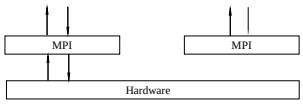
Automated Application-level

Compile Time

Run Time



event at [redacted]. If the number was generated after [redacted] took its checkpoint, then on restart, [redacted] and R may disagree on its value.

In general, we must ensure that if a global checkpoint depends on a non-deterministic event, that event will re-occur after restart. Therefore, mechanisms are needed to (i)

storage. It then starts writing a log of (i) every late message it receives, and (ii) the result of every non-deterministic decision it makes. Once a process has received all of its late messages[2], it sends a control message called *readyToStopLogging* back to the initiator, but continues to write non-deterministic decisions to the log.

Phase #3 When the initiator gets a *readyToStopLogging* message from all processes, it knows