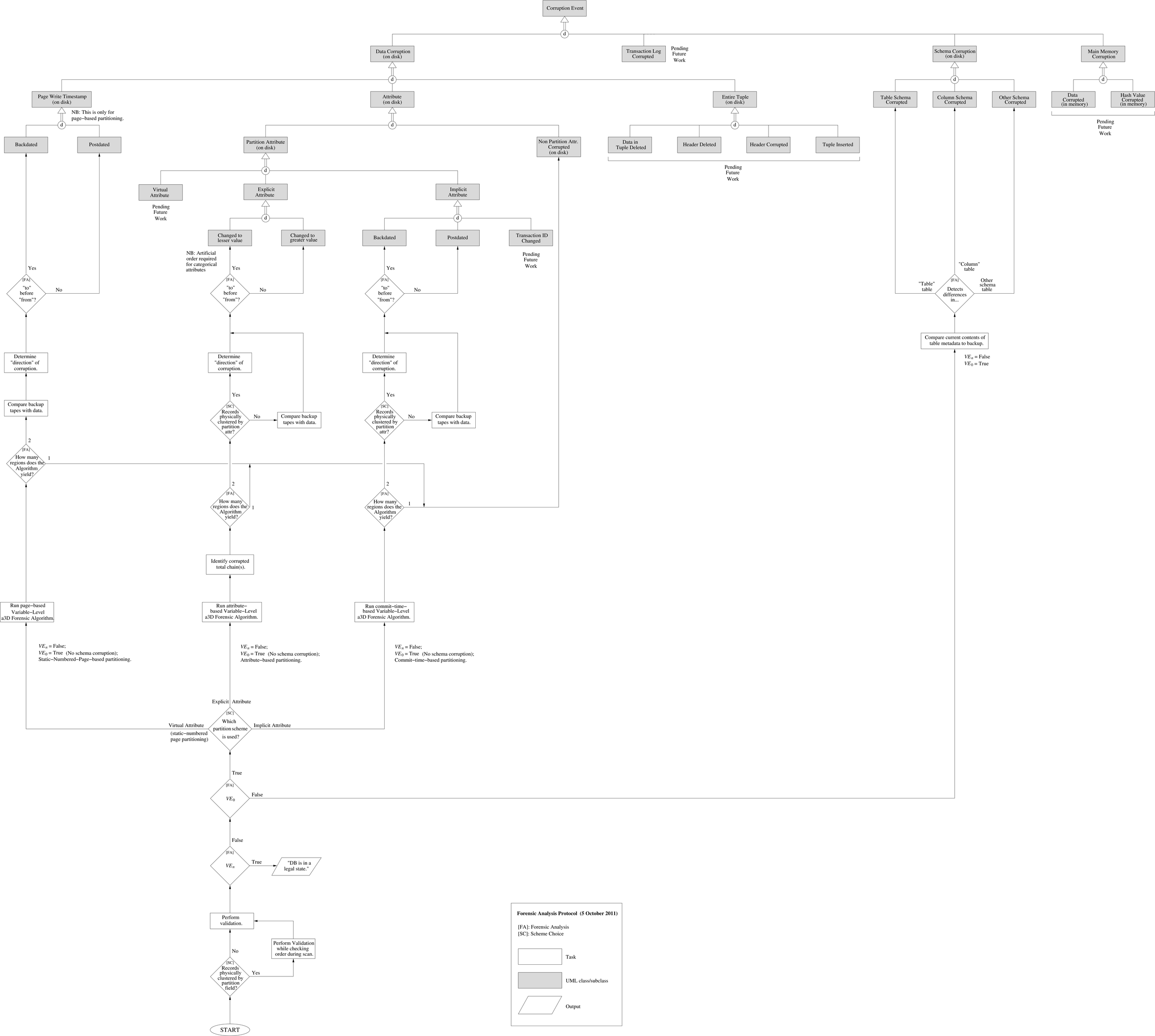
Corruption Event
d
Data Corruption (on disk)
Transaction Log Corrupted
Pending Future Work
Schema Corruption (on disk)
Main Memory Corruption
Page Write Timestamp (on disk)
NB: This is only for page–based partitioning.
Attribute (on disk)
Entire Tuple (on disk)
Table Schema Corrupted
Column Schema Corrupted
Other Schema Corrupted
Data Corrupted (in memory)
Hash Value Corrupted (in memory)
Backdated
Postdated
Partition Attribute (on disk)
Non Partition Attr. Corrupted (on disk)
Data in Tuple Deleted
Header Deleted
Header Corrupted
Tuple Inserted
Virtual Attribute
Explicit Attribute
Implicit Attribute
Changed to lesser value
Changed to greater value
Transaction ID Changed
NB: Artificial order required for categorical attributes
[FA] "to" before "from"?
Yes
No
Determine "direction" of corruption.
[SC] Records physically clustered by partition attr?
Compare backup tapes with data.
[FA] How many regions does the Algorithm yield?
1
2
Identify corrupted total chain(s).
Run page–based Variable–Level a3D Forensic Algorithm.
Run attribute–based Variable–Level a3D Forensic Algorithm.
Run commit–time–based Variable–Level a3D Forensic Algorithm.
VE_n = False;
VE_0 = True (No schema corruption);
Static–Numbered–Page–based partitioning.
VE_n = False;
VE_0 = True (No schema corruption);
Attribute–based partitioning.
VE_n = False;
VE_0 = True (No schema corruption);
Commit–time–based partitioning.
[SC] Which partition scheme is used?
Virtual Attribute (static–numbered page partitioning)
Explicit Attribute
Implicit Attribute
[FA] VE_0
True
False
[FA] VE_n
"DB is in a legal state."
Perform validation.
Perform Validation while checking order during scan.
[SC] Records physically clustered by partition field?
No
Yes
START
"Table" table
"Column" table
Other schema table
[FA] Detects differences in...
Compare current contents of table metadata to backup.
Forensic Analysis Protocol (5 October 2011)
[FA]: Forensic Analysis
[SC]: Scheme Choice
Task
UML class/subclass
Output