



Release Notes



Borland®
InterBase® 2007

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General Information

These Release Notes address issues relevant to the installed Borland® InterBase® product. For detailed information on installing, registering, and licensing InterBase and for pointers to getting started, please read *IBsetup.html*. You can find this file at the root of the your InterBase CD-ROM, in your InterBase trial download file, or at the root of the InterBase install directory.

Note The new location for the InterClient.jar file is:

InterBase/SDK/lib/interclient.jar

The old location:

InterBase/lib/interclient.jar

may be discontinued in future. We advice developers to use the new location of the InterClient.jar in their applications.

Note It is strongly recommened that all IB 2007 clients be upgraded to IB 2007 SP2 clients, included in this release.

Links Throughout this document, bold blue type indicates links that are clickable if you are reading this in Acrobat Reader.

Chapter 1: General Information

Documentation	Information about installing the InterBase doc set, accessing it, and installing the enhanced Acrobat Reader needed for Full Text Search. In addition, there is a list the topics included in each of the books, to help you find your way around the doc set.
Contacting Borland	Mailing address, website links, and email.
Migration issues	A brief discussion of migrating from recent versions of InterBase with a pointer to an extensive discussion of migrating from versions older than 6.

Chapter 2: Fixed Bugs

Bugs Fixed in InterBase 2007 SP2	Known issues that were resolved in InterBase 2007 SP2
Bugs Fixed in InterBase 2007	Known issues that were resolved in InterBase 2007
Bugs Fixed in InterBase 7.5.1	Known issues that were resolved in InterBase 7.5.1
Bugs Fixed in InterBase 7.5	Known issues that were resolved in InterBase 7.5
Bugs Fixed in InterBase 7.1	Known issues that were resolved in InterBase 7.1
Bugs Fixed in InterBase 7.0	Known issues that were resolved in InterBase 7.0

Documentation

This section describes the InterBase document set and how to install Acrobat Reader With Search.

Installing the InterBase document set

The document set in PDF format requires about 13MB of space on your disk. They install by default when “Client and Server” or “Client” is chosen during the InterBase install process. However, in a custom install, it is possible to choose an install that does not include the document set. If you want to install documents at a later time, run the InterBase install, choose Custom, and select the documentation.

You can also copy them from the Documentation directory of the InterBase CD-ROM or download file.

The books are available for purchase in printed form from <http://shop.borland.com>. For point releases, the PDFs that distribute with InterBase may be more current than the printed books.

Accessing the InterBase docs

CD-ROM and download files

The document set is available in the *Doc* directory of your InterBase CD-ROM or download files.

HTML reference files

The API Function Reference and the SQL Statement and Function Reference are both available in HTML form in the `<interbase_home>/HtmlRef` directory. In the InterBase CD-ROM or download files, they are in the *Doc* directory.

Windows

There are links to each of the books in Start menu | Programs | InterBase | Documentation. You can, of course, copy these links to a more accessible location, or create your own links.

Linux and Solaris

To access the PDF document set, go to `<interbase_home>/Doc`. You can then display any one of the six books or the Release Notes. To access the HTML reference files, see HTML reference files above.

What's in the doc set

The InterBase document set consists of the following books and files:

Document Title	Contents
<i>Release Notes</i>	This document contains general information, contact information, and a list of bug that have been fixed for this release as well as for previous releases.
<i>Update Guide</i>	This guide discusses new InterBase 2007 features and how to use them.
<i>Operations Guide</i>	A general guide to working with InterBase databases, including: <ul style="list-style-type: none"> • Using IBConsole • Configuring and operating the InterBase server • Network configuration • Database security, configuration, and maintenance • Licensing • Database backup and restore • Database statistics and connection monitoring • Interactive queries, including a language reference • Database and server performance • Migration

Document Title	Contents
<i>Data Definition Guide</i>	Designing and building InterBase databases, including: <ul style="list-style-type: none">• General guidelines• Specifying datatypes• Working with domains, tables, indexes, views, stored procedures, triggers, and generators• Planning security• Character sets and collation orders
<i>Developer's Guide</i>	Developing InterBase database applications using Borland development tools, JDBC, and ODBC, including: <ul style="list-style-type: none">• Working with UDFs and blob filters, including the complete list of InterBase UDFs and their declarations• Introduction to IBX• Designing and building database applications• Connecting to databases• Understanding datasets• Working with tables, queries, stored procedures, cached updates, and events• Debugging with SQL monitor• Importing and exporting data• Working with InterBase services• Writing install wizards
<i>Embedded SQL Guide</i>	Developing InterBase database applications using embedded SQL, including: <ul style="list-style-type: none">• Application requirements• Working with databases, transactions, data definition statements, data, dates and times, blob data, arrays, stored procedures, and events• Error handling• Dynamic SQL• Preprocessing, compiling, and linking
<i>API Guide</i>	Developing InterBase database applications using the InterBase Application Programming Interface, including: <ul style="list-style-type: none">• Application requirements• Programming with the InterBase API• Working with databases, transactions, dynamic SQL, blob data, arrays, conversions, events, and services• Handling error conditions• Using the install and licensing APIs• Exporting XML• The InterBase API function reference

Document Title	Contents
<i>Language Reference</i>	A reference guide to InterBase elements, including: <ul style="list-style-type: none"> • The SQL statement and function reference • Procedures and triggers • Keywords • Error codes and messages • System tables, temporary tables, and views • Character sets and collation orders
SQL Reference (SqlRef.html)	The complete SQL reference from the “SQL Statement and Function Reference” chapter of the <i>Language Reference</i> .
API Function Reference (APIFunctionRef.html)	The complete API function reference from the <i>API Guide</i> .

Acrobat Reader

You need Adobe Acrobat Reader view the *.pdf document files.

Adobe Acrobat Reader is available for free in many languages from <http://www.adobe.com/products/acrobat/>.

Contacting Borland

Mailing address

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Websites and email

- For technical support options, see:
<http://www.borland.com/support>
 - Borland maintains an Internet site on the world-wide web for general InterBase information. The URL of this site is:
<http://www.borland.com/interbase>
 - Technical information, such as white papers and FAQs, can be found at:
<http://bdn.borland.com/interbase>
 - For installation and presales questions, visit:
<http://shop.borland.com>
 - To discuss issues, with other InterBase users, visit:
<http://info.borland.com/newsgroups>
 - For information about how to contact InterBase representatives outside the U.S. and Canada, look at the following web page:
<http://www.borland.com/bww/>
 - For issues pertaining to content and presentation on our web site, send email to: webmaster@borland.com
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Migration issues

The following steps represent the general procedures for migrating from one version of InterBase to a newer version.

1. Back-up all databases (including security database(admin.ib by default) before un-installing the previous version.
2. Back-up ibconfig (only if it has been customized).
3. Un-install your previous server.
4. Install/register/start the new server.
- 5.Restore your databases.

Migration to InterBase 2007

Migrating databases from InterBase 6, 6.5, or 7.x to InterBase 2007 is a simple process:

- 1 Before installing InterBase 2007, back up each database using your current version of **gbak**.
- 2 Uninstall your current version of InterBase and install InterBase 2007.
- 3 Restore each database using the InterBase 2007 **gbak**.

Note Upgrading a 7.1 database to 7.5 is automatic as soon as a 7.5 server attaches to a 7.1 database. Converting upgraded databases back to a lower version is not recommended.

External tables

The only additional step required when migrating from InterBase 6.x occurs when you have external tables. For security reasons, InterBase 7 requires that one of the following two things be true for external tables:

- The tables must be in *<interbase_home>/ext*.

Or

- Each directory that contains an external database file must be listed in *ibconfig* using the EXTERNAL_FILE_DIRECTORY entry:

EXTERNAL_FILE_DIRECTORY directory1

EXTERNAL_FILE_DIRECTORY C:\data\mydata\

The InterBase security database

The InterBase security database, which was named isc4.gdb in InterBase versions prior to 7.0, is now named admin.ib.

To continue using your previous security database, back it up with its native version of InterBase and then restore it to this new name using InterBase 2007.

To use a different name, specify the new name in the `ibconfig` file, using the `ADMIN_DB` parameter.

In order to use the “Database Aliases” and “Database Rerouting” features, you must use the “`admin.ib`” that comes with the product. Please migrate user accounts from your existing “`admin.ib`” from an older install to this new “`admin.ib`”.

Please read the section on “Embedded User Authentication” in the Operations Guide to embed user authentication in your database.

Migrating from older databases

After attaching to an InterBase 7.0 ODS 11.0 database, or an InterBase 7.1 ODS 11.1 database with InterBase 7.5 the ODS (On Disk Structure) of the database will be automatically upgraded to ODS 11.2.

Migrating databases from InterBase versions 5.x and older to InterBase 6 or later requires planning. Please read the Migration appendix of the InterBase *Operations Guide* for details on migrating clients and databases from InterBase 5.x to InterBase 7.x.

Using the IBX Update Kit

InterBase Express (IBX) is a set of data access components that provide a means of building applications with the Borland Developer Studio (IDE for Delphi, C#, and C++) that can access, administer, monitor, and run the InterBase Services on InterBase databases.

This release includes an InterBase Express Update Kit for BDS 2006 and InterBase 6, 7 & 2007.

Installing the IBX Update Kit

Double-click on the IBX Update Kit setup file (`IBX_BDS2006_11.EXE`) to automatically launch the IBX 10.11 setup program.

Un-installing the IBX Update Kit

The installer gives you an option to store a backup of the previous files. Follow the normal un-install option in the Add/Remove programs on the control panel.

IBX Limitations

The new version of `IBXpress100.bpl` breaks the earlier interface. Any package that depends on `ibxpress.dcp` will require recompiling after installing this update.

Migration issues

You will get an error message that a function is missing and do you wish to load this package later. Answer Yes to this (you will get it twice) and then rebuild the package. Answering No places the package into a special location in the registry and you can never have it load on startup again without manually modifying the registry.

ReportBuilder has a package named rbIBEXx.dpk which falls in this category. Also the Bold packages will require a recompile (you can find a copy of the package itself in CodeCentral also). If you have previously installed IBClientDataSet (see below) it will also require a recompile.

Fixed Bugs

This chapter lists bugs that have been fixed for the following InterBase releases:

- InterBase 2007 SP2
- InterBase 2007
- InterBase 7.5
- InterBase 7.1
- InterBase 7.0

Bugs Fixed in InterBase 2007 SP2

The following bugs are resolved in InterBase 2007 SP2:

For InterBase 2007 SP2:

Bug Number	QC#	Description
58205		Improve access method for full outer joins.
58257	47598	Left outer join performance without an index fixed.
58462	602721	Index is not used in a co-related sub select of an UPDATE statement, fixed.
60128	47916	Left outer join with table expressions not optimized when indexes should be used, fixed.
60269	20359	Query Optimization when using "IN" or "OR" keywords fixed.

For InterBase 2007 SP2:

Bug Number	QC#	Description
61347	25160	Index is not used for the where clause when the query is outer join fixed.
219990	10264	Left Join on a big table completion lag fixed.
223805	597104	The optimizer uses a sequential table scan to perform co-related sub-query, fixed.
231879	47599	Data inserted in the last transaction not seen if the database is made read only, resolved.
239883	11219	Installing Desktop Edition as Administrator does not make Programs listing available to other Users, fixed.
243270		Connecting with 8.0 client to 7.1 server fails with unavailable database error, fixed.
243299	40486	InterBase 7.1 server crashes upon disconnect using 8.0 client with remote connection, fixed.
243679	47604	InterBase Server Manager starts as an ordinary user even if you are an administrator on Windows Vista, fixed.
248755		interclient.jar JDBC driver now installed as part of the InterBase SDK.
248850		Bookmarks are missing from Language Reference Manual, fixed.
249045	47600	InterBase 2007 Installer now works on SUSE Linux 10.
249232		INSERT/COMMIT for each record delay when Journaling is enabled on some Windows platforms fixed.
251265	47602	Query with many joins returns "size of optimizer block exceeded", fixed.
251608	44565	Opimizer block exceeded error fixed.
251610	43874	Bad query result on LEFT JOIN when multiple filters in the join, resolved.
256161		Nested loops in triggers crashes the server, fixed.

For InterBase 2007 SP2:

Bug Number	QC#	Description
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Note This document includes fixes for SP1.

Bugs Fixed in InterBase 2007

For InterBase 2007:

Bug Number	QC#	Description
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60140		Backup and Restore causes problem with adding constraints
112113		Invalid 'CREATE SHADOW' statement will cause the ISQL crash.
120473		DEFAULT is allowed for BLOBs, but causes errors (such as Conversion error from string "BLOB") when used
122700		FOREIGN KEY constraint DDL fails with multiple indices on REFERENCE key
124028		IBConsole cannot see the view data
124771		The error "constraint not found" is raised when one attempts to create a foreign key constraint if the parent table has both a Primary Key constraint and a separate unique index on the referenced column(s) and the name of the unique index sorts before RDB\$PRIMARY
127168		InterBase server creates databases without absolute path in System32 directory
148143		Instead of getting the normal error message that Field T1 can not be ***NULL*** you get a "conversion error from string "BLOB" "
157531		Obsolete ibconfig parameters included in ibconfig file
169965		SELECT * FROM TMP\$PROCEDURES will crash server if a procedure has been dropped
200567	7997	Support to INSERT and UPDATE in BLOB field with Sql command
213125		It is impossible to drop a trigger that starts with the name RDB\$

For InterBase 2007:

Bug Number	QC#	Description
217985		List of System temporary tables (currently page 244) does not list TMP\$HEAPS and TMP\$TRIGGERS
218040		Invalid INTERBASE env variable value gives misleading error
228356		Allow connection string to a different port to specify a different port number in addition to the port label we already have
230142		If you select 'no' for 'run interbase server as a service on Linux', it runs InterBase server as a service on Linux.
237809		Better error messages required for database re-routing failures
238414		Select after update generates cannot update read-only view error.
238638		A connection made via a server alias will fail if other non alias connections are concurrent.
239254		Embedded data user authentication section missing from manual.
239622	24859	gds32.dll enhancement, require spb support for instance name
239690		Select from view which calls UDF that returns a blob can cause server crash
239730	13183	Alias support for IBConsole
239847	28518	DataDirect ODBC driver doesn't work with SELECT procs with input params
239880	14563	Add support to command select, insert, update on Blob fields
239882	11220	Incomplete entries in Services File
239886	9014	Database Alias fails when database already opened via full path
240793	31288	BLOB as (VAR)CHAR functionality failure in Stored Procedures
241006		IBConsole crashes when you access "IBConsole help" under the "Help" menu

Bugs Fixed in InterBase 7.5.1

For InterBase 7.5.1:

Bug Number	Description
223901	EUA lost on restore. (from QC12838)
231879	Data inserted in the last transaction not seen if the database is made read only.
232580	When lock file runs out of room, the server crashes.
232581	gds_lock_print (iblockpr on Windows) prints length of lock table only up to 6 digits.
232861	iblockpr gives "unable to access lock table" error.
236633	Connecting with many concurrent threads and many queries and connections in each thread crashes the server.
237691	Database rerouting logs a lot of messages in interbase.log.
238107	Server hangs with "error during savepoint backout" in interbase.log.
238406	Database page buffer expansion leads to "deadlock" error or hangs server.
238428	ResultSet.getBytes() does not return the correct number of bytes of BLOB.
238441	Network application causes InterBase server termination.

Bugs Fixed in InterBase 7.5

For InterBase 7.5:

Bug Number	Description
125851	Looking at PLAN on VIEW gives garbage output and crashes the server.
138748	GRANT SELECT,UPDATE ON TABLE TO PROCEDURE in certain cases does not work.
148790	When a Blob with sub_type 1 is created and used in a VIEW with UNION ALL the sub_type is set incorrectly.
167748	Calling stmt.executeBatch(); on a Statement with an "Empty Batch" throws a Null pointer exception. (InterClient)
167944	Registration on Linux puts negative numbers in INTERBASE.LOG. (InterBase 7.1 Service Pack 1)

For InterBase 7.5:

Bug Number	Description
168847	Too many foreign keys in a single script causes a "request depth exceeded" error.
169948	SELECT from TMP\$PROCEDURES after dropping a stored proc crashes the server. (InterBase 7.1 Service Pack 2)
171642	Optimizer is not picking the optimal indices when a select has a conjunct expression. (InterBase 7.1 Service Pack 2)
172453	Closing a database on a ReadWrite medium where the device has been made Read Only causes a hang when closing the database. (InterBase 7.1 Service Pack 2)
173750	IBINSTALL.DLL has wrong version in version resource. (InterBase 7.1 Service Pack 1)
174698	Statement.cancel() does not cancel long running statement. (InterClient)
177999	Restore of database generates error.
178624	GPRESQL program causes crash on SMP.
178971	ODBC driver install on Linux does not install ODBC drivers. (InterBase 7.1 Service Pack 2)
179926	PLAN syntax don't work with InterBase 7.1 Service Pack 1 version.
180322	Insert into large database causes corruption of indexes as shown by gfix -v -full. (InterBase 7.1 Service Pack 2)
180812	Each time a client tries to connect to a server, if the server name is wrong, or the system cannot resolve the host name, small amounts of memory can be leaked by the application attempting to make the connection.
183158	license.txt updated.
186832	Hyperthreaded CPUs not recognized. (InterBase 7.1 Service Pack 2)
188209	ODBC Drivers install via console option on Solaris installs all files to /tmp. (InterBase 7.1 Service Pack 2)
188211	GUI install of ODBC on Solaris halts near the end of the install.
190062	Cascading update causes server to crash.
191437	java.sql.DatabaseMetadata.getImportedKeys() returns space padded values for the FK_NAME column. (InterClient)
191438	java.sql.DatabaseMetaData.getTypeInfo() returns REAL for FLOAT fields. (InterClient)
191537	The java.sql.ResultSetMetaData will return 1111 (OTHER) for an array column. (InterClient)
191852	Wrong index reported on constraint violation discovery. (InterBase 7.1 Service Pack 2)
191853	Client disconnect while running stored procedure causes server crash. (InterBase 7.1 Service Pack 2)

For InterBase 7.5:

Bug Number	Description
192483	Index keys lost due to UPDATE rollback and garbage collection. (InterBase 7.1 Service Pack 2)
192584	Wrong error code reported on unique index key violation. (InterBase 7.1 Service Pack 2)
192632	FETCH operation from large resultset is 3 to 30 times slower in IB 6-7.1 clients when compared to IB5.6 client. (InterBase 7.1 Service Pack 2)
194424	DatabaseMetaData.getIdentifierQuoteString() returns "even SQLDialect is not 3. (InterClient)
194728	Custom install does not install ib_license.dat, ibconfig and ibmgr.cpl.
196811	Events not recognized with Windows 2000 Service Pack 4.
198047	Canceling attachment while a query is running no longer causes the server to be hung. (InterBase 6.5, 7.1 Security Update)
198313	0 values stored in Numeric field which have been multiplied by -1 are searched incorrectly when an index is used.
198572	SQL statement with many, many operands causes server to crash.
199674	Hop protocol fixed. (InterBase 6.5, 7.1 Security Update)
200754	InterClient connections with UTF8 character set fail. (InterClient)
201357	Operations which return I/O error for file with InterBase 6, result in a hang in the process when doing the same with InterBase 7.1.
202681	If you install the trial, uninstall the trial, then install Desktop the trial time period will be enforced.
203521	Corruption of non-unique indexes (SP2 applied).
203524	Descending indexes fixed.
204094	Repeatedly fetching blobs with InterClient no longer causes a server memory to grow.
205187	Interbase SuperServer 7.1 SP2 allows passwordless connections on behalf of SYSDBA.
205778	Memory leak in statementhandle. (InterClient)
206449	Make output in log file use long file name.
206633	When doing a long transaction, gfix -shut doesn't work properly.
206858	Server crashes with complicated query using multi-level views.
206876	Procedure memory leak.
207481	Index corruption issue resolved.

For InterBase 7.5:

Bug Number	Description
208845	Make output to log file for corrupted index indicate the index name instead of number.
209008	Using a UNION view in a sub-select crashes server.
209390	UpdateConflictException and LockConflictException were documented as being exceptions that could be raised. (InterClient)
209772	interbase.log contains a bunch of 10093 errors when the server is shutdown.
216189	Error codes different for type 4 driver than for type 3 driver. (InterClient)
216785	Group on view causes internal gds software consistency check (attempt to release free block).
216810	Passing null to rows clause causes server crash.
216836	Restoring a database with a bad plan causes server to crash.
216838	Stored Procedures can have invalid plans.
217288	Some International characters don't work in SQL statements. (InterClient)
217539	Heavy index inserts causes internal gds consistency check.

Bugs Fixed in InterBase 7.1

For InterBase 7.1:

Bug Number	Description
58838	Self joins sometimes produced incorrect results.
58982	UDFs can no longer be dropped if a stored procedure depends on them.
59009	There is now a DROP GENERATOR command.
60175	Command for setting password was given as SET_PASSWORD rather than SET ISC_PASSWORD.
60370	Examples of constructing tpb parameters are now correct in Transactions chapter of API Guide.
60532	Developer's Guide now include section on how to declare a Blob UDF.
64535	Abbreviated forms of user and password switches for gbak are now correct.

For InterBase 7.1:

Bug Number	Description
76360	gbak can now restore databases that have non 7-bit ASCII characters as the default, or in CHECK values
114436	SHOW GENERATORS now works correctly in isql.
116325	Docs now give correct name and location of the InterBase UDF library.
122246	Continuous alternate execution of two non-SELECT stored procedures now runs without error.
123504	gbak -r -no_validity now works with NOT NULL constraints.
125652	Declaration for external function ascii_char has been fixed in code and docs.
125988	Queries with ORDER BY and GROUP BY now work as expected when a table is joined with the result set from a stored procedure.
127852	The Easysoft ODBC driver now finds the <i>ib.hlp</i> file.
135054	current_date, current_time, and current_timestamp now work in stored procedures.
139709	Rollback of an update after creating a unique index no longer has the potential to create duplicate keys in the index.
141235	Using a trigger to delete a row prior to an update no longer corrupts the database.
146833	gbak now does not validate a database when restoring unless specifically requested to do so. This makes it possible to restore a database that was corrupt when backed up.
148790	When a Blob with sub_type 1 is created and used in a VIEW with UNION ALL the sub_type is set wrong.
149819	SELECT from TMP\$RELATIONS no longer gives consistency check.
151283	Fixed problem with subselects in stored procedures.
151517	CREATE VIEW now allows large metadata names.
152420	Databases can now grow larger than 4GB on Linux.
152515	Fixed problem with using COMPUTED BY with procedural views.
152584	The "Working with Generators" chapter of the Data Definition Guide now describes using GEN_ID() with SELECT.
152760	Outdated references to database file size limits have been removed from the Operations Guide.
152891	Description of the tanh function in the InterBase UDF library has been corrected.
153053	[duplicate bugs] Large merge sorts no longer cause server crash.

For InterBase 7.1:

Bug Number	Description
153075	RDB\$FIELD_LENGTH now reports correct value for VARCHAR fields after ALTER TABLE.
153369	InterBase client event registration across a firewall now works.
155890	Generators now restore with correct values after backup even if there are spaces in the generator name.
155995	A NULL in a date column could sometimes crash the server; fixed.
156443	Fixed problem with CREATE TABLE statements using arrays of more than ten dimensions.
157405	InterBase connection speed has been improved on SMP boxes running Windows Server 2003.
157554	Maximum number of tables per database corrected to 32,640 in the "Limits" appendix of the Operations Guide.
163883	Enable Intel hyperthreading processors for the InterBase server using a parameter in <i>ibconfig</i> , the InterBase configuration file.
165415	Description of third argument to <i>substr</i> UDF has been corrected in the <i>Developer's Guide</i> .

Bugs Fixed in InterBase 7.0

For InterBase 7.0:

Bug Number	Description
58806	The Blob is read correctly in the example stat7.e.
58842	Fixed situation where multi-user applications on NT machines could start processes so quickly that the server listener thread was overwhelmed and refused attachments.
58862	UDF function ltrim now returns correct data.
58883	Data selected from an external file is now returned correctly.
58932	IB numbers have been assigned to gbak error messages.
58963	IB server no longer fails on NT when a trigger is dropped or altered to be inactive.
58967	Crash of UDF function no longer causes IB server to crash.
58981	External file locks are now released when the connection is closed.
58987	isql script no longer crashes server.

- 60059 Specifying a default value in a column defined with a domain no longer causes the default value to propagate to subsequent columns defined with that domain.
- 60109 Repeatedly executing a stored procedure no longer crashes IB server.
- 60151 `gfix -sweep` no longer causes IB server to crash.
- 60232 Two of the examples, *api13.c* and *api16.c*, have been fixed.
- 60313 Queries no longer continue running after client disconnects.
- 60353 Certain TPB parameters that caused the IB server to crash have been fixed.
- 60494 UDFs release memory properly.
- 60547 Install process recognizes when an IB server is running and gives appropriate message.
- 69521 DATE math (addition and subtraction) returns correct results.
- 76342 Install API no longer overwrites the security database.
- 85863 Rollback performs correctly on an AFTER UPDATE trigger.
- 97500 Maximum index key size for single field keys has been corrected to 252 bytes with additional explanatory material added.
- 100443 DROP VIEW no longer drops tables, DROP TABLE no longer drops views.
- 105375 Change the data type of the IB password saved in the registry by IBReplicator from REG_SZ to REG_BINARY.
- 111916 Licensing chapter that was removed from the Operations Guide has been reinstated.
- 111973 `isc_license_*` functions were reinstated in the API Guide.
- 112969 The linux connect example had an incorrect colon after "localhost".
- 116273 Fixed typo in server activation license as displayed in IBConsole 334.
- 122284 ComponentStartApplicationError installing IB under Windows 98.
- 122385 ROWS keyword now takes its result set after aggregate functions are executed.
- 123280 Calling `substr()` UDF with 'ACHAR' IB server crash fixed.
- 123396 Uninstalling InterBase now removes Start | Programs | InterBase.
- 123397 Uninstalling IB removes the correct files.
- 123464 Uninstalling IB removes InterBase Server Manager.
- 123563