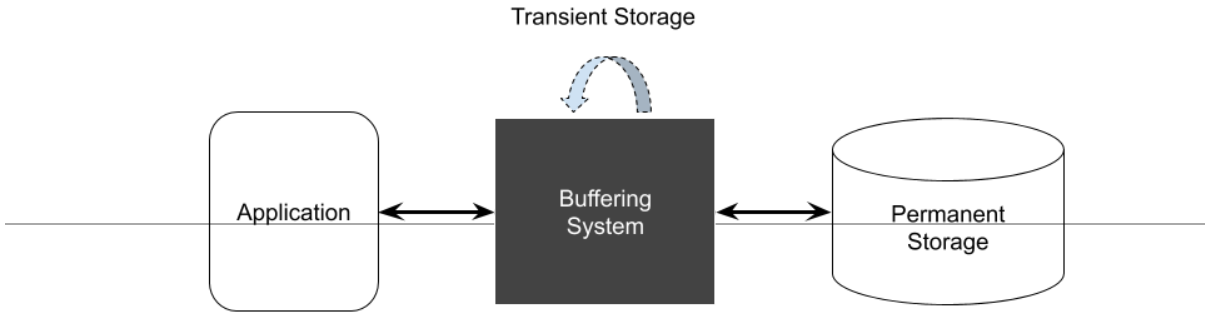
Buffering System

The Hermes *buffering system* uses a (logical) memory device to compensate for the differences between the data production or consumption rates and the latencies of an application and permanent storage. In the absence of permanent storage, it can act as transient storage. (See Model 0.)



The internals of the buffering system are hidden (black box) from the application and the permanent storage. There is a fixed number A of application ports through which the application can send/receive data to/from the buffering system. There is a fixed number S of permanent storage ports through which the storage can send/receive data to/from the buffering system. (See Model 0.1) In its implementation, the Hermes buffering system utilizes tiered storage where each tier consists of one or more storage devices that share certain characteristics. (See Model 0.2)

- How do we configure a buffering system?

- How do we control a buffering system?
  - Policies
- How do we measure the performance of a buffering system?
  - Compare to the performance of the un-buffered system!

This (old) definition has all the key ideas: *Buffer,..a memory device used to compensate for a difference in the rate of flow of information in the different parts of a computing system*. Samuel Handel: Dictionary of Electronics, 1962, p. 40

- Difference in the rate of flow of information or time of occurrence of events

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