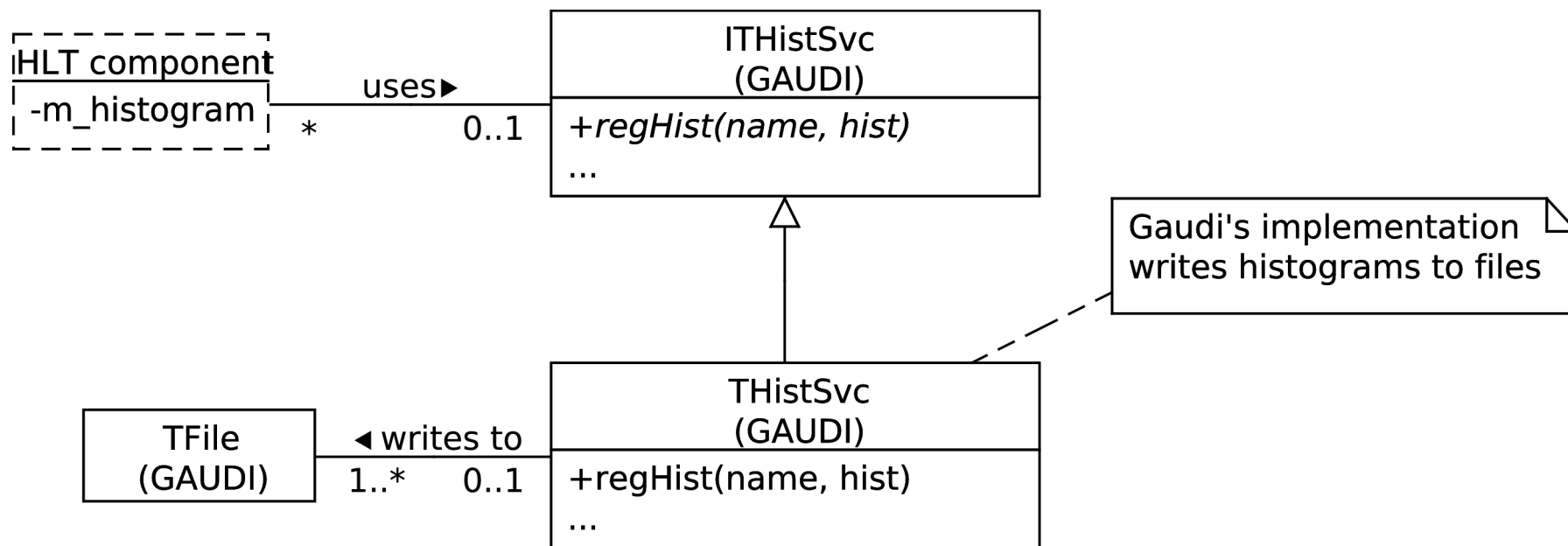


# Online Histogramming in athenaHLT

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Trigger Core Software

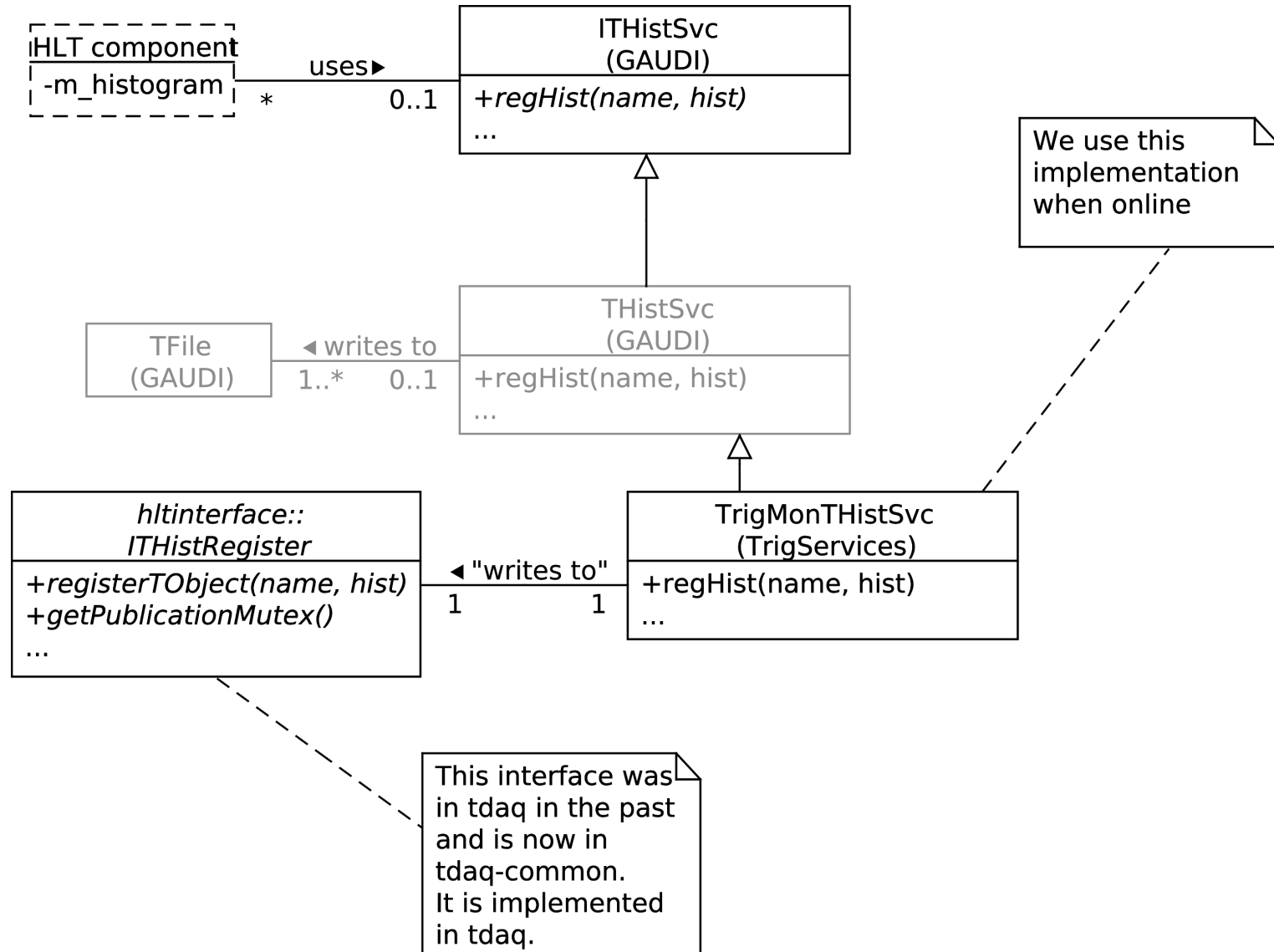
# Background

- When running offline, histograms are simply written to files



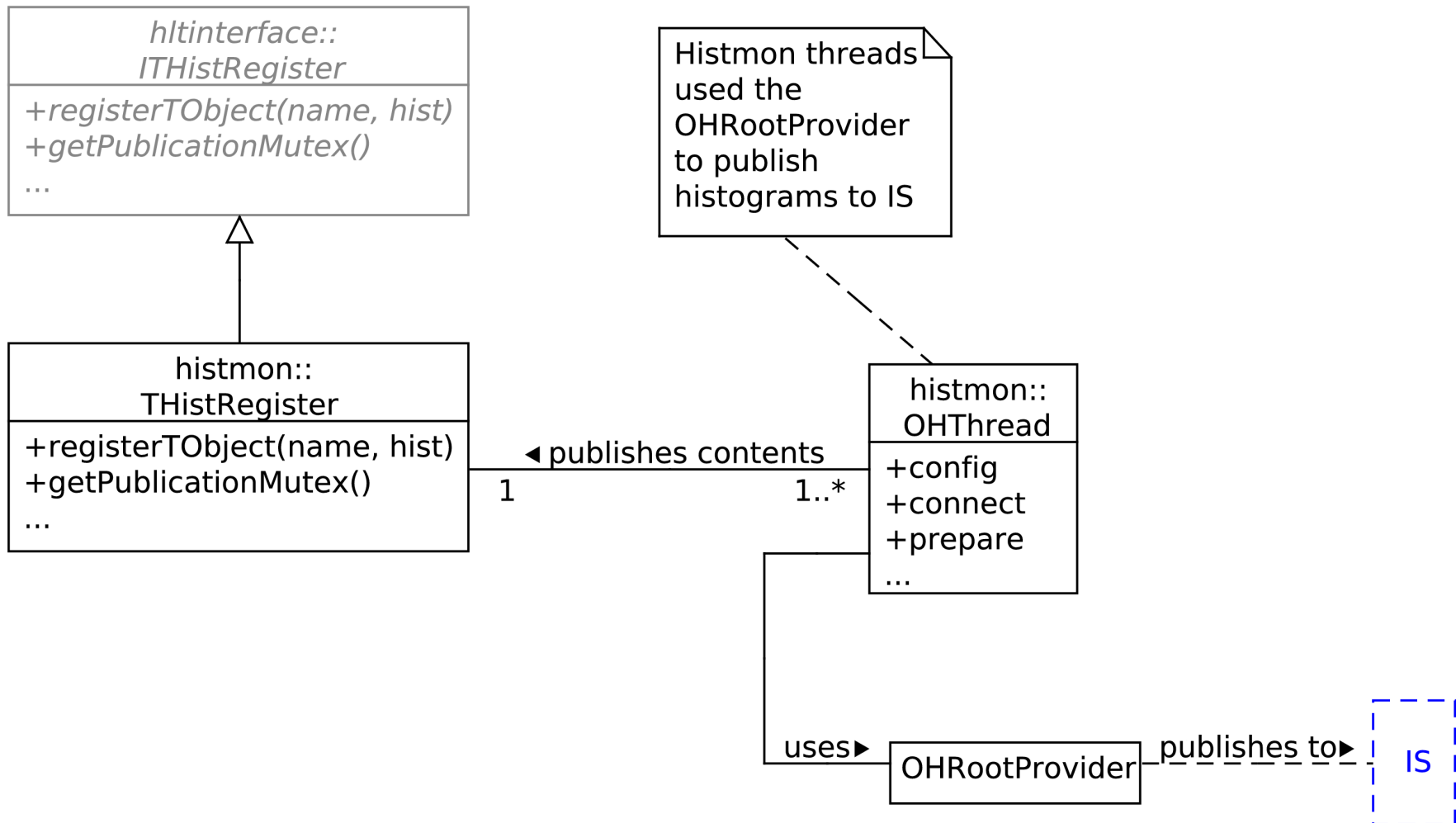
# Publishing Online

- When running online, histograms have to be published to IS



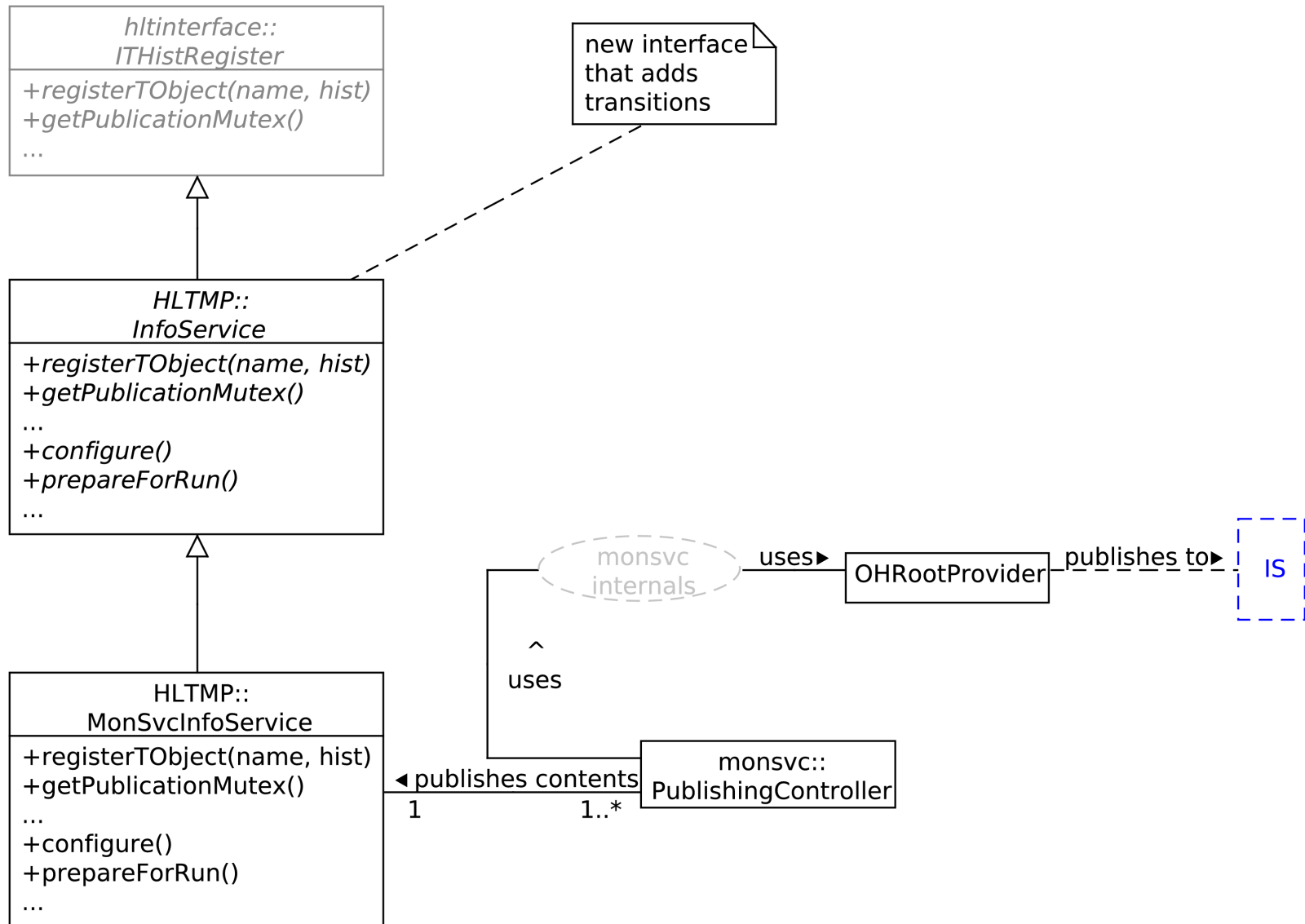
# Old Implementation

- In Run 1, publishing was implemented by histmon, on the TDAQ side

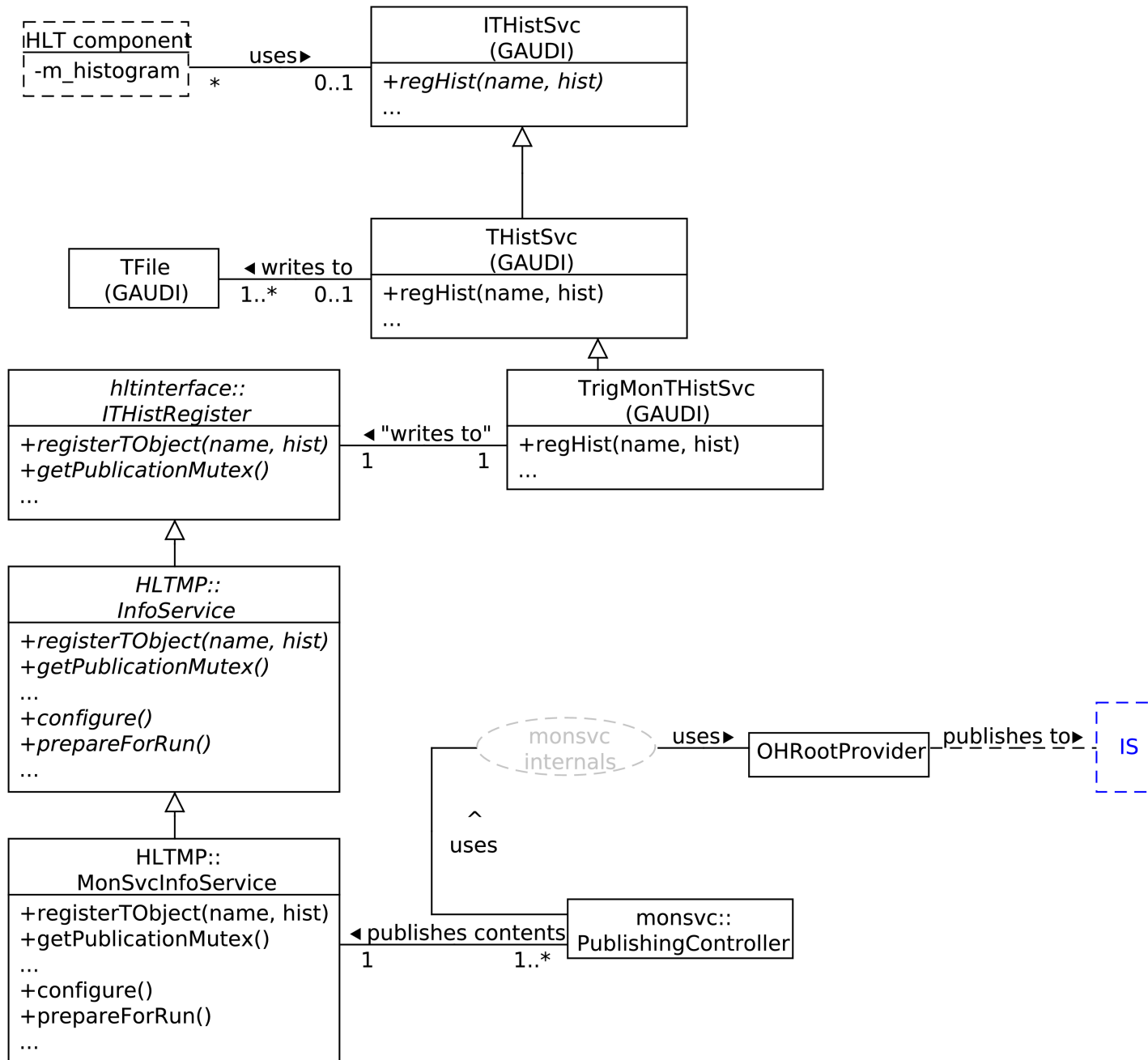


# New Implementation

- New scheme relies on monsvc and has an additional step



# Complete Scheme



# athenaHLT... (1)

- ... initializes IPC in its own process – `IPCCore::init`
- ... uses custom `ipc_init.ref` by default (but supports a user `ipc_init.ref`)
- ... launches necessary external processes and waits for their output:
  - Initial IPC server
  - IPC server for custom partition
  - IS Histogramming server
  - OH Display if desired
- ... reuses processes if there are any in the same IPC domain
- ... cleans up processes and `ipc_init.ref` in the end and...
  - ... in case of abnormal situations (exceptions, signals)

# athenaHLT... (2)

- ... chooses TrigMonTHistSvc instead of ThistSvc
  - This is actually the default in the HLT – athenaHLT adds the precommand `include("TrigServices/OfflineTHistSvc.py")` to the configuration ptree when offline monitoring is desired
- ... loads the MonSvcInfoService lib
  - This is configurable at the moment – option can be removed in the future when all of this settles
- ... implements python bindings for the InfoService type
- ... configures and steers the InfoService – some new options:
  - `--histogram-exclude`
  - `--histogram-include`
  - `--histogram-publishing-interval`
- ... saves IS contents at the end of a run
- ... has high coverage of all of this in automatic tests