**BIND - file locations**

**/etc/bind/** This directory contains the main BIND configuration file, named.conf, as well as any individual zone files. Any new master zone files should also be stored in this directory or, if you have many zone files you wish to organize, in a subdirectory below **/etc/bind**.

**/etc/bind/named.conf** This is BIND’s main configuration file and is where you change BIND’s options and behaviour. All of BIND’s individual zone files (files containing name and IP information) are also referenced here.

**/etc/bind/db.\*** As a convention, all zone files start with db. and then some name or number to identify the particular zone. Names are typically used when the zone contains traditional forward DNS records (names mapped to IPs), and numbers are typically used for reverse DNS records (IPs mapped back to a name). For instance, by default Ubuntu’s BIND will include a few zone files such as db.root (information about the root name servers on the Internet), db.local (localhost zone information), and db.127 (reverse DNS records for localhost).

**/var/cache/bind** This is BIND’s working directory and where it will store slave zone files. If your server will act as a slave for a particular zone, configure it to store its files here.

**/etc/init.d/bind9** This is BIND’s init script. Once you install the bind9 package, it will

automatically be set up to start on system boot, but you can run the init script manually with **/etc/init.d/bind9**, or **service bind9**.

**/var/log/syslog** This is the default log file for BIND. A number of different services log to this file, but log entries for BIND will be prefixed by the key- word named, so if you wanted to see only the BIND log entries you could run **grep named /var/log/syslog**.

**The SOA server**

After the definition of the domain you are managing, you need to define the server that is authoritative for the domain. BIND is aware that it needs to find the IP address for the server from its zone file.

**The hostmaster**

As with most things on the Internet, it is common practice to provide a technical contact for the service. In this case, it is the email address john.mynewsite.ie. You will notice that there is no @ sign in the email address, but a full stop. The hostmaster for the mynewsite.ie zone is john.mynewsite.ie (john@mynewsite.ie).

**The SOA record**

The brackets around the rest of the data dictate that everything else up to the closing bracket is part of the SOA record. All time settings are in seconds.

**The serial number**

The first entry is the serial number for the zone. This is one of the most important parts of the SOA because it must be changed any time you edit the zone file. It is the serial number that tells other DNS servers that are querying your DNS server that data has changed. If you do not change the serial number, your changes will not get propagated through the system. The general form of the serial number is the date, followed by an arbitrary number. For the 30th of November, you use 2010113001 (November 30th, 2010). Notice that the date is in reverse, with the year (2010), month (11), and day (30), with an additional two digits able to represent multiple changes in one day.

**The refresh rate**

If you have a slave DNS server in your system (as a backup to your master), the refresh rate tells the slave server how often to check for updates to the zone. The refresh rate set to 10,800 seconds (3 hours).

**The retry rate**

If your slave server cannot contact the master, the retry rate is how often it will attempt to contact the master. The retry rate to 3,600 seconds (1 hour).

**The expiry time**

If the slave server cannot update the zone data in this time, it stops functioning. The expiry time to 604,800 seconds (1 week).

**The Time to Live**

TTL (Time to Live, the amount of time before a name server that has requested a record considers it stale) of 604,800 seconds, or seven days.

**The NS entry**

Every zone should have an NS entry (nameserver), and in this case, the nameserver for mynewsite.ie is the machine aoife (remember that with no full stop, it gets expanded to aoife.mynewsite.ie).

**The Mail Exchanger**

If you wish to receive mail for your domain, you must specify an MX record for it. The MX record is used to define the host that receives mail for this domain. When an SMTP server needs to find the host that handles mail for a domain, it will query the MX record for the machine to connect to.

You can see a number in the second field of this record, and this is very important. The number is a preference order for the MX host specified. The lower the number, the higher the preference. So in this case, all SMTP transactions for this domain will attempt to connect to mail.mynewsite.ie, and if that fails they will try the machine pirhana.ucd.ie (the backup MX server).

The host machine for the domain is called mail.mynewsite.ie according to its IP entry in DNS, but we have an alias configured, calling the machine aoife. When defining an MX record, you must not use a CNAME record; it must be an Address record.

**The Address record**

We have defined a machine called aoife (no full stop), with the IP address of 212.13.208.115. This is the record that points a host name to an IP address.

**The CNAME record**

To create an alias of a host so that a lookup returns the same IP address, you use a CNAME record. It is an alias for a host name.