## DITL2008 and DatCat

#### Emile Aben <emile@caida.org> 10th CAIDA-WIDE workshop Aug 15-16 2008, Marina Del Rey, CA, US



## **DatCat**

## DITL2008

- Day in the Life of the Internet (DITL)
  - 48hr Internet Measurement event
  - March 18-19 2008 (UTC)
  - Summary at: http://www.caida.org/projects/ditl/ summary-2008-03/
    - 8 of 13 DNS roots participating
    - Compared to 2007:
      - Double the number of participants

2

• Double the volume of DNS data



## DatCat

- Internet Measurement Data Catalog (DatCat): http:// imdc.datcat.org
  - Facilitate searching for and sharing of data among researchers
  - Enhance documentation of datasets via a public annotation system

3

- Advance network science by promoting reproducible research
- No data storage, only meta-data:
  - How many IPv6 pkts in this pcap file?
  - How was this pcap file created?
  - How to get access to data

**...CatCat** 

## Lesson learned from DITL2007 and DatCat

- Researchers need data described in great detail:
  - Find out if data is useful for them or not
  - Find the most useful data
  - Can do research on meta-data
- Data contributors usually don't have time to describe data in detail



## (Temporary) Solution

#### • Add a curator-role:

- Fills out general information about the data
- Extracts metadata when data is accessible (e.g. OARC)
- Data contributor checks the general information, corrects it, fills in the blanks, adds extra info

5

• Curator processes this into a submission



## Result

- Less work for contributor
  - Only needs to check
- Extra role: curator
  - Create initial descriptions
  - Extract metadata
- Takes time/coordination



# Interface for curator and contributor to collaborate

DatCat: Edit DITL Submission: /contact/1-060N-1=Sebastian+E.+Castro ditl2008: collection

In DatCat, data is organized in collections. Please fill out the form below with information about this particular collection. Please replace strings delimited by double asterisks with your input as appropriate, and please add any additional information you deem relevant.

For a full example of an existing catalog entry, see K-root DNS traces for DITL 2007.

Fields marked with \* are required.

*Name	NIC Chile, .CL ccTLD DNS trace DITL 2008	40/128	
Keywords	DITL, DITL-2008-03-18, ccTLD, OARC, DNS, passive, trace Some suggestions: DITL, DITL 2008, For a full list of keywords already in use, see <u>Browse Collections by Keyw</u>	55/500	
*Short description	DNS PCAP traces containing DNS queries, collected at 4 .CL nameservers.	71/128	
*Summary	DNS packet traces collected during the DITL 2008 even Includes gueries from 4 authoritative <u>nameservers</u> for <u>ccTLD</u> . The trace files in this collection contain IPv4 traff DNS gueries (no replies), and a total of 75.27 millic packets. This is a description that summarizes in a couple sentences the most imp	c.CL	246/800
Motivation	This is a description that summarizes in a couple schences the most imp This data was collected as part of the <u>DITL</u> project, <u>DNS</u> and other Internet data is collected for a 2-day As a member of <u>OARC</u> , <u>NIC</u> Chile participated for the f time.	in which period.	
*Description	The traces in this collection were collected at four authoritative <u>nameservers</u> for .CL located in Chile. To of them are members of the same <u>anycast</u> cloud ( <u>tucape</u> <u>santiago</u> , valparaiso), the other is a <u>unicast</u> node ( <u>ns.nic.cl</u> ). The <u>unicast</u> node serves other Latin Amer <u>coTLDs</u> , but this traffic was not captured. The collection procedures were thoroughly tested on t days previous to the collection event, so no problems disc space, clock skew were present. Only an addition Comprehensive description of this collection. Some suggestions of inform • Information on your setup (number of nodes, anycast/unicast etc.), • Information about problems and/or human errors during collection	el, cican che cof al ation to incl , if you have	
Description URL	If you have a web page describing this dataset, please provide the URL h	0/1018 ere, otherwi	se leave this blank.
Additional notes to reviewer			-
	l		0/4000
oftware version 1.7.24 age generated at 2008-08-05 equest processed in 0.085 se		<b>Calda</b>	cooperative association for internet data analyst based at the University of California's San Diego Supercomputer Cen
22141131182		\$52.36	

## Result in DatCat

Jump to: Des	cription   Annotations   Citation   Record Details
Collection	Contents
<ul> <li>data obje</li> </ul>	ects: <u>192 directly contained <math>P</math>, 192 total <math>P</math></u>
Collection I	Details
Summary	DNS packet traces collected during the DITL 2008 event. Includes queries from 4 authoritative nameservers for .CL ccTLD. The trace files in this collection contain IPv4 traffic with DNS queries (no replies), and a total of 75.27 million packets.
Motivation	This data was collected as part of the DITL project, in which DNS and other Internet data is collected for a 2-day period As a member of OARC, NIC Chile participated for the first time.
Data Start Time	2008-03-17 17:00 PDT (-0700)
Data End Tim	e 2008-03-19 16:59:59.999 PDT (-0700)
Data Duration	1 days 23:59:59.999 (172799.999 s)
Creators	Mauricio Vergara, Sebastian E. Castro, Duane Wessels (1)
Primary contact	NIC Chile DNS Admin
Keywords	ccTLDP, DITLP, DITL-2008-03-18P, DNSP, OARCP, passiveP, traceP
Used in publications	(none)
Member of collections	<ul> <li>directly contained by</li> <li>Day in the Life of the Internet, March 18-19, 2008 (DITL-2008-03-18)</li> </ul>
	also contained by <ul> <li><u>Day in the Life of the Internet (DITL)</u></li> </ul>
Description	The traces in this collection were collected at four authoritative nameservers for .CL located in Chile. Three of them are members of the same anycast cloud (tucapel, santiago, valparaiso), the other is a unicast node (ns.nic.cl). The unicast node serves other Latin American ccTLDs, but this traffic was not captured. The collection procedures were thoroughly tested on the days previous to the collection event, so no problems of disc space, clock skew were present. Only an additional step was added to the process: all traces, once collected, were sen to a transfer server for upload, due to bandwidth constraints on the nodes where the collection ran.
Annotation	S

## Current status

• Positive reactions from contributors to reduced workload

- Contributors replace strings of text when asked to, but generally don't add to text
- 17 datasets indexed in DatCat
- 11 datasets currently in process
- At least 7 OARC datasets and 3 others to be done



## Longer Term Solution

- Have ability for DatCat contributor to describe a collection of data, but not necessarily all files in it
- Contributor can add detailed description of data later (at the file level)
- ... but probably needs incentives to do so



## Links

II

DITL<a href="http://www.caida.org/projects/ditl/">http://www.caida.org/projects/ditl/</a>DatCat<a href="http://imdc.datcat.org/">http://imdc.datcat.org/</a>DITL2008<a href="http://www.caida.org/projects/ditl/summary-2008-03/">http://www.caida.org/projects/ditl/</a>DITL2008 in<a href="http://imdc.datcat.org/collection/">http://imdc.datcat.org/collection/</a>DITL2008 in<a href="http://imdc.datcat.org/collection/">http://imdc.datcat.org/collection/</a>DITL2008 in<a href="http://imdc.datcat.org/collection/">http://imdc.datcat.org/collection/</a>DatCat<a href="http://imdc.datcat.org/collection/">http://imdc.datcat.org/collection/</a>

