Discrete-event models
part 4: Examples of PN modelling

Dr. Bystrov

School of Engineering

Newcastle University

Two pipelines join

- The system has two input and one output channel
- Each input or output are pipelines capacity two
- Each input has an infinite source of data items
- The output is connected to an infinite sink (consumer for the data items)
- A single output data item is produced when one item from the first and one item from the second join

Two pipelines merge

- The system has two input and one output channel
- Each input or output are pipelines capacity two
- Each input has an infinite source of data items
- The output is connected to an infinite sink (consumer for the data items)
- A single output data item is produced for each item from either input, i.e. the number of output items is the sum of the items coming from both inputs.

Two pipelines merge in turn

- The system has two input and one output channel
- Each input or output are pipelines capacity two
- Each input has an infinite source of data items
- The output is connected to an infinite sink (consumer for the data items)
- A single output data item is produced for each item from either input.
- The odd output items are chosen from the first input, the even output items are chosen from the second input.

Summary

- Three examples of Petri net modelling
- Fork and join blocks used
- Pipelines used
- Choice and merge blocks used
  - Arbitrated choice
  - Controlled choice

Next: Reachability Graph