Sometimes systems need to translate IP addresses to host names. → Reverse DNS.

The same DNS hierarchy is used, with a special branch of the tree.

For example, 144.38.214.5 should match mail.dsufux.us if reverse DNS is used. The special DNS name is:

5.214.38.144.in-addr.arpa.

Note the IP is reversed and has the .in-addr.arpa. suffix.
System Administration

Reverse DNS

subset of DNS hierarchy

- us.
  - dsutux.us.
  - in-addr.arpa.
    - 144. in-addr.arpa.
      - 38. 144. in-addr.arpa.
        - 214. 38. 144. in-addr.arpa.
          - 0-31. 214. 38. 144. in-addr.arpa.
Reverse DNS requires Authoritative servers, just like other zones in the system.

Reverse DNS also requires delegation from a higher level Authoritative server.

Reverse DNS in our program requires a little extra work, since we don't each control <56 IPs.
Setup Steps

1- Checkout IPs from system.

2- Configure one Authoritative master.

3- Configure one or more Authoritative slave.

4- Configure registrar to delegate to authoritative servers.

5- Test, Test, Test!
System Administration  

Authoritative Master Setup

1- Install bind 9 (if needed).
2- Configure named.conf.local with authoritative zone record.
3- Create zone file.
4- Restart named.
5- Check syslog for errors.
6- Test server for responses.
7- Fix errors, until correct.
Authoritative Slave Set-up

1- Install bind9 (if needed)
2- Configure named.conf. local with authoritative zone record.
3- Restart named.
4- Check syslog for errors.
5- Check master syslog for errors.
6- Test system for responses.
7- Fix errors, until correct.
Registrar Delegation Setup

1- Collect hostnames of all Authoritative Servers.
2- Collect name of Reverse DNS zone.
3- Send information to registrar.
3a- Wait for registrar.
4- Test delegation.
5- Correct errors, until works as expected.
Example

Domain: dsufax.us
IP Range: 144.38.214.0-31

Authoritative IPs:
- 144.38.214.2 (master)
- 144.38.214.3 (slave)

Registrar: larsen@dixie.edu

<table>
<thead>
<tr>
<th>Host names</th>
<th>IPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>ns1</td>
<td>2</td>
</tr>
<tr>
<td>ns2</td>
<td>3</td>
</tr>
<tr>
<td>mail</td>
<td>5</td>
</tr>
<tr>
<td>www</td>
<td>6</td>
</tr>
</tbody>
</table>