

# Run

A run requires a valid selection.

**Run**

result:

number of samples:

form:  expected value  probability density  cumulative distribution

scale:  dimensionless  percentage (%)  stream day

perspective:

format:

**Time horizon**

current time:

start date:

number of intervals:

interval:

The run parameters are

1. result: Available Capacity, Capacity Frequency and Duration, or Mission Reliability
2. number of samples: 0 for an analytical run or, when positive, the number of Monte Carlo simulations
3. form: only required for Available Capacity and Mission Reliability results in CSV format
4. scale: stream days take leap years into account and are based on an average of 365.25 days per year
5. perspective: for Capacity Frequency and Duration, the choice is between diagram and unit, otherwise diagram only
6. format: complete sets of results are presented as a full website and single results are presented as a CSV file
7. time horizon: for the current time and the reporting period

Not all combinations of run parameters are supported. If the model has a network:

- the full model must be selected,
- an analytical run is only possible if the network has no buffers and all node efficiencies equal 1.

The Capacity Frequency and Duration takes account of the unplanned downtime only; ignoring any capacity profiles and planned downtime. These results make no distinction between producers and consumers. From the unit perspective, the Capacity Frequency and Duration results are based on the items' listed unplanned events and provide lifetime MTTF and breakdown MTTR estimates. ARTIS cannot check the quality of the event data, hence it is assumed that these checks have already been completed.

Whenever using Monte Carlo simulations, the user must ensure that the number of samples is sufficient for all results to be free of random noise, that is usually with 3 significant digits.

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