Appendix B: Diagrams

Diagram D.1. Mapping Engine State

Key:
- normal transition
- expected recovery
- error recovery

(ie decreasing likelihood of traversal)

Arc labels are of form:
INPUT / ACTION
When the / ACTION is missing this indicates that no action is taken.
ACTION can be the name of a protocol message, which is output.
INPUT can be the name of a protocol message, or a timeout.

Discover flavors:
Discover acking: seenlist does contain this responder's address

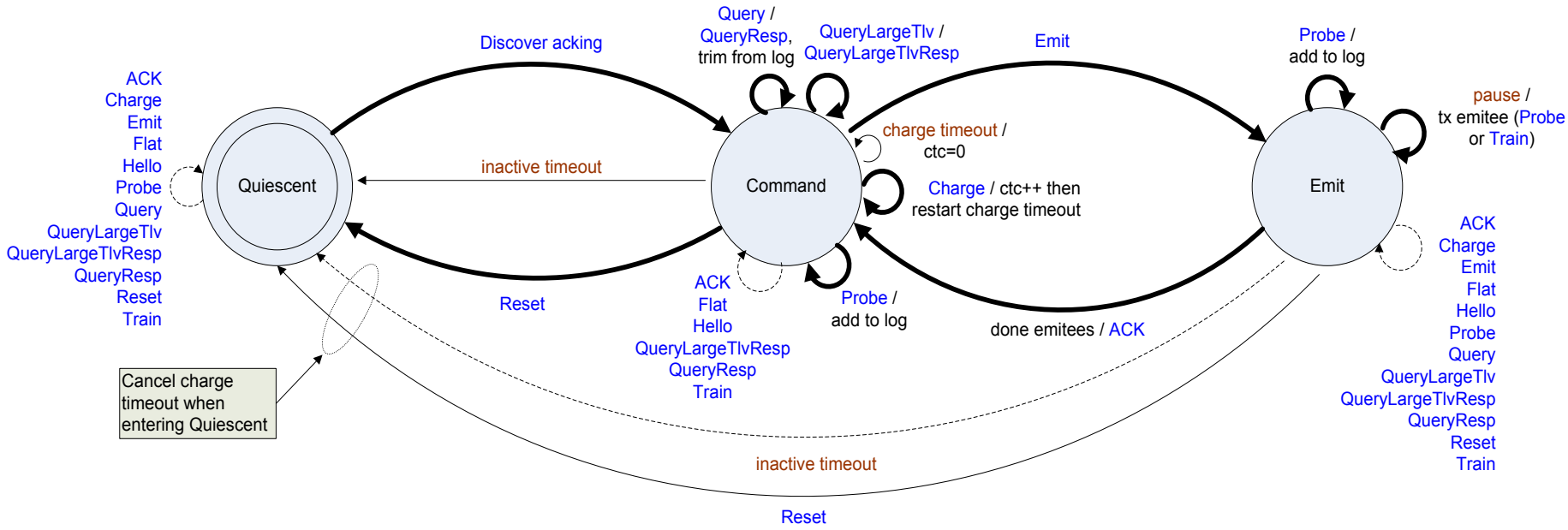

Diagram B.2. Enumeration Engine State

Key:
- normal transition
- expected recovery
- error recovery

(ie decreasing likelihood of traversal)

Arc labels are of form:
INPUT / ACTION
When the / ACTION is missing this indicates that no action is taken.
ACTION can be the name of a protocol message, which is output.
INPUT can be the name of a protocol message, or a timeout.

Actions:
ChooseHelloTime: Choose Hello time Th randomly from 0 .. Ni*I; if Th < Tb queue “hello timeout” for Th if none pending.
DoHello: For all sessions, if session is temporary delete it; else if session is pending decrement Txc(session) and mark as Complete if Txc(session) == 0; If topology session is marked as Complete, topology state machine DOES NOT transition to Command state
InitStats: N = Nmax; Txc(session) = TXC; begun = false; Queue “block timeout” for Tb.
ResetNi: Ni = Nmax; r = 0
UpdateStats: Value = RoundUp(r * N(old) * I / Ta);
Bound = RoundUp(N(old) * Gamma / (Beta * Alpha));
N(new) = Max(Bound, Min(100*N(old), Value)); r=0;
if (begun)
if (N < Nmax/2) N *= 2; else if (N < Nmax) N = Nmax;
begun = false;
Queue “block timeout” for Tb if none pending.

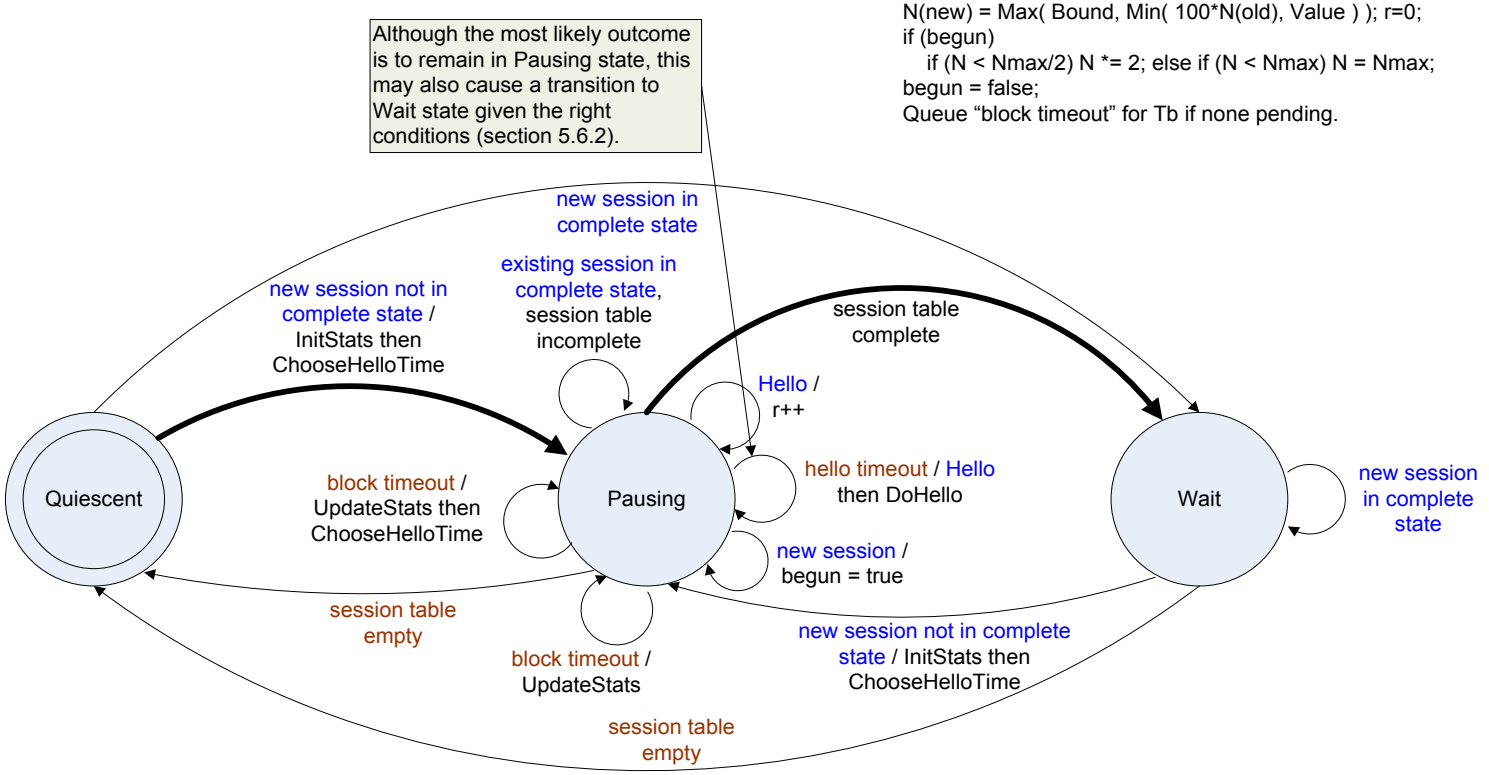

Diagram B.3. Session Table State

Key:
- normal transition
- expected recovery
- error recovery

(ie decreasing likelihood of traversal)

Arc labels are of form:
INPUT / ACTION
When the / ACTION is missing this indicates that no action is taken.
ACTION can be the name of a protocol message, which is output.
INPUT can be the name of a protocol message, or a timeout.

Discover flavors:
Discover conflicting: came from mapper other than associated one
Discover noack: seenlist DOES NOT contain this responder's address
Discover noack changed xid: seenlist DOES NOT contain this responder's address and xid defers from session table
Discover acking: seenlist DOES contain this responder's address
Discover acking changed xid: seenlist DOES contain this responder's address, and xid defers from session table