Extended Sequence Chart
for Parallel Simulation in Horizon
Developing Parallel Simulations

Primary Goal of Parallel Simulation
- Speedup over sequential simulation

Model Dependent Performance Factors
- Event dependencies

Developer Requirements
- Identify performance bottlenecks
- Insight into simulation behavior
- Visualize performance factors

Extend Eclipse Sequence Chart
**Expanded Events**

Model processes that span period of time

Augment discrete events with durations

- Discrete events span period of *simulated* time

**Independent Events**

Events starting between \( t_{\text{start}} \) and \( t_{\text{end}} \)

Do not depend on results generated by overlapping event

Modeling paradigm
Event Durations

MMN.sink

MMN.cluster.collector

MMN.cluster.server[0]

MMN.cluster.server[1]

MMN.cluster.dispatcher

MMN.loadGen
Event Complexities
Critical Path
Extended Sequence Chart

Demo
Check out during poster session

Get Horizon and the Sequence Chart
https://code.comsys.rwth-aachen.de/redmine/projects/horizon-public
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