PADDED" and "BINARY"
This field may also include: "SEP=n" for delimited,
Note, decimalized values must be scaled, the scale is declared on the right side of the LEN= declaration, and the decimal point counts as one character in the overall length.
Example: Field_Name=NUMERIC,LEN=4.0,PADDED,BINARY
- Added binary date format support as CLASS=DATE-BIN-JULyyyy, where yyyy is a base year for Julian date. Example of INI definition:
Field_Name=NUMERIC,LEN=4.0,PADDED,BINARY,CLASS=DATE-BIN-JUL1983
- Added Support for a 'working directory' for alternate INI's. You may use:
TableName=C:\Data\DataFile,C:\Definitions\alternate.ini
Or
TableName=C:\Data\DataFile,alternate.ini
Or
TableName=C:\Data\DataFile,.\alternate.ini
The alternate INI file will be searched for in the following order:
A) In the specified directory, if the absolute path is given.
B) In the directory which was specified for the main INI file during the

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DSN setup, if a relative path is specified.
C) In the Windows directory.

- Increased the accepted length of the CompanyCode in DSN setup to 127 characters. This allows you to enter a path to the files and use %C\$ in your physical file location.
- Corrected a problem when processing files with a mixture of substringed and delimited fields.
- Added READ support for scaled substringed numeric data.
- Corrected a problem processing exponential notation numerical data in the range between 0 and 1 (for example 0.022 = 2.2e-002).
- Enhanced the routines for 'UPDATE' and 'INSERT' to increase the accuracy of data records when WRITING data to files.

ProvideX ODBC 3.02 Driver - README.TXT

June 22,2000

Changes:

- Can process files with large number of fields (hundreds).
- It is now possible to use different field separator.
- Fixed a problem with updating files with hidden fields.
- Improved logic to insert and update records in files with "mixed" records (some fields are delimited, some not).
- Added logic to force customer to enter Company Code and/or UserID and/or Password (put "?" in corresponding fields during DSN setup).

ProvideX ODBC 3.01 Driver - README.TXT

April 5, 2000

New Features:

- ODBC 3.0 compliance.
- Scrollable Cursors. For large increase in performance.
- Much improved "write" functionality.
- Better integration with 3rd party applications, such as Microsoft's: Excel, Word, Access, (Office '97 and Office 2000 versions) FoxPro, MS SQL Server and Visual Basic. Seagate's Crystal Reports and Lotus Approach.

New SQL Syntax Features:

- BETWEEN and NOT BETWEEN operator.
- SELECT TABLE.* - Returns all columns from table.
- SELECT COUNT(FIELD) - Returns count.

Limitations:

- Some level 2 ODBC API calls which are not commonly used are not supported in particular: SQLBrowseConnect, SQLTablePrivileges, SQLColumnPrivileges, SQLProcedures, and SQLProcedureColumns.
- Transactions, such as Commit and Rollback are also not supported.
- Column and table names are not case-sensitive.
- Interval types are not supported.
- Qualifiers or owners may not be specified on database names, table names, etc.
- Sorting by an expression is not supported.

Known/Potential Issues:

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- Using Visual FoxPro to access MAS90 data sources which use MAS90 user authentication, fails because Visual FoxPro attempts to use the User name, as an owner qualifier to table names.
- Using special characters (like '/', '\', and '.') within the Logical Names (Table Names) obtained from any of the support data dictionaries (Providex DD, INI, and MAS90 DD) may not work with all third party apps. Many 3rd party applications consider these characters to be reserved.
- Numeric data fields which are fixed / padded to a specific width (not field separator delimited) are not supported.
- Use of Lotus Approach, requires you turn to on "Key Restrict" in the DSN configuration screen to avoid a GPF caused by Lotus not correctly supporting data sources with Primary Key's defined.