1. Name-spaces

Correct population of the name spaces is crucial to the host and business applications to determine what they should execute at start-up.

Each Name-space will have a separate series of DNS domains in associated with them.

Each of these name spaces resolve different problems.

Where possible, deployment of any resources should be via a XCOPY like method, so simplifying the installation and migration of software between environments through the landscapes of the organisation.

2. Hosts

All hosts should be capable of being recreated and migrated from facility to facility or hosting provider to hosting provider.

There should be no concept of difference between a physical or virtualised host. It should be possible to move between physical and virtualised instantiation capabilities without any change to the host name.

We should be able to determine from a simple lookup how many instances of particularly operating systems we have deployed.

A clear format for the host names allows automation of searching for their use within configuration files, so to exclude any such use from configurations.

2.1. What are we trying to encode

- OS Variety (r for redhat, w for windows, s for solaris, v for VPN Cubed, c for Context Cubed)

- OS Version or release (550 for Redhat V5.50, 280 for Windows 2008, and 210 for Solaris 10)

- Is it a standalone host (n) or is it a cluster (c)

- Index (in 3 digits, zero filled) counting for these index will begin at 1.
  if the index is applied to a cluster the first two digits of the index show the cluster number and the last number indicated the number of the node in the cluster.

  Thus, w280c101 would be the first node in the Windows 2008 cluster w280c100
  r540n001 is the redhat 540 standalone server.

We require to have a cluster name for determining the configuration of the cluster, as the services are distributed around the cluster.

All hosts belong in an environment. For the example, all host will live in the domain prod.rdp.baml.com

These all should be DNS A records, and should be for the "primary" presentation network interface.

2.2. Interfaces

A host may have a number of interfaces. Each of these interfaces will have a DNS A record entry within the same domain as the host themselves. The additional interfaces shall simply be created by enumerating them as zero filled two digits after a dash and the letter e. Thus
        w280c011-e01 or w280c011-e12 .

2.3. VIPS

A Virtual IP is an additional logic address provided upon the existing interfaces. These are most commonly used in clusters., however may occur on hosts. These are DNS A Records

On a cluster, the VIPs are associated by taking the cluster-name (that is to say the 0 node number entry of the cluster name) and appending a has and the character v and two zero filled digits. e.g
        w280c101.prod.rdp.baml.com is the host name. Thus it is part of the cluster
w280c100.prod.rdp.baml.com. Thus any VIPs used by the cluster will be of the form w280c100-v01.prod.rdp.baml.com

On a host such as r540n001.prod.rdp.baml.com may have VIPs such as
                r540n001-v02.prod.rdp.baml.com

3. Physical

All Physical addresses should be DNS A records for the management access to devices or elements, or the controller of the virtualisation of these virtualisation. The use of asset tag or virtualisation instance is to allow the tracing for billing and physical maintenance purposes

An enumeration of a facility DNS domain will inform how many devices and reside within

An enumeration of the country DNS domain will informs host many facilities exist physical or virtual

We do not encode locations in the host name as assets can move between locations.

3.1. What are we trying to encode

- Asset tag – so we can trace hardware back to the vendor for support contracts

- location –

    - 2 Letter ISO Country Code or Hosting provider region.
      For example Amazon, has US,EU,APAC.

    - Facility or Virtualisation Farm.

When placing nodes into the Amazon network, you would take the host name returned from instantiation the AWS image.pre vpn and you'd place this in the appropriate domain. Thus one started in the US would appear as
        aws123123.amazon.us.rdp.baml.com
Other examples, are a device with an asset tag number 1231231 and put in facility in canary wharf would be d1231231.canary-wharf.uk.rdp.baml.com

3.2. Mapping OS instances to Location.

First we take the host for example

         w280c101.prod.rdp.baml.com

remove the host name and the environment from the fully qualified domain name; i.e. w280c101.prod. Append this to the a new DNS domain, loc.rdp.baml.com. This domain contains DNS CNAMES for the Physical hostnames. Thus, you perform a dns lookup on

         w280c101.prod.loc.rdp.baml.com

In turn this will return that management interface for the VM for example

         ws123123.amazon.us.rdp.baml.com

or physical device

         d1231231.canary-wharf.uk.rdp.baml.com

4. Business Services

A Business service and associated systems and packages should have a direct mapping to the business.. This means each Business or Infrastructure Service has a DNS sub-domain of its own.

For example copper.prod.rdp.baml.com would contain a series of DNS CNAMES which point to the DNS CNAMES which represent the packages which live in the prod.rdp.baml.com

4.1. What are we trying to encode

- What the relationships are between a business service and the underlying supporting infrastructure

- The ability for the business to re-point everything it interacts with to new infrastructure which is not owned by its existing provider.

4.2. Packages

Every Package should have a user-id. This user-id must be unique and matched by a DNS CNAME which is present as a CNAME which points to DNS A record which resides in the environment DNS sub-domain.

The user-id will be a member of the group which owns the application from which the Application is derived.

Package configuration MUST NOT ever refer to host names and will only refer other packages names.

4.3. Applications

Every application will have a user-id. It will have a group name which is associated with all packages which are derived from this application. There will be no DNS records which match these names.