Firebird 2.5 Architecture Comparison

Bold = New in Firebird 2.5				
	SuperServer (SS)	**SuperClassic (SC)**	Classic (CS)	Embedded
Architecture	Not applicable	**New in 2.5**	Not applicable	**SC**
Executable	fbserver	fb_inet_server -m (Windows) fb_smp_server (POSIX)	fb_inet_server	fbembed.dll (Windows) libfbembed.so (POSIX)
Process/connection model	* Single process per instance * Multiple (pooled) worker threads	same as SS	* Single process per connection * Separate worker threads for automatic sweep and Services API requests per process	Server process runs in the application address space
Cache model	Shared page and metadata cache per database	Non-shared page and metadata cache (= private per connection) per database	same as SC	**same as SC**
Max. cache size per database	PageSize * PageBuffers	PageSize * PageBuffers * Number of connections	calculated as in SC	**calculated as in SC**
Max. cache size per instance	Cache size per database * Number of databases per instance	calculated as in SS (1)	calculated as in SC (1)	**calculated as in SC (1)**
Max. cache size per server	Cache size per instance * Number of instances	calculated as in SS (2)	calculated as in SC (2)	**calculated as in SC (2)**
Utilize simultaneous connections per database to SMP	No (3)	Yes	Yes	**Yes (4)**
Utilize simultaneous connections for different databases to SMP	Yes	Yes	Yes	**Yes**
Utilize sweep to SMP	No	Yes	Yes	**Yes**
Utilize Services API requests to SMP	Partially (5)	Yes	Yes	**Yes**
Exclusive lock on database file	Yes	No	No	**No (6)**
Client library is thread-safe	**Yes**	**Yes**	**Yes**	**Yes**
List of attached databases/users via API	Yes	Yes	No	Yes
Cached security database connection per instance	Yes	Yes	No	Yes
Instance can be safely shutdown as a whole	Yes	Yes	No	Yes
Terminates all connections upon instance crash	Yes	Yes	No	Yes
Connection protocol used in multi-threaded applications	**Any (7)**	**Any (7)**	**Any (7)**	Not applicable
Targeted OS (32 vs. 64-bit)	64-bit (8)	64-bit (8)	32 / 64-bit	32 / 64-bit (8)
Configurable Port for event notification	Yes (9)	Yes (9)	**Yes (9)**	Yes (9)
Immediately detection of broken database connection	Yes	Yes	**Yes**	Yes
1) But max. cache size per database can be higher, thus resulting in a higher max. cache size per instance as in SS				
2) But max. cache size per instance can be higher, thus resulting in a higher max. cache size per server as in SS				
3) Requests to the same database are serialized internally				
4) If a separate connection per thread is used				
5) Service request may call back into the engine thus again being serialized				
6) In Firebird 2.5 it is possible now to share one database between several Embedded connections and/or regular server connection, when SC or CS is used				
7) TCP/IP, NetBeui, or local. Prior 2.5, TCP/IP was mandatory				
8) Runs fine on 32-bit as well, although the max. cache size per instance may be limited due to the 32-bit address space				
9) Via RemoteAuxPort in firebird.conf				