

# SOFTWARE LICENSE CHECKS?

## A THING OF THE PAST!

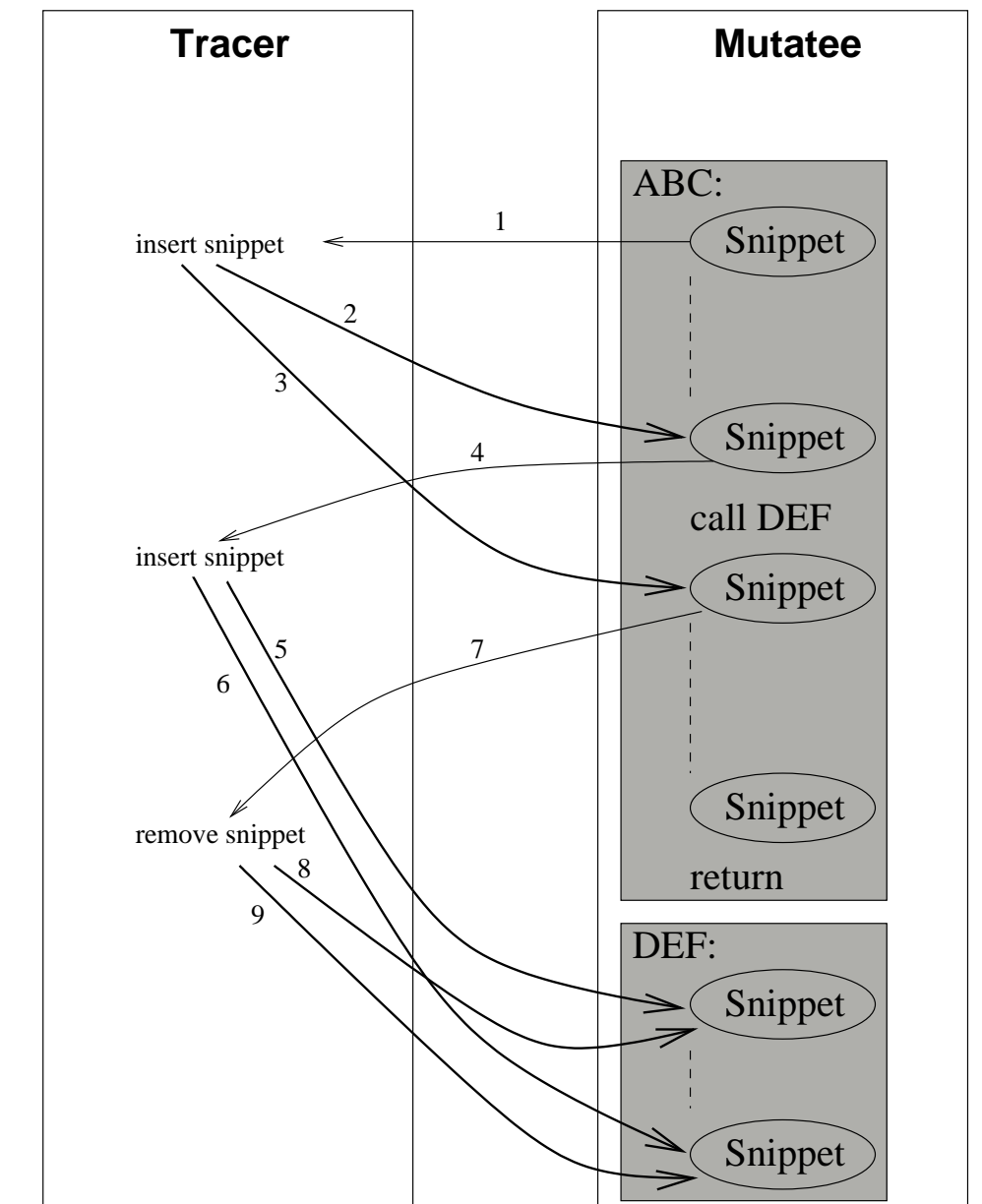
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1

### Bypassing Them Is As Easy As 1-2-3...

#### Program Analysis

- Trace function calls
  - Incremental Tracer
  - Function Pointers
- Compare output of successful and failed runs
- Decide on a subset of the functions to focus on



2

#### License-Checking Detailed Analysis

- I/O logging and analysis
- Function return value comparison
- Pointer tracking for structure analysis [planned]

3

#### Binary Code Rewriting

- Skip function calls
- Replace functions
- Modify program variables

*Voila!*



You too can do it, with these powerful tools:

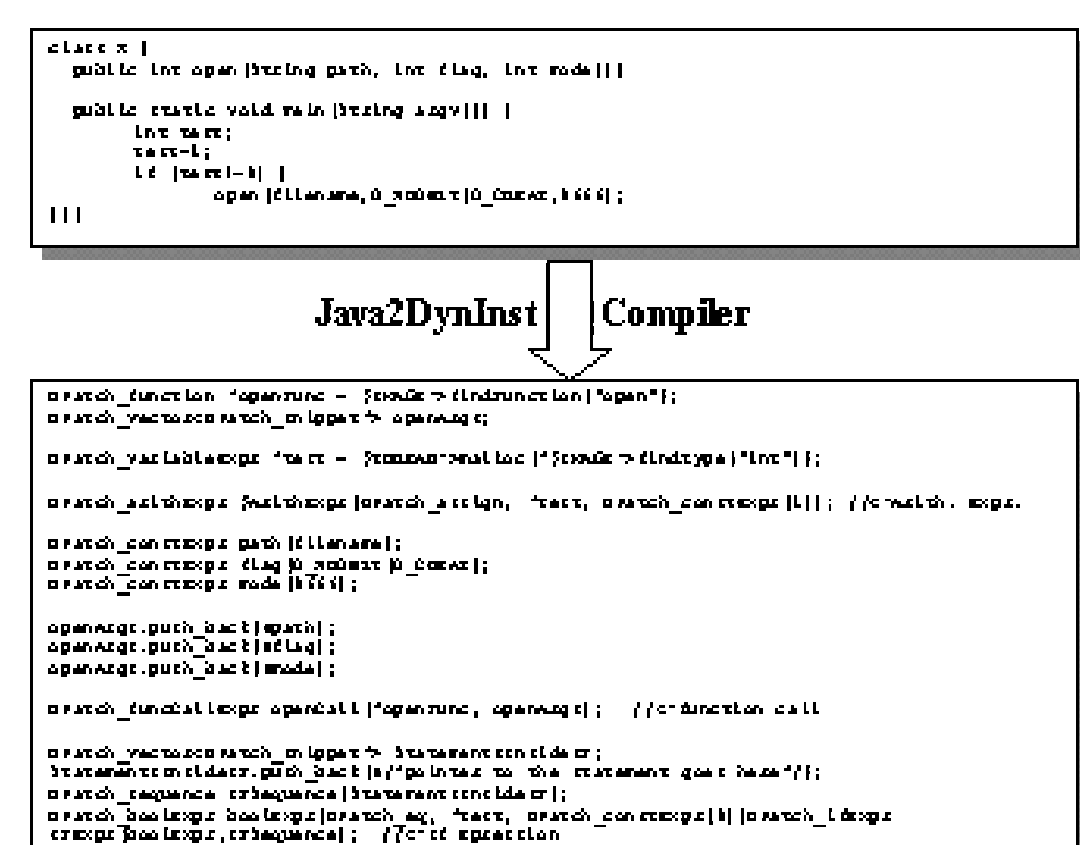
#### dynit Shell

```
dynit> quit
-- The process has ended.

mihai@nova35:~/private/dev/uwisc/cs/736/fall/1999/project3/cs736-project/dynit
[pts/63] (7) $ XDMCPING[1]=/s/frame/fmuit/Bitmaps/2B FMIHOME=/s/frame FMArch=sunx.s5.sparc FM_FLS_H
OST= ./dynit /s/frame/bin/sunx.s5.sparc/maker
-- Read exclusions.txt: 4 function names.
-- Read preferred.txt: 0 function names.
-- Creating process /s/frame/bin/sunx.s5.sparc/maker ... done.
-- Process pid 10055.
dynit> load library libcool_trace.so
-- Library 'libcool_trace.so' was successfully loaded in the mutatee.
dynit> replace function ChangeProductToDemo with void_fill_in
-- Function 'ChangeProductToDemo' was replaced with 'void_fill_in'.
dynit> replace function NlCheckOutLicense with always_1_fill_in
-- Function 'NlCheckOutLicense' was replaced with 'always_1_fill_in'.
dynit> continue
-- Continuing the process...
maker: Starting FrameMaker 5.5.6. Copyright (c) 1986-1998 Adobe Systems Incorporated.
void_fill_in called.

Before using FrameMaker for the first time, be sure to read
the online manual "Customizing FrameMaker Products" for information on
configuring FrameMaker products for use with various window managers.

maker: Finished loading
always_1_fill_in called.
always_1_fill_in called.
```



PROGRAMMER

JAVA\_2\_DYNINST  
COMPILER

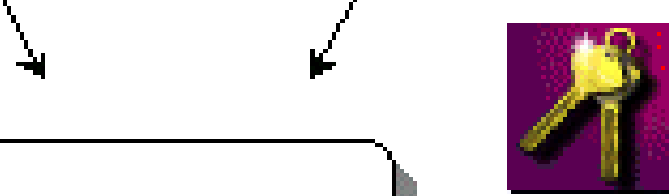
PARAMETER  
PARSER



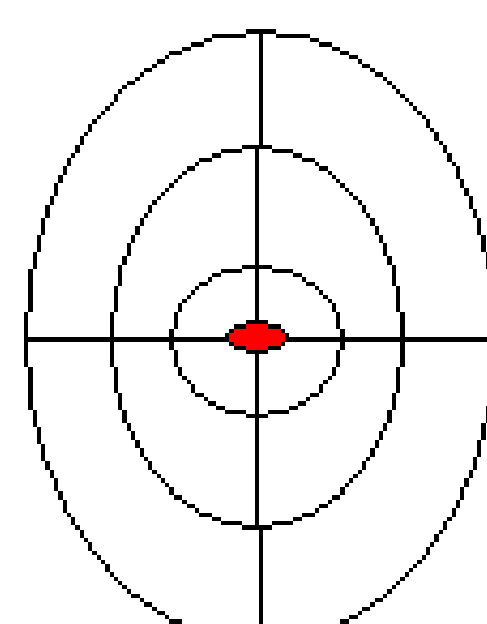
USER

DYNIT (Shell)

BYPASSER (GUI)

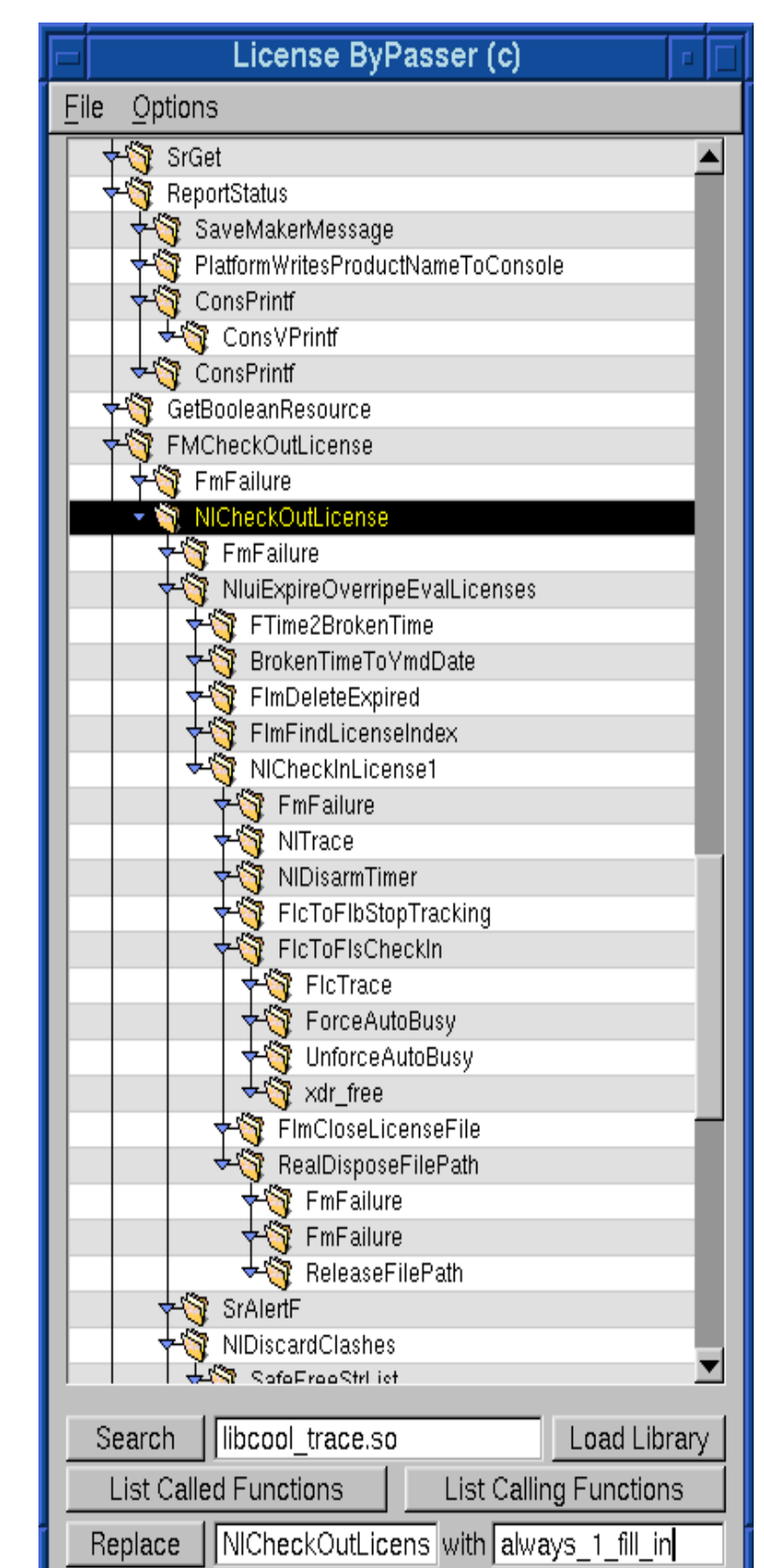


DYNINST



TARGET APPLICATION

#### ByPasser GUI



Note: portions of this poster were designed using FrameMaker without a valid license.