ARB Memory (RAM) Requirements for the SILVA rRNA Databases

		32-bit - 2 GB RAM		32-bit - 4 GB RAM		64-bit > 4 GB RAM	
DB name	number of sequences	open DB	build PT_SERVER	open DB	build PT_SERVER	open DB	use PT_SERVER
SILVA SSU Parc 106	1.963k	**no**	**no**	**no**	**no**	yes (15.6 GB)	yes (+>16 GB)
SILVA SSU Ref 106	556k	**no**	**no**	**no**	**no**	yes (4.7 GB)	yes (+6.7 GB)
SILVA SSU Ref 104	512k	**no**	**no**	yes (2.5 GB)	**no**	yes (4.1 GB)	yes (+6.1 GB)
SILVA SSU Ref 102	461k	**no**	**no**	yes (2.2 GB)	**no**	yes (3.8 GB)	yes (+5.5 GB)
SILVA SSU Ref 100	410k	**no**	**no**	yes (1.9 GB)	**no**	yes (3.3 GB)	yes (+4.8 GB)
SILVA SSU Ref 98	370k	yes (1.7 GB)	**no**	yes (1.7 GB)	**no**	yes (2.9 GB)	yes (+4.4 GB)
SILVA SSU Ref 106 NR	326k	yes (1.6 GB)	**no**	yes (1.6 GB)	yes (25 passes)	yes (2.9 GB)	yes (+3.3 GB)
SILVA SSU Ref 102 NR	262k	yes (1.3 GB)	**no**	yes (1.3 GB)	yes (25 passes)	yes (2.2 GB)	yes (+3.3 GB)
LTP SSU 104 (type strains)	8,5k	yes (60 MB)	yes (1 pass)	yes (60 mB)	yes (1 pass)	yes (150 MB)	yes (+140 MB)
LTP LSU 102 (type strains)	0,8k	yes (21 MB)	yes (1 pass)	yes (21 MB)	yes (1 pass)	yes (80 MB)	yes (+62 MB)
SILVA LSU Ref 106	21k	yes (160 MB)	yes (1 pass)	yes (160 MB)	yes (1 pass)	yes (270 MB)	yes (+510 MB)
SILVA LSU Parc 106	231k	yes (970 MB)	**no**	yes (970 MB)	yes (5 passes)	yes (1.7 GB)	yes (+2.4 GB)

This table is intended to give you a rough idea on what is possible and what not. As soon as you enter the transition zone from yes to no, the final result strongly depends on your particular system.
The larger amount of RAM required to open a database in a 64-bit environment is no typo! The 64-bit memory pointers are larger, therefore more RAM is required for the same task.

The 32-bit test systems are both based on Ubuntu 10.04 LTS (desktop).
The 64-bit test system is based on Ubuntu 10.04 LTS (a server with 128 GB of RAM).

For 32-bit systems, the required amount of RAM is only given for opening databases. For the PT_SERVER it is indicated if it can be build on such a system.
There are different symptoms for non-building PT_SERVERs. For example, the process can not be started at all or it crashes after the final pass - the behaviour depends on your particular system.
Also later parallel starting of a corresponding PT_SERVER requires a significant amount of additional RAM (values are only provided for 64-bit systems).
Please note, the number of passes (time) required to build a PT_SERVER on a 64-bit system depends on the absolute amount of RAM available.

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