

Networking IO

The following blocking operations are *virtual thread friendly* in the current prototype; these methods do not pin the carrier thread when the operation blocks.

API	Blocking Methods	Notes
java.net.Socket	connect, read, write	
java.net.ServerSocket	accept	
java.net.DatagramSocket/MulticastSocket	receive	
java.nio.channels.SocketChannel	connect, read, write	socket adaptor connect, read, and write also okay
java.nio.channels.ServerSocketChannel	accept	socket adaptor accept also okay
java.nio.channels.DatagramChannel	read, receive	socket adaptor receive also okay
java.nio.channels.Pipe.SourceChannel	read	
java.nio.channels.Pipe.SinkChannel	write	

The following blocking operations pin the carrier thread when the operation blocks. These blocking operations do use the ForkJoinPool.ManagedBlocker mechanism (in the case of default scheduler at least) to temporarily extend the parallelism until the blocking operation completes.

API	Methods	Notes
java.net.InetAddress	getByName, getAllByName, ..	An alternative name service implementation for InetAddress has been prototyped in the sandbox (aefimov-dns-client-branch) is virtual thread friendly. TBD if this will be proposed as a JEP. A service provider interface will be introduced to make it possible to deploy name service implementations that do not pin the carrier thread during lookups.
java.nio.channels.Selector	select	Selection operations are specified to synchronize on the selector and the selected-key set. May not be a concern as code using virtual thread should not need to use non-blocking I/O and Selectors. The number of Selectors is typically small anyway.