4.3.7 Performance

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- ☒ **[char][✓ char, 2021-05-28]~~Please Review~~**
- ☐ [nick]What is the DIDO section at the bottom? No content afterwards. Remove?

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Performance is the ability of a system to accomplish the required functionality at or under the required specification limits. The limits are generally provided relative to time (i.e., so-many transactions per second, so-many updates per millisecond, so-many recorded entries per second, etc.) The specifications can also include accuracy, precision, precision or even efficiency of other dependent systems as requirements. The following are some examples of performance specifications:

- Time for a data-entry window to appear
- Number of units produced in a given amount of time
- Time to react to a given event
- Amount of energy required to perform an activity
- The amount of computing resources required (i.e., Central Processing Unit (CPU), Random Access Memory (RAM), Read-Only Memory (ROM), Storage Device, Bandwidth, etc)
- Time to process a computational task such as compression-decompression, encryption-decryption, generate a Unique ID (UID), serialize-deserialize, calculate an area, calculate a new trajectory, etc.
- Time to process a storage task such as store records, index the records, retrieve records, etc.
- Time to access memory or cache such as direct memory access(DMA), the hit ratio
- Time to transfer data between components of a computer such as from memory to Central Processing Unit (CPU), from CPU to graphics card, etc

Performance can also be viewed from the following perspectives:

- 4.3.7.1 Platform Performance
- 4.3.7.2 Application Performance
- 4.3.7.3 Network Performance

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