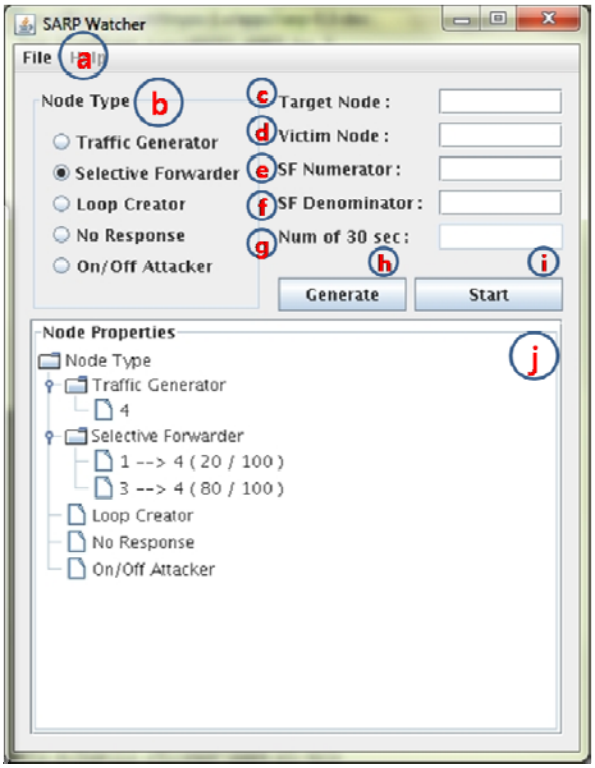
SARP Watcher Manual v0.1

1. UI

1.1. Main Window



a. File: Save/Load Topology; Save/Load Replay; Generate Headers; Exit

b. Node Type: Select node type, Traffic generator nodes or Attack nodes.

c. Target Node: Select a node which you want to change the property.

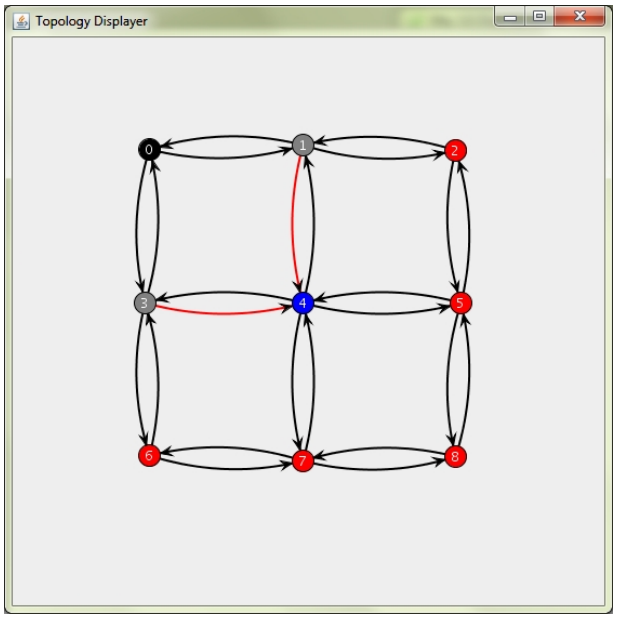
d. Victim Node: Select a node which you want to attack
   - Only for Selective forward and Loop Creator

e. SF Numerator: Input a numerator for Selective forwarder
   - Only for Selective Forwarder

f. SF Denominator: Input a denominator for Selective forwarder
   - Only for Selective Forwarder

g. Num of 30 Sec: Input a number of 30 seconds for No Response attack
   - Only for No Response Attack

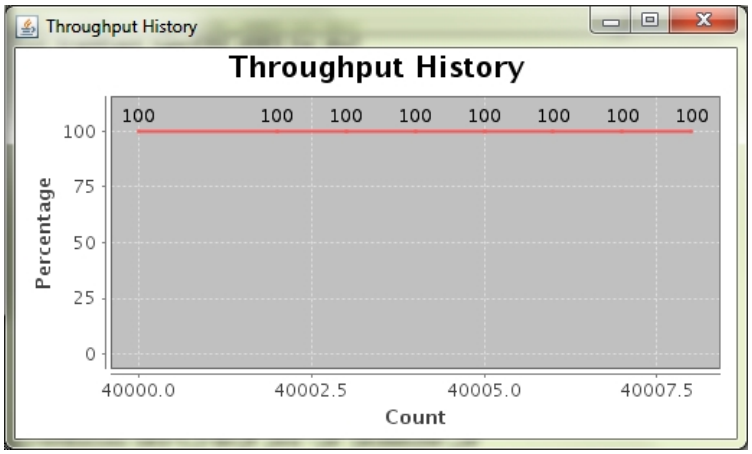
1.2. Topology Displayer



This window displays the topology. You can open this window from "nss" or "ntp" file. The "nss" file contains only the aspect of topology. On the other hand, the "ntp" file contains not only the aspect of topology, but also the properties of each node.

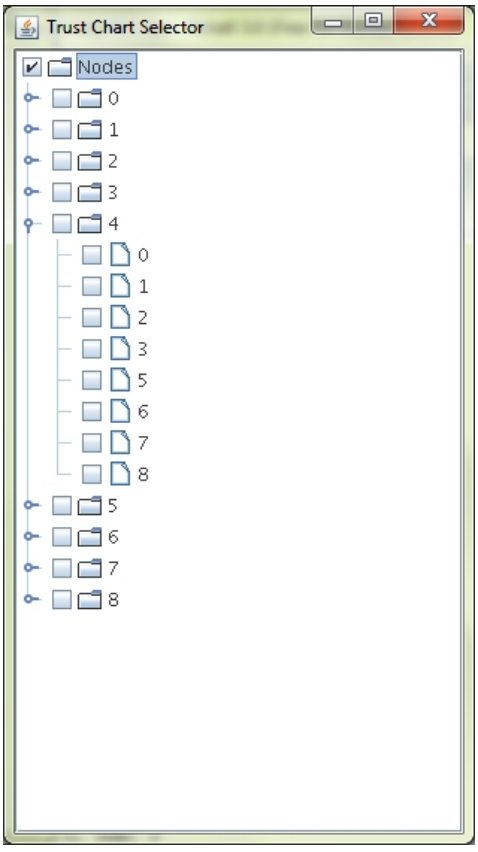
Color / Kind	Vertex	Edge
RED	Normal	Selective Forward
BLACK	Base Station	Normal
BLUE	Traffic Generator	Transaction Parent
GRAY	Selective Forwarder	—
ORANGE	Loop Creator	Loop Creator
GREEN	No Response	—
DARK GRAY	On/Off Attack	—

1.3. Throughput History



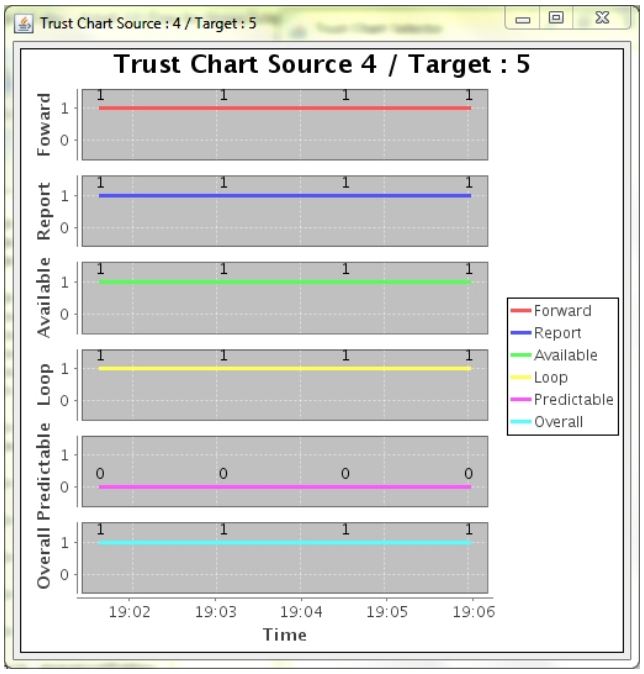
This window displays throughput history based on transaction.

1.4. Trust Chart Selector



This window displays kinds of trust values. When any check box is checked, the trust chart window appears. On the other hand, the check box is unchecked, the trust chart window disappears.

1.5. Trust Chart



This window displays trust values based on time.

2. Menus

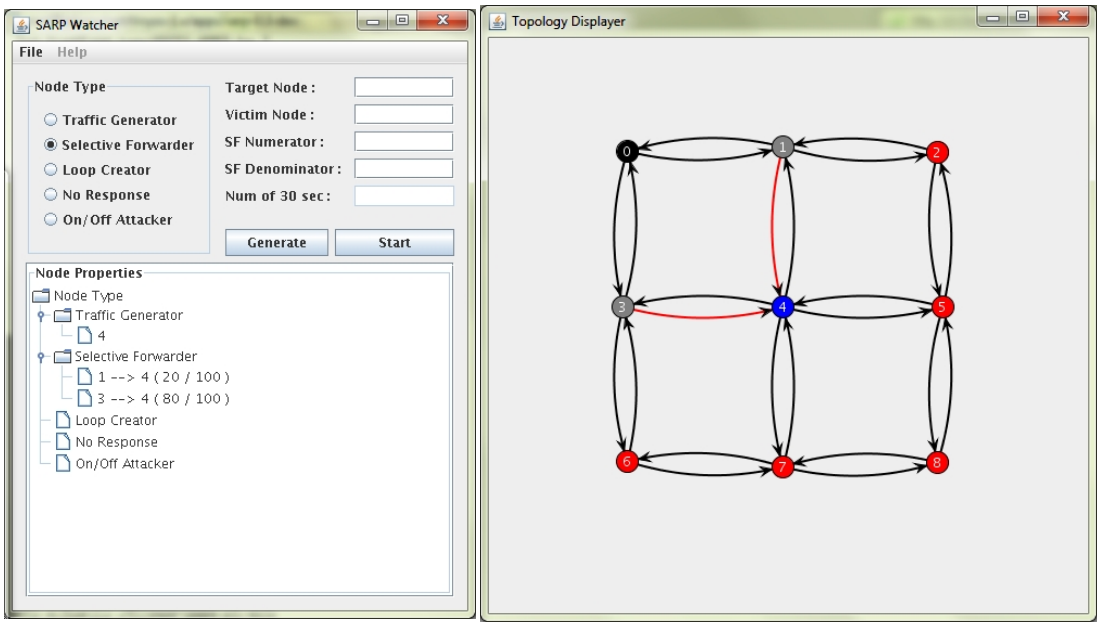
Topology → Open Topology: "nss" and "ntp" files could be selected.
→ Save Topology: Save to "ntp" file.

Result → Load Result: "nre" file could be selected.
→ Save Result: Save the results to "nre" file.

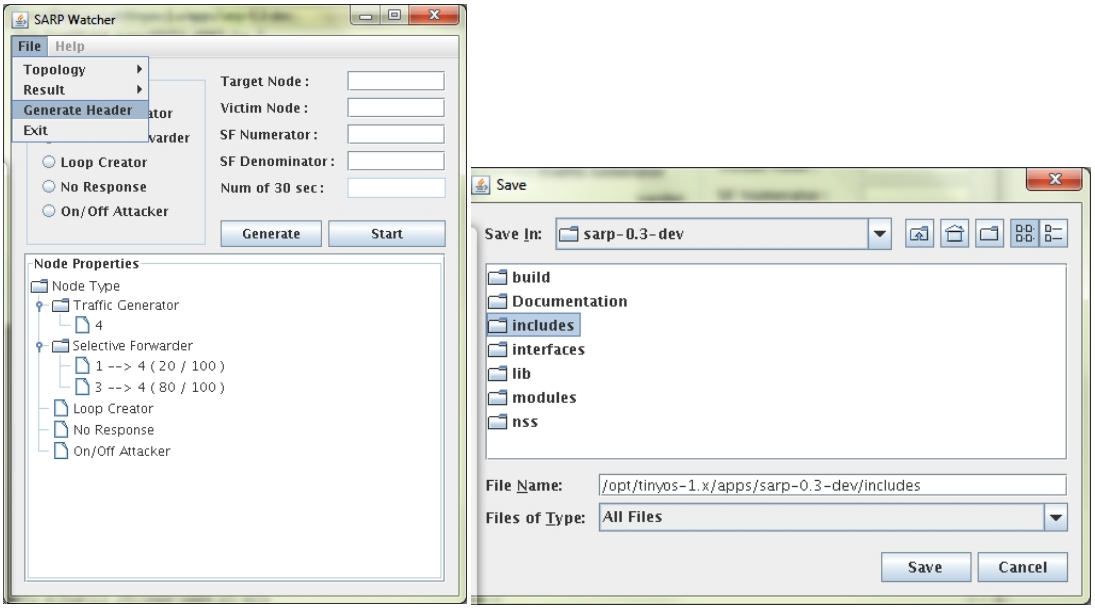
Generate Headers → Generates "AttackH.h" and "TrafficGeneratorH.h" files in selected folder.

3. Execution

3.1. Generates topology (can be skipped)



3.2. Generates Header files (can be skipped)



3.3. Start the monitoring server by clicking the start button

3.4. Compile and execute

```
[root@iplusu sarp-0.3-dev]# ./make_pcdebug
rm -rf build
mkdir -p build/pc
    compiling Sarp to a pc binary
ncc -o build/pc/main.exe -g -O0 -I%T/lib/Counters -I%T/../apps/sarp-0.3-dev/includes -I%T/../apps/sarp-0.3-d
ev/modules -I%T/../apps/sarp-0.3-dev/interfaces -DDEBUG -pthread -fnesc-nido-tosnodes=1000 -fnesc-simulate -
Wall -Wshadow -DDEF_TOS_AM_GROUP=0x7d -Wnesc-all -target=pc -fnesc-cfile=build/pc/app.c -board=micasb -DIDEN
T_PROGRAM_NAME=\"Sarp\" -DIDENT_USER_ID=\"root\" -DIDENT_HOSTNAME=\"iplusu\" -DIDENT_USER_HASH=0x0f72ddacL -
DIDENT_UNIX_TIME=0x4bf82928L -DIDENT_UID_HASH=0x4eceedf1L Sarp.nc -lm
nesc1: warning: calls to UARTReceiveMsg.receive in Nido are uncombined
nesc1: warning: calls to PowerManagement.adjustPower in AMStandard are uncombined
/opt/tinyos-1.x/tos/platform/pc/external_comm.c: In function `sendSarpTrust':
/opt/tinyos-1.x/tos/platform/pc/external_comm.c:951: warning: int format, long int arg (arg 3)
/opt/tinyos-1.x/tos/platform/pc/PowerStateM.nc: In function `__nesc_nido_initialise':
/opt/tinyos-1.x/tos/platform/pc/PowerStateM.nc:1178: warning: passing arg 1 of `memset' discards qualifiers
from pointer target type
    compiled Sarp to build/pc/main.exe
[root@iplusu sarp-0.3-dev]# DBG=usr2 ./build/pc/main.exe -rf=./nss/grid_9_motes.nss 9
```