

23. The method of claim 10 or claim 22, wherein the second time interval is longer than the first time interval.

24. The method of any one of claims 1 to 10, 13 to 23, wherein the first time interval is less than one second.

25. The method of any one of claims 1 to 10, 13 to 24, wherein the processing further includes: holding any locks obtained on the data items until the transaction being processed is committed, aborted, or restarted; and releasing the locks on the data items when the transaction being processed is committed, aborted, or restarted.

26. The method of any one of claims 1 to 10, 13 to 25, wherein the locks on the data items include at least two states including a single unlocked state and one or more locked states.

27. The method of claim 26, wherein obtaining a lock on a data item includes changing the state of a lock associated with the data item into one of the locked states.

28. The method of any one of claims 26 to 27, wherein releasing a lock on a data item includes changing the state of a lock associated with the data item from one of the locked states into the unlocked state.

29. The method of any one of claims 26 to 28, wherein the locks on the data items include at least one exclusive locked state that permits only a single process full access to a locked data item.

30. The method of any one of claims 26 to 29, wherein the locks on the data items include at least one shared locked state that permits multiple processes read-only access to a locked data item.

31. The method of any one of claims 1 to 10, 13 to 30, wherein at least some of the multiple processes are running asynchronously from each other.