FBScanner Feature Matrix

FBScanner monitors all traffic between Firebird and InterBase servers and their client applications and gives IT Pro and developer ability to find the reasons and sources of:

- Slowdowns
- Errors (incl 10054 and 10038 errors)
- Hanged and bad queries
- and almost all other performance bottlenecks related with queries, plans and transactions

FBScanner also can log all SQL/users/connection activities to the external Firebird database and perform a number of unique administrative tasks. Only FBScanner can actually **log** ALL SQL statements and perform 100% **audit** of what happened in database.
FBScanner can work as a gate at computer with Firebird/InterBase (Windows only), or can be installed at remote computer and work with Firebird at all supported operation system (Windows, Linux, Mac OS X, HP-UX, etc).
To give you better understanding about powerful features of FBScanner version 2.6 we have listed all of them into the table below:

#	Feature description	FBScanner mode	
		Agent	Remote
	Operation Systems Support		
	Windows	**X**	**X**
	Linux, Mac OS X, Free BSD		**X**
	Firebird and InterBase versions supported		
	Firebird 1.0, Yaffil 1.0 (including logging)	**X**	**X**
	Firebird 1.5 (including logging)	**X**	**X**
	Firebird 2.0 (including logging)	**X**	**X**
	Firebird 2.1 (including logging)	**X**	**X**
	New in 2.6. Firebird 2.5 (including logging + SuperClassic support)	**X**	**X**
	InterBase 6.0-2007 (including logging)	**X**	**X**
1	**Connections**		
01.01.09	***Information about established connections in the FBScanner Viewer:***		
	Firebird/InterBase user login	**X**	**X**
	IP-address or computer name	**X**	**X**
	Connection time and time of the latest activity	**X**	**X**
	Priority of processes (only for Classic architecture)	**X**	

1.2	***Connection management (requires logging to FBScanner Viewer with Admin rights)***		
	Safe disconnect of one or several connections using TCP/IP connection interruption (imitation of 10054 error)	**X**	**X**
	Changing of processes priority in Classic architecture (for example, to adjust priority of long running report or something like this. Using tags administrator can recognize connection where report is working – see below in "Tags")	**X**	
	Automatic priority settings for Firebird with Classic architecture. In FBScanner configuration administrator can set up automatic correspondence: • Specified IP or subnet of IPs – set priority X • Specified hostname – set priority X • Specified database name – set priority X • Specified user login name – set priority X	**X**	
	Killing of Classic processes, not recommended to use, but sometimes it is helpful	**X**	
	Ability to restrict all connections (to perform some operations which require exclusive access)	**X**	**X**
	Filtering connections viewing using all connections parameters (except time information)	**X**	**X**
	New in 2.6. White and black list of databases to connect for username	**X**	**X**
	New in 2.6. White and black list of IPs (clients) for username	**X**	**X**
	New in 2.6. Restriction of connections # - administrator can limit the number of connections for username	**X**	**X**
	New in 2.6. Emulation of "Wrong login/password" error for denied connections	**X**	
1.3	***Logging events related with connections***	**X**	**X**
	FBScanner logs unsuccessful login attempts in the FBScanner.log. For each unsuccessful login attempt FBScanner writes the following information: IP-address, login name, database and time of login attempt.	**X**	**X**
	If connection was broken (10054 error), FBScanner determines and logs one of the 5 type of disconnects: 1) Client application was closed improperly (for instance, application was closed by Task Manager) 2) Connection was closed by time-out (it's possible to set forced disconnect in FBScanner to close connect by time-out too) 3) Server crashed (fbserver or fb_inet_server crashed) 4) Server process (fbserver or fb_inet_server) was killed from the FBScanner 5) Disconnect of connections from FBScanner Viewer	**X**	**X**

	For all cases above FBScanner writes the IP-address of disconnected client(s) and the reason of disconnect. This is very useful feature to find and eliminate 10054 errors.		
2.	**Transactions**		
2.1.	***Transactions are shown inside appropriate connections***		
	Transactions' flags	**X**	**X**
	Lifetime of transactions	**X**	**X**
	Using OAT button you can find the oldest active transaction in real-time and review related connection/queries	**X**	**X**
3.	**Queries (statements)**		
3.1	***Information about queries (statements)***		
	Start time	**X**	**X**
	Query text	**X**	**X**
	Transaction of the query	**X**	**X**
	Status (prepare/execute/...)	**X**	**X**
	Filtering by statement status (by default Closed statements are hidden)	**X**	**X**
	Instant CPU load indicator	**X**	
3.2	***Additional operations with queries***		
	Ad-hoc plan extraction for queries • Can be performed for all connections (should be set ON in FBScanner configuration utility) • Can be turned ON/OFF for selected connection only in the FBScanner Viewer In both cases plans will be logged to the overall log if logging is ON	**X**	**X**
4.	**Tags**		
	Tags allow to assign readable identifiers (names) to Connections, Queries and Transactions. You just need to add these commentaries: SELECT COUNT(*) FROM RDB$DATABASE /* **FBSCANNER$CON_NAME**=My_application; **FBSCANNER$TR_NAME**=Read_only_transaction_N1; **FBSCANNER$ST_NAME**=Customers_list_query; */	**X**	**X**
	FBSCANNER$CON_NAME= sets the name of connection. After the first assignment this name will be kept during the whole connection life.	**X**	**X**
	FBSCANNER$TR_NAME= sets the name of transaction. After the	**X**	**X**

	first assignment this name will be used during the whole life of transaction		
	FBSCANNER$ST_NAME= sets the name of query.		
	Tags are showed in special column in FBScanner Viewer	**X**	**X**
	It's possible to filter tags by their names	**X**	**X**
	Tags are useful to quickly answer the following frequent questions: • What program has launched this query? (developers need to mark with FBSCANNER$CON_NAME tag each database connection) • What is the transaction for this query? (developers need to use FBSCANNER$TR_NAME tag to mark transactions) • What is this very long query? (developer can mark long queries with readable names like "Annual report")	**X**	**X**
5.	**Logging**		
	Logging allows to intercept all queries and write them to the external Firebird database. FYI, logging cannot be replaced with Firebird 2.1 or InterBase system tables, because they provide only snapshots of programs.	X	X
	Connections, queries and transactions are logged	X	X
	All executed queries are logged (only prepared queries skipped)	X	X
	Queries are stored with information about their connection and transaction	X	X
	All transactions are logged, even rolled back. Transaction log record has column RESULT which shows was transaction committed or rolled back.	X	X
	If plan extraction is on, queries plans are logged too	X	X
	New in 2.6. Automatic creation of database for logging	X	X
	New in 2.6.Automatic creation of tables to logging in any Firebird database	X	X