Information Sciences Institute

The Nam Editor

A graphical tool for creating ns scripts
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Goal

- Enable new users to create and manipulate ns scripts without any knowledge of tcl programming
- Create a tool to be used in lab experiments to further students understanding of networking principles and concepts

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Limitations

- Only a small subset of total ns functionality is currently implemented
  - Limited selection of Transport Agents, TCP properties, Traffic Sources, and Link Loss Models
  - No multicast, No diffusion
  - No wireless routing protocol selection
- Can be used to create wireless node movements or network topology with other configuration done by hand editing

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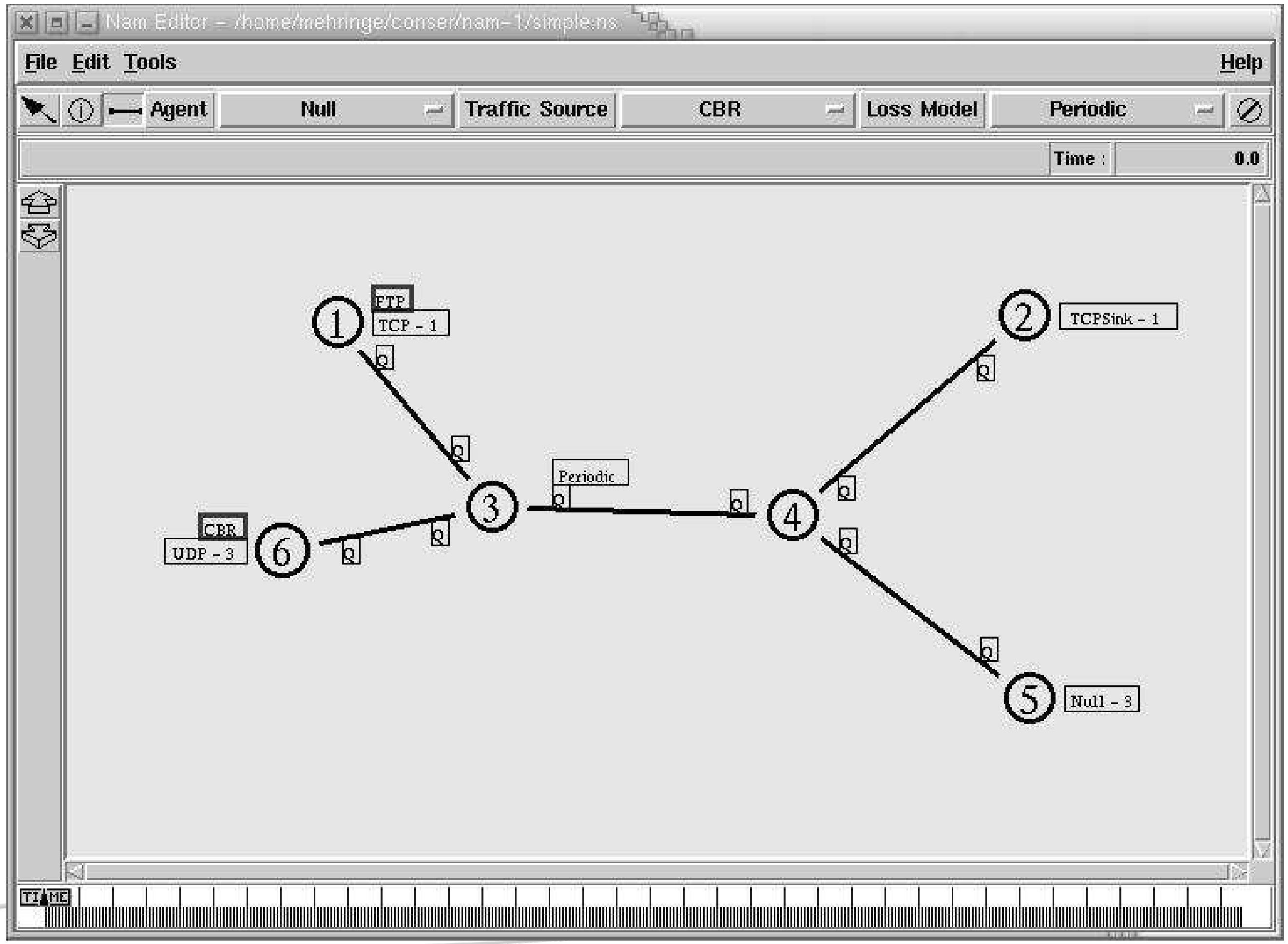
Screen Shot



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Tools

- Selection
  - Mouse over to get more information about an object
  - Click and drag to reposition nodes or to define movement destinations for wireless nodes
  - Double click on objects to bring up object properties window
- Node Creation
  - Click to add additional nodes
- Link Creation/Make Connection
  - Click and drag to create duplex links between nodes or to connect source and destination transport agents together
- Add Agent to Nodes
  - Click on a node to a transport agent from the transport agent list

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Tools Continued

- Add Traffic Sources to Agents
  - Click on a transport agent to add a traffic source
- Add Loss Models to Links
  - Click on a link or queue to add a one way link loss model
- Delete Objects
  - Click on any object to delete it and any object attached to itself.
  - For example, deleting a node will also delete any links and agents attached to that node

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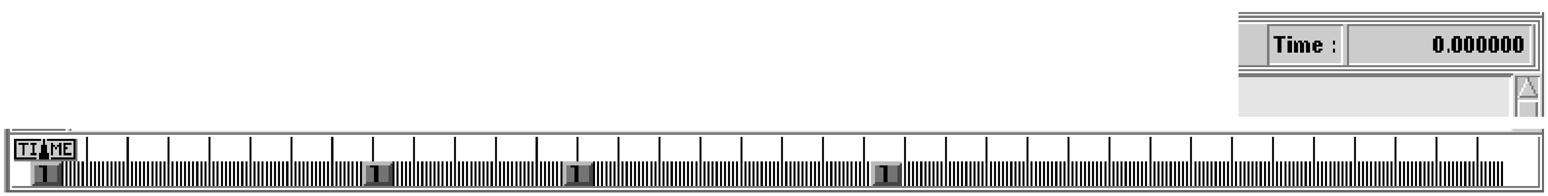
Tools Continued

- Time Input Slider
  - Drag slider to adjust the current time value
  - Time value is used to start and stop transmission of traffic sources
  - Also used in marking node destinations for mobile nodes



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Nam Editor File

- Output is a real tcl script
  - Specifically formatted to be easily reread by the nam editor
- Model can be saved for later editing or sent immediately to NS for simulation and animation feedback
  - Editing by hand may make the script unreadable by the nam editor

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Sample Nam Editor Script

```
#-------------------------------------------------------
# This ns script has been created by the nam editor.
# If you edit it manually, the nam editor might not
# be able to open it properly in the future.
#
# EDITING BY HAND IS AT YOUR OWN RISK!
#-------------------------------------------------------
# Create a new simulator object.
set ns [new Simulator]
# Create a nam trace datafile.
set namfile [open /home/mehringe/conser/nam-1/simple.nam w]
$ns namtrace-all $namfile

# Create wired nodes.
set node(6) [$ns node]
## node(6) at 486.015594,556.312500
$node(6) set X_ 486.015594
$node(6) set Y_ 556.312500
$node(6) set Z_ 0.0
$node(6) color "black"
…
```


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