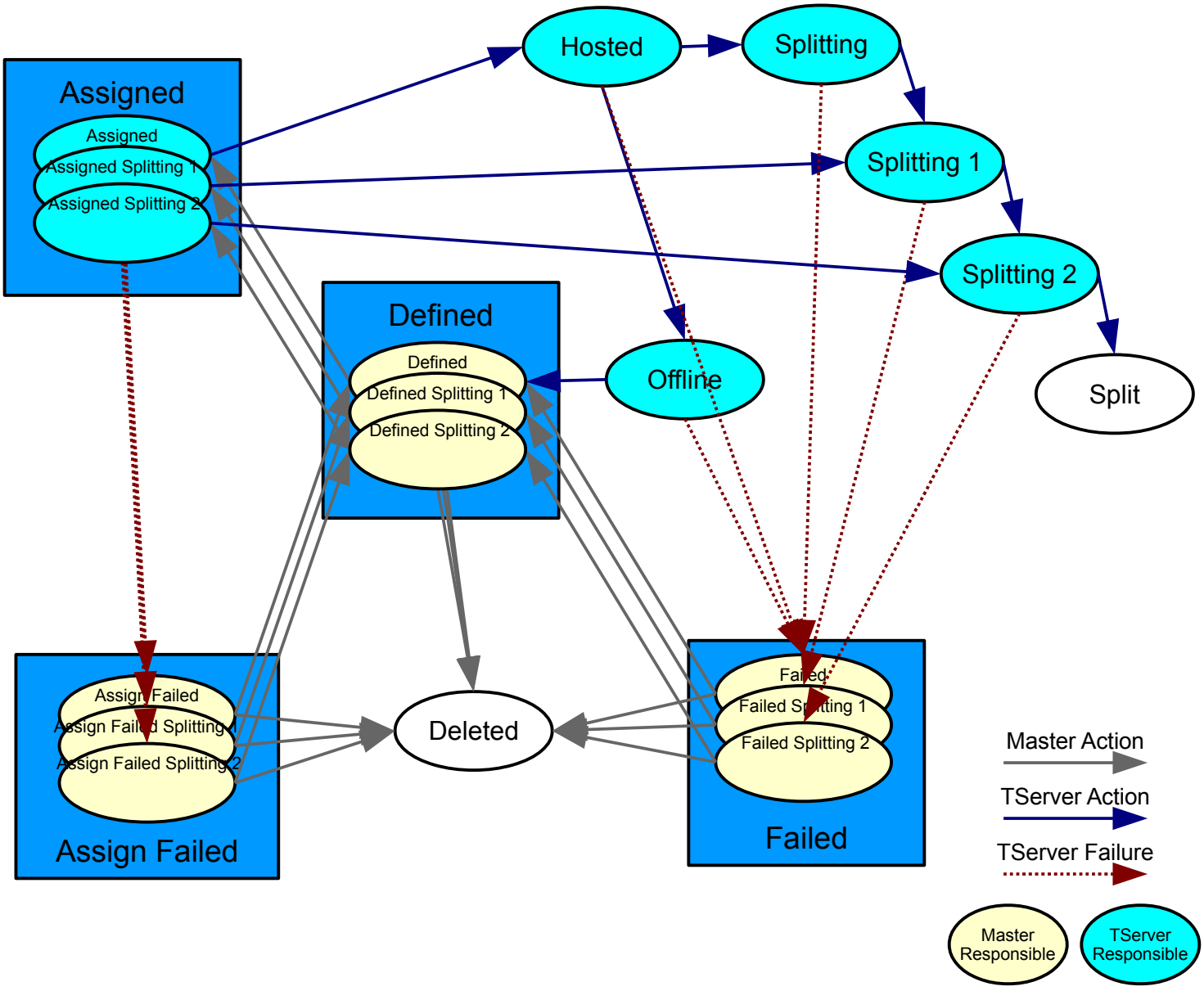
Tablet States



State Name	Identification Criteria	Responsible System	Possible Actions	Failure State
Defined	No loc or future column family	Master	1. If the table goal state is Online, then Assign Tablet by setting the future column family to the server to which it will be assigned and notify that tablet server. 2. If the tablet goal state is Deleted, then Delete Tablet by removing it from the metadata table.	No failure modeled
Failed	loc CF references failed TServer instance	Master	1. If the tablet goal state is Online, Offline, or Disabled, then remove the loc reference. 2. If the tablet goal state is Deleted then Delete Tablet by removing it from the !METADATA table.	No failure modeled
Assign Failed	future CF refers to failed TServer instance	Master	1. If the tablet goal state is Online, Offline, or Disabled, then remove the loc reference. 2. If the tablet goal state is Deleted then Delete Tablet by removing it from the !METADATA table.	No failure modeled
Assigned	future CF references TServer with a valid lock	future TServer	1. Always acknowledge hosting as either Host Tablet, Continue Splitting 1, or Continue Splitting 2 by deleting future CF and writing loc CF to the metadata.	Fails to Assign Failed when future TServer dies
Hosted	loc CF references TServer with a valid lock	loc TServer	1. If table goal is Offline or Disabled, or if Master has requested that Tablet be closed, then Close Tablet by minor compacting and moving it to the offline state. 2. Otherwise, if tablet is ready to split then Split Tablet by minor compacting and moving to the Splitting state	Fails to Failed state when TServer loses its lock
Splitting	loc CF references TServer with a valid lock, TServer is holding reads/writes to that tablet, tablet is large enough to split	loc TServer	1. Always, Mark Split by writing split info to metadata	Fails to Failed state when TServer loses its lock
Splitting 1	loc CF references TServer with a valid lock, metadata references split point	loc TServer	1. Always, Define Lower Tablet by writing row (end row, loc, directory, and files) to metadata table and creating a new Tablet in the Hosted state	Fails to Failed Splitting 1 when loc TServer dies
Splitting 2	loc CF references TServer with a valid lock, metadata references split, overlapping Lower Tablet exists in metadata table	loc TServer	1. Always, Define Upper Tablet by writing new prev end row to metadata table and creating a new Tablet in the Hosted state	Fails to Failed Splitting 2 when loc TServer dies
Split	No references to the tablet exist	nobody	-	-
Offline	loc CF references TServer with a valid lock, TServer is not responding to requests	loc TServer	1. Always, Remove loc CF from metadata	Fails to Failed state when loc TServer dies
Deleted	No references to the tablet exist	nobody	-	-