Dynamic DNS:
A Place To Call Home

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(With Help From Wikipedia)
Hosts On The Internet

- Every host has a unique IP Address
  - 129.74.221.235
  - 66.254.242.255

- However, we use Domain Name System (DNS)
  - 129.74.221.235 = hume.helios.nd.edu
  - 66.254.242.255 = rogue.resnet.nd.edu
Looking Up Addresses
Allocation of Addresses

- **Static Addresses**
  - Permanent
  - Expensive

- **Dynamic Addresses**
  - DHCP Allocation
  - Cable, DSL, ResNet: Someewhat permanent but still variable
  - Dial-Up, Nomad: Highly variable
Problems with DNS

- DNS is relatively static
  - Name servers usually update daily
  - Complicated to run a name server
- Many people have dynamic addresses
  - Bad idea to use dynamic address with static DNS
  - Complicated network names
  - Internal network names do not resolve outside of network
    (rogue.resnet.nd.edu)
Dynamic DNS To The Rescue

- Dynamic DNS
  - Works just like DNS
    - Use top-level domains
    - Setup MX Records
  - Updates every 15 minutes
  - Many free services

- Allows you to bypass internal DNS restrictions

- Makes it easier to locate servers you setup
  - Computer at home
  - Box in your dorm
Example: Insidethelab.com

- Bought domain from www.godaddy.com for about $8/year
- Signed up at www.everydns.net (free)
- Set Primary DNS server for domain to ns1.everydns.net
- Setup DNS record
  - MX (Mail Exchange)
  - Subdomains
- Configure eDNS.pl script to run every hour to update IP Address
EveryDNS Record

EveryDNS.net is Reliable Free DNS, Static DNS, Dynamic DNS, URL Redirection, and more! - Mozilla Firefox

EveryDNS.net is DNS for the rest of us.

Currently: HOME :: Home :: Manage DNS :: Profile :: Logout

Primary Domains: 
Secondary Domains: 
Dynamic Domains: 
1. insidethelab.com [Go] [X]
You must use a client to update the IP for these domains. All dynamic domains will point to the same dynamic IP whenever updated. Currently, all domains are pointed at 66.27.150.58.

Webshop Domains: 
Add new domain: 
(basic) 
leg: everydns.net 
[> (basic)]

(addvanced options) 
Make domain secondary using

Now editing insidethelab.com

Current Records:

<table>
<thead>
<tr>
<th>Host</th>
<th>Type</th>
<th>Value</th>
<th>MX</th>
<th>Delete</th>
</tr>
</thead>
<tbody>
<tr>
<td>insidethelab.com</td>
<td>A</td>
<td>66.27.150.58</td>
<td></td>
<td>Nope</td>
</tr>
<tr>
<td>deep.insidethelab.com</td>
<td>A</td>
<td>66.254.247.184</td>
<td></td>
<td>[delete]</td>
</tr>
<tr>
<td>insidethelab.com</td>
<td>MX</td>
<td>mail.insidethelab.com 10</td>
<td></td>
<td>[delete]</td>
</tr>
<tr>
<td>lost.insidethelab.com</td>
<td>A</td>
<td>66.254.242.255</td>
<td></td>
<td>[delete]</td>
</tr>
<tr>
<td>mail.insidethelab.com</td>
<td>CNAME</td>
<td>insidethelab.com</td>
<td></td>
<td>[delete]</td>
</tr>
</tbody>
</table>

Add a record:

Fully Qualified Domain Name: 
Record Type: A
Record Value: 
If MX Record, MX Value: 

Add Record

Note:
Make sure that your domain points to ns1.everydns.net, ns2.everydns.net, ns3.everydns.net, and ns4.everydns.net in your registrar’s whois database. Without that, none of your records will resolve.
Many Names -> One Address

[pbui@rogue:/home/pbui]

[-> dig lost.insidethelab.com

lost.insidethelab.com. 280 IN A 66.254.242.255

[pbui@rogue:/home/pbui]

[-> dig rogue.resnet.nd.edu

rogue.resnet.nd.edu. 86400 IN A 66.254.242.255