Configuring Microsoft DNS for Rage! Business Office Xchange

Assumptions
This document makes the following assumptions:
The reader has a basic understanding of DNS and Microsoft DNS services.

For a good tutorial on DNS go to: http://en.wikipedia.org/wiki/Dns

About DNS SRV Records
An SRV record holds the following information:
- Service: the symbolic name of the desired service.
- Protocol: this is usually either TCP or UDP.
- Domain name: the domain for which this record is valid.
- TTL: standard DNS time to live field.
- Class: standard DNS class field (this is always IN).
- Priority: the priority of the target host.
- Weight: A relative weight for records with the same priority.
- Port: the TCP or UDP port on which the service is to be found.
- Target: the hostname of the machine providing the service.

An example SRV record might look like this:

_sip._tcp.example.com 86400 IN SRV 0 5 5060 sipserver.example.com.

This example points to a server named sipserver.example.com listening on TCP port 5060 for SIP protocol connections. The priority given here is 0, and the weight is 5.

Load balancing with SRV
The priority field is similar to an MX record's priority value. Clients always use the SRV record with the lowest priority value first, and only fall back to other records if the connection with this record's host fails. Thus a service may have a designated "fallback" server, which will only be used if the primary server fails. Only another SRV record, with a priority field value higher than the primary server's record, is needed. If a service has multiple SRV records with the same priority value, clients use the weight field to determine which host to use. The weight value is relevant only in relation to other weight values for the service, and only among records with the same priority value.

In the following example, both the priority and weight fields are used to provide a combination of load balancing and backup service.

_sip._tcp.example.com 86400 IN SRV 10 60 5060 bigbox.example.com.

_sip._tcp.example.com 86400 IN SRV 10 20 5060 smallbox1.example.com.

_sip._tcp.example.com 86400 IN SRV 10 20 5060 smallbox2.example.com.

_sip._tcp.example.com 86400 IN SRV 20 0 5060 backupbox.example.com.

The first three records share a priority 10, so the weight field's value will be used by clients to determine which host to contact. The sum of all three values is 100, so bigbox.example.com will be used 60% of the time. The other two hosts, smallbox1 and smallbox2, will be used for 20% of requests each. If bigbox is unavailable, these two remaining machines will share the load equally, since they will each be selected 50% of the time. If all three hosts with priority 10 are unavailable, the record with the next highest priority value will be chosen, which is

backupbox.example.com. This might be a machine in another physical location, presumably not vulnerable to anything that would cause the first three hosts to become unavailable. It should be noted that the load balancing provided by SRV records is inherently limited, since the information is essentially static. Current load of servers is not taken into account.

Configuring MS DNS Services

Service location (SRV) records in a DNS server allow clients to locate the location of servers for particular applications. For our purposes with SIP servers we need to publish the location of the SIP server(s) to phones and PC's.

_sip._udp SRV 0 1 5060 <server>.<domain>.com

_sip._tcp SRV 0 1 5060 <server>.<domain>.com

_sips._tcp SRV 0 1 5060 <server>.<domain>.com

To do so, please follow these steps:

1. Open DNS snap-in on your DNS server.
2. Create a forward lookup zone (if needed).
3. Under the zone, create a new domain named _udp (if needed).
4. Right-click on _udp and click Other New Records.
5. Select Service Location (SRV) on the list of "Select a resource record type" and click Create Records.
6. In the Service box, type "_sip" (without quotation marks); in the Protocol box, select _udp; configure Priority and Weight if needed; in the Port number, key in the port number you are using; in the Host offering this service, type in the FQDN of your server which is offering this service. Click OK.
7. Under the zone, create a new domain named _tcp (if needed).
8. Right-click on _tcp and click Other New Records.
9. Select Service Location (SRV) on the list of "Select a resource record type" and click Create Records.
10. In the Service box, type "_sip" (without quotation marks); in the Protocol box, select _tcp; configure Priority and Weight if needed; in the Port number, key in the port number you are using; in the Host offering this service, type in the FQDN of your server which is offering this service. Click OK.
11. Right-click on _tcp and click Other New Records.
12. Select Service Location (SRV) on the list of "Select a resource record type" and click Create Records.
13. In the Service box, type "_sips" (without quotation marks); in the Protocol box, select _tcp; configure Priority and Weight if needed; in the Port number, key in the port number you are using; in the Host offering this service, type in the FQDN of your server which is offering this service. Click OK.
14. Right-click on zone which you just created and select New Host A.
15. In the Name box, input the NetBIOS name of your server which is offering this service. Verify the FQDN in the Fully qualified domain name (FQDN) box.
16. Key in the IP address and click Add Host.

HINT: With the DNSCMD utility, which is a tool in Windows Server 2003 Support Tools, you may add the record by using the following command:

dnscmd <dnsserver_ip> /recordadd <domain.com> _sip._tcp SRV 0 100 5060 <server>.<domainname.com>