
# Making Intrusion Detection Systems Interactive and Collaborative

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# Motivations

- Open Source Intrusion Detection Systems
  - Typically controlled by text configuration files
  - Non-interactive
- Security Monitoring and Response
  - Collaborative Activity
  - Hard to teach/train

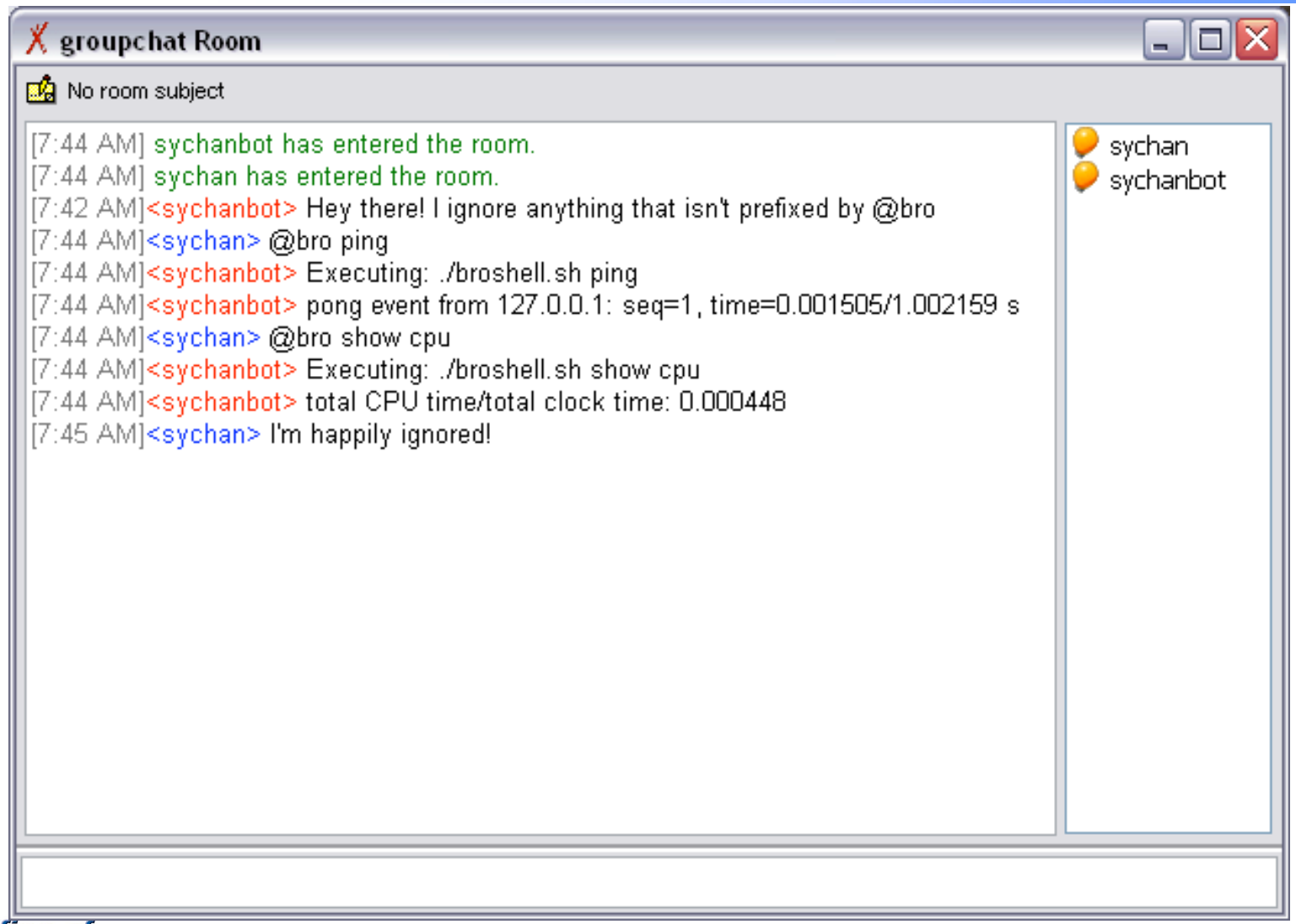

# Solution

- Prototyped a solution using Bro
  - Bro is a stateful Network Intrusion Detection System
  - Developed at Lawrence Berkeley Lab
  - In production since 1996
- BroShell
  - Interactive, command line interface to Bro
  - Query for IDS internal state, information about hosts
  - Set policy dynamically, add or remove state information about hosts

# Solution (cont'd)

- Jabber Bot interface to BroShell
  - Collaborative interface to Bro
    - Multiple users can observe and interact with BroShell simultaneously
    - Allows newbies to observe for training purposes
    - Chat logs can provide history/audit function
    - Many to many mapping between people and applications
  - Compatible with popular IM clients

# Screenshot


groupchat Room
No room subject
[7:44 AM] sychanbot has entered the room.
[7:44 AM] sychan has entered the room.
[7:42 AM]<sychanbot> Hey there! I ignore anything that isn't prefixed by @bro
[7:44 AM]<sychan> @bro ping
[7:44 AM]<sychanbot> Executing: ./broshell.sh ping
[7:44 AM]<sychanbot> pong event from 127.0.0.1: seq=1, time=0.001505/1.002159 s
[7:44 AM]<sychan> @bro show cpu
[7:44 AM]<sychanbot> Executing: ./broshell.sh show cpu
[7:44 AM]<sychanbot> total CPU time/total clock time: 0.000448
[7:45 AM]<sychan> I'm happily ignored!
sychan
sychanbot

# Links, references, whatnot

- **Bro web site**
  - **http://www.bro-ids.org/**
- **Documents on BroShell**
  - **http://www.nersc.gov/~scottc/software/bro/broshell.html**
- **Paper on Work Practices of Sys Admins**
  - **"*Field Studies of Computer Systems Administrator: Analysis of System Management Tools and Practices*"** Barret, Kandogan, Maglio, Haber, Takayama, Prabake**,** Proceedings of the 2004 ACM conference on Computer supported cooperative work