Semi-Automatic DMCA Complaint Processing

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Copyright Violations in perspective

- Processing complaints is labor intensive
  - Before Enforcer, we conservatively estimated that each incident required two person-hours of work to resolve.
  - This was not only a significant drain on resources, but an expensive proposition.

- DMCA processing was a function of the incident response team.
  - Highly skilled labor performing data entry and tracking functions for 25-50% of their workweek.
  - DMCA processing was backlogged by higher priority security issues.
  - Internal development projects delayed.
The DMCA Enforcer is born

Determined at meeting with OGC, DOS.

Goals:
- Reduce processing of complaints to data entry task so non-security staff can do it.
- Automate tracking functions.
- Handle all residential cases; academic and dialup cases still an exception (maybe).
Overview

- A complaint arrives from somewhere.
- Operations staff associates a user with the offending system via NetReg.
- Data about the offending user is placed in a database via a web form.
- Operations manager approves entry.
- Upon approval, application mails the “offending” user with allegation details.
- The complaining site will be automatically e-mailed acknowledging receipt.
The e-mail

- User is informed of violation
  - Complaining Authority (Mediaforce, Unistudios, RIAA, etc.)
  - Information used to identify student
  - Filename(s) found in violation of copyright
  - Date and Time of violation

- User is referred to a web site to respond to the allegation.

- User is told that they have seven days to respond.

- E-mails are generated daily for six days or until the user responds.
Repeat Offenders

- Second offenders get an extra banner in their e-mails as a warning.
- For three time (and greater) offenders, the database manager notifies the Director of Consulting Services and the Dean of Students rather than the student.
- The user faces disciplinary review instead of the application.
The Web Site

Kerberos authentication required
Presentation of allegation.
Resources
- How do I turn off file sharing in this application?
  http://security.uchicago.edu/peer-to-peer/no_fileshare.shtml
Students may acknowledge that they received the complaint and will cease and desist.
If student wishes to challenge the allegation they have to contact us.
Users are “than ked” and recorded in the database as having responded to the e-mail.
What if a user doesn’t respond?

What happens if a user never visits the web page?

At noon on the seventh day, the database manager e-mails request to have the user’s kerberos password be disabled.

- Coming soon: Automatic disables.
- Coming soon: Network Jail!

The user must now call or come see us.

Users who sit in this state are noted in a daily report.
DMCA Enforcer Development

- November, 2001 meeting with OGC, DOS
- October 2002: Version 1.3 (pre-release)
- December 18, 2002: Version 1.5 (trial)
- January 22, 2003: Version 1.6 (production)
- April 25, 2003: Version 1.7 (bug fixes)
- October, 2003?: Version 2.0
Software Requirements

- Basically requires a LAMP box.
  - Test was p3@662MHz w/256MB, RH 7.1

Web Server
- Apache 1.3.26 + patches! (test: 1.3.22)
- PHP 4.2.2 (ran on 4.1.x for awhile)

Database Server
- MySQL 3.22.32 (test: 3.23.51 (has LIMIT!))

- It’s not really a heavyweight process in any respect.
Valuable Lessons

- The ever-expanding flowchart.
  - The flowchart will fit the process, the process will never conform to the flowchart.
- Seven days of grace.
- Kerberos v. Network disables, Network Jail
- Repeat offender logic is very tricky.
- Make the code modular
  - Re-notification process
- Audit logging and database error detection is a must.
Remaining Work (v 2.0)

- Major code cleanup (software bloat).
- Record locking and better separation of privileges.
- Better handling of offenses that occur between user notification and user response.
- Better input handling.
- Network/Kerberos status tracking overhaul

Automatic:
- Kerberos disables
- Network jail activation
- NetReg lookup
- Complaint parsing?
Questions?

How do I get it?

- E-mail jacobsen@bu.edu and ask for it.
- Free to .edu sites, otherwise not available.
- Not clear if we’ll give out v1.7 now or v2.0 later.
- Subject to BU “copyright”
  - Notice contained in every file
  - You can’t profit from our source code.
- “As is”, including documentation.
- Please tell us about bugs, changes, improvements.