

# Namespaces

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12:25 AM

- Namespace = a set of unique keys and associated attributes.
- Namespace should be managed formally in large and sophisticated environment.
  
- Namespace policies
  - Defining names
    - What names are permitted?
    - How are they selected?
    - How is collision resolved?
    - When is renaming allowed?
  - Access controls
    - What kind of protection or security does this namespace require?
    - What are we trying to protect the names from and why?
    - Do names need to be protected? Or is it their attributes?
    - Who can change bindings?
    - Can the owner of the record change all of it?
  - Longevity
    - When are entries in the namespace removed?
  - Scope
    - Where will this namespace be used?
    - Diameter = how widely a name is used.
    - Thickness = how many services use it?
  - Consistency
    - When the same name is used in multiple namespaces, which attributes will be kept consistent?
  - Reuse
    - How soon after a binding is removed will the name be reused again?
  
- Tips
  - Overload names with function and location to make debugging easier.
    - nyc-marketing, sjc-web-03
    - calendar for calendar server, mail for mail server
    - However, hide them with a level of indirection!
  - Name have security implications
    - sourcecodedeb vs. server05
    - Intruders might notice that workstations with special names belong to sysadmins.
  - For desktop workstations, name them after the owners.
  - The method used to update a namespace should be more secure than the system that depends on that namespace for security.
  - Once the customers get used to a name, it's hard to change. Therefore, use indirection.
  - Make a single, global namespace, and make all other namespaces align to the global one.
  - A name should not be reused too soon, especially email addresses.
  - Namespace management should be centralized for consistency. Save all your namespaces in a single host and propagate them to other hosts.
  - Try to use computer infrastructure namespace in other services such as telephone, keycard, etc. as well.