Internet Measurement Data Catalog

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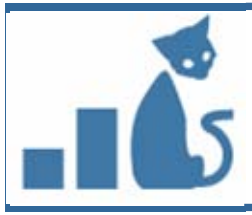
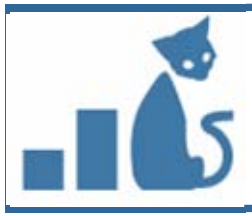
http://imdc.caida.org

WIDE – Nov 3, 2006



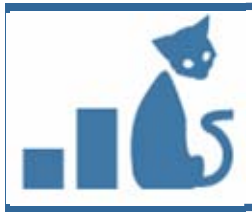
DatCat Goals (1)

- to facilitate searching for and sharing of data among researchers
  - Index as much as possible, including datasets not publicly available
  - DatCat doesn't store any network data itself



DatCat Goals (2)

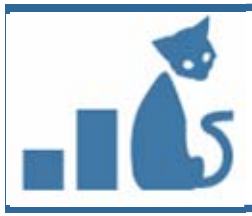
- to enhance documentation of datasets via a public annotation system
  - Easy place for anyone (not just the dataset creator) to provide additional information
  - Persistent reference that stays with the dataset (not a footnote in a paper)



DatCat Goals (3)

- to advance network science by promoting reproducible research
  - Paper X ran their detection algorithm on dataset X and had a false positive rate of 0.2. Using our algorithm on dataset Y, we get a false positive rate of 0.1. Therefore our algorithm is better. …
  - Persistent handles to allow for consistent citing and comparison:

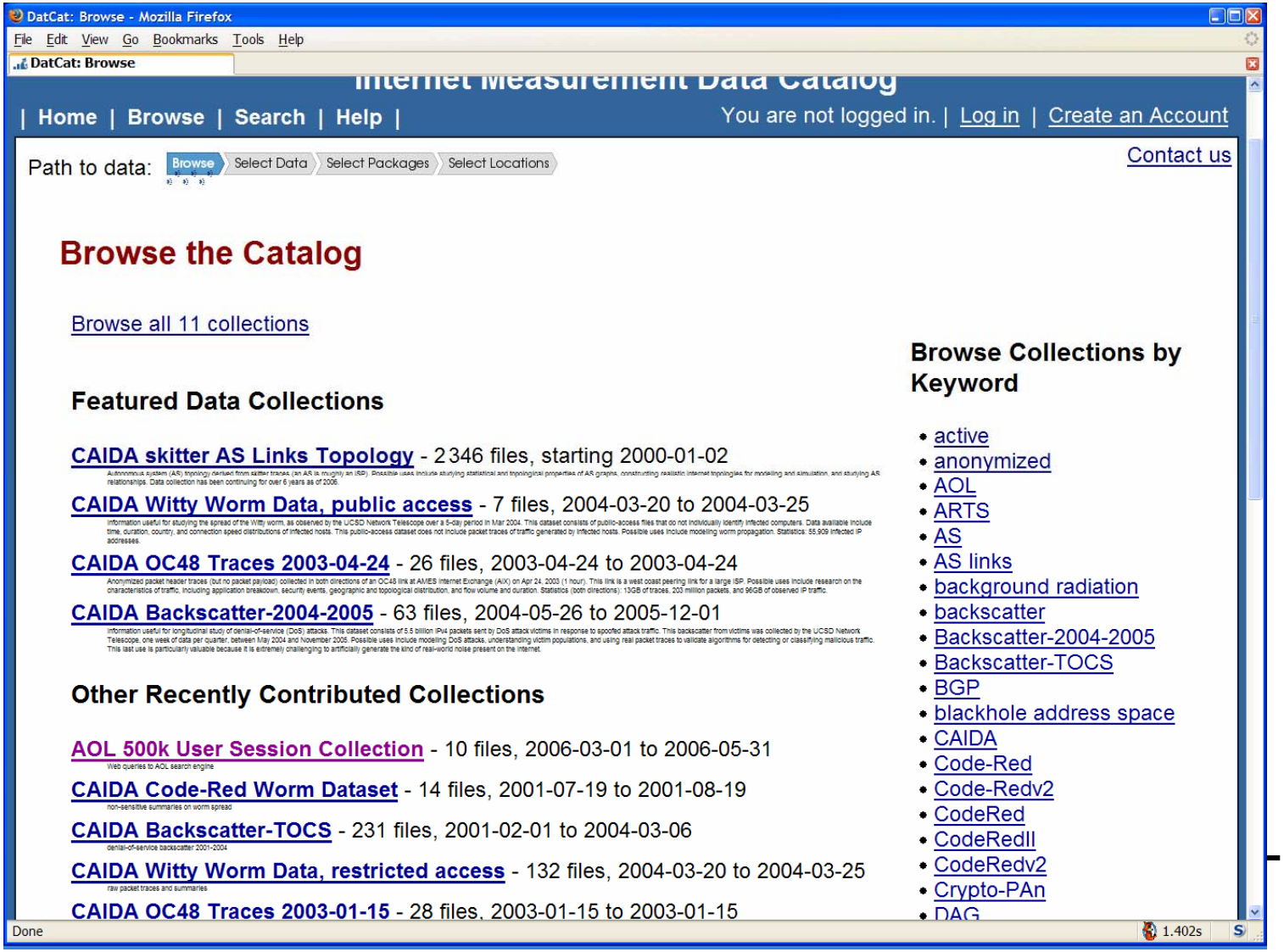
http://imdc.datcat.org/collection/1-003M-5=AOL+500k+User+Session+Collection



DatCat lets you…

- Find data for your research
- Annotate datasets to note features, background information, or bugs
- Cite data
- Contribute data (coming soon!)

DatCat Tour


DatCat: Browse - Mozilla Firefox
File Edit View Go Bookmarks Tools Help
DatCat: Browse
Internet Measurement Data Catalog
| Home | Browse | Search | Help |
You are not logged in. | Log in | Create an Account
Path to data: Browse Select Data Select Packages Select Locations
Contact us
Browse the Catalog
Browse all 11 collections
Featured Data Collections
CAIDA skitter AS Links Topology - 2346 files, starting 2000-01-02
CAIDA Witty Worm Data, public access - 7 files, 2004-03-20 to 2004-03-25
CAIDA OC48 Traces 2003-04-24 - 26 files, 2003-04-24 to 2003-04-24
CAIDA Backscatter-2004-2005 - 63 files, 2004-05-26 to 2005-12-01
Other Recently Contributed Collections
AOL 500k User Session Collection - 10 files, 2006-03-01 to 2006-05-31
CAIDA Code-Red Worm Dataset - 14 files, 2001-07-19 to 2001-08-19
CAIDA Backscatter-TOCS - 231 files, 2001-02-01 to 2004-03-06
CAIDA Witty Worm Data, restricted access - 132 files, 2004-03-20 to 2004-03-25
CAIDA OC48 Traces 2003-01-15 - 28 files, 2003-01-15 to 2003-01-15
Browse Collections by Keyword
active
anonymized
AOL
ARTS
AS
AS links
background radiation
backscatter
Backscatter-2004-2005
Backscatter-TOCS
BGP
blackhole address space
CAIDA
Code-Red
Code-Redv2
CodeRed
CodeRedII
CodeRedv2
Crypto-PAn
DAG
Done
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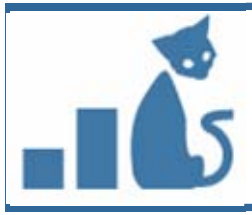
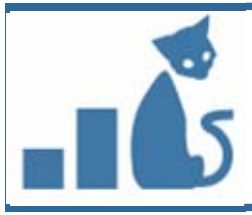


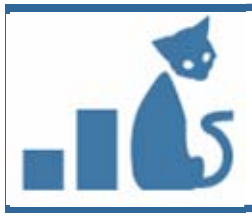
Collaboration

- Current:
  - CRAWDAD: Community Resource for Archiving Wireless Data at Dartmouth
  - UCSD-CSE
- Future:
  - Abilene Observatory
  - ICSI
  - RouteViews



Next Steps

- Currently testing programmatic contribution interface
- Add support for Papers (specialized collection)
- Add support for tools
- GUI contribution interface



For more information

- DatCat: http://imdc.datcat.org/
- General questions and comments
  - info@datcat.org
- Announcements
  - user-announce@datcat.org
- Contribution beta-test
  - contribute@datcat.org

Security Research Overview

Current Security Research

- Nyxem/Blackworm/KamaSutra/MyWife
  - http://www.caida.org/analysis/security/blackworm/
- Spamscatter
- Botnet Economics
- Worm Risk Analysis

Nyxem Virus Spread

- Nyxem email virus begins to spread January 15, 2006
- Infected hosts automatically generate an http request for an online counter
- Counter then displays number of infectees…
- …until word about the counter spreads

Analysis Complications

- Folks viewing the counter to see how many machines were infected (raise estimate)
- NATs (lower estimate)
- Web proxies (lower estimate)
- DDoS attacks on the counter (raise estimate)

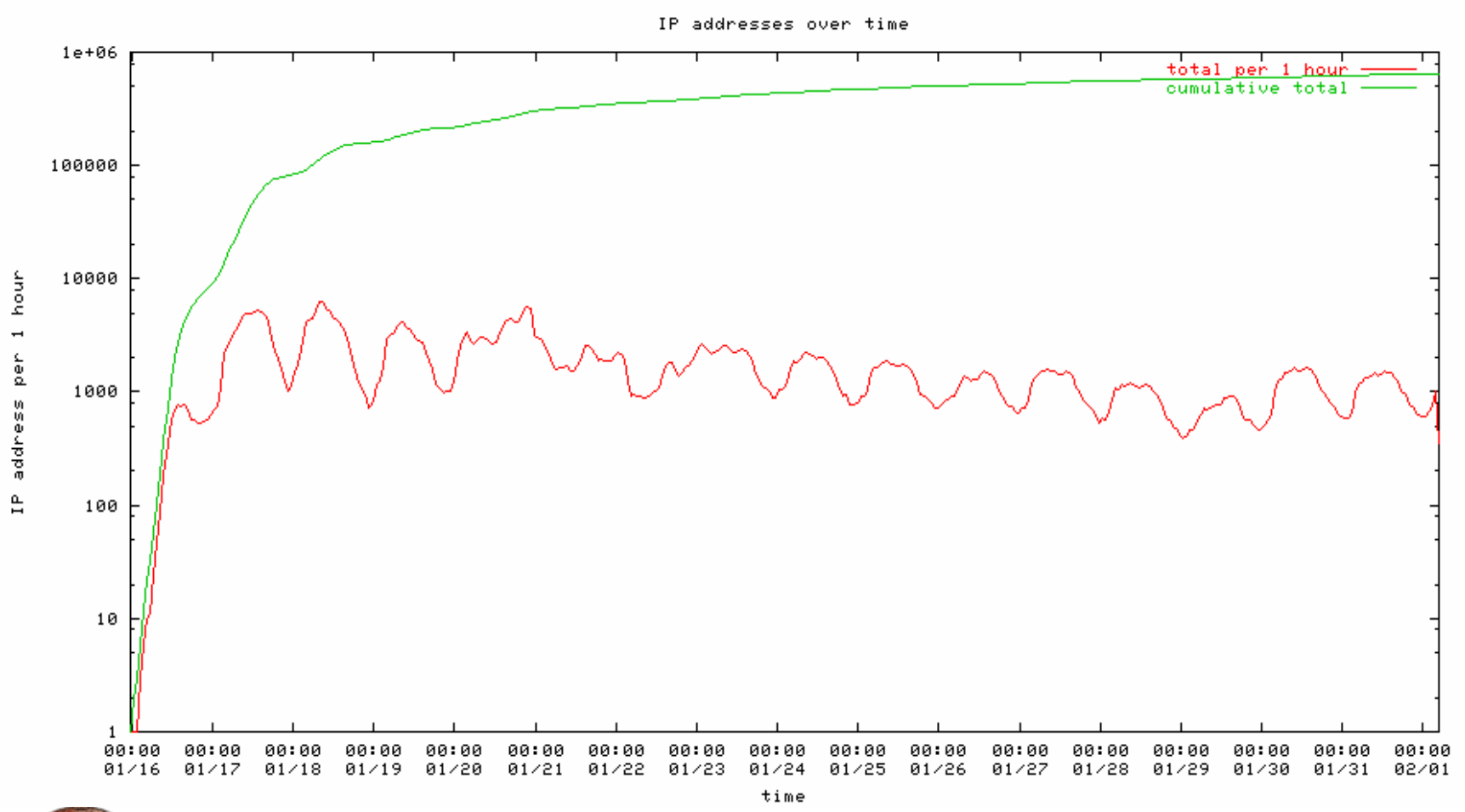
Strategy

- Remove referer/browser strings set by common DDoS tools (91.1% of all hits)
- Remove requests for pages different from the one accessed by the virus (0.2%)
- Remove any request with a referer string (virus did not use one in its probes) (0.8%)
- Remove requests from invulnerable Operating Systems: MacOS, Unix, cell phone, and PDA devices (0.03%)

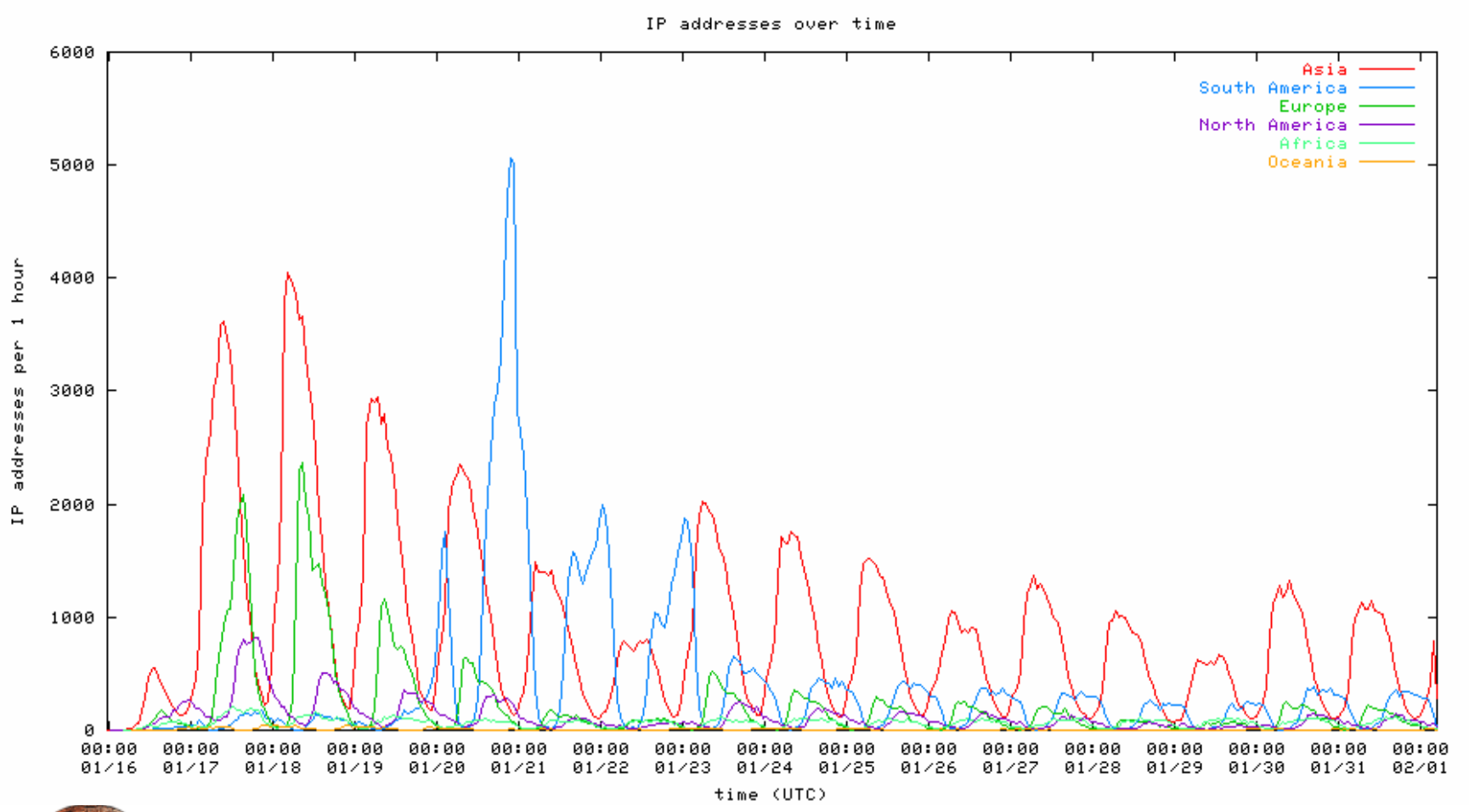
Results

- Nyxem victim estimate: between 469,507 and 946,835 (3.2%-6.4% of original log entries)
- 45,401 Nyxem victims (10%) had concurrent spyware and/or botnet infections advertised in their browser string

Nyxem Spread



Nyxem Spread



Cuttlefish Animation

http://www.caida.org/analysis/security/blackworm/animations/nyxem-hosts-both-O2.mov

Acknowledgements

- Thanks to our sponsors:

- Thanks also to: Gadi Evron, Paul Vixie, Joe Stewart, Mikko Hypponen, Swa Frantzen, Randy Vaughn, Chris Jackman, Jason Nealis, Rob Thomas, and Lorna Hutcheson for providing us with data and insight into the spread of the virus.