Groups, Profiles, and Objects

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Lecture 12

Application Server

- One of the jobs of the CDS is to provide the binding information for applications.
- An application entry in the CDS is an object that contains the interface identifier and the IP of the machine where the service is currently running.
- This information is placed their by the service.

Application Client

- The application client asks the name space for a service. The name space returns this binding.
- This is done in two steps
- get the IP from the cds
- get the port from the end point mapper at that IP

Cached

- This binding is then cached on the local machine by the clerk and eventually flushed to disk. When the application client wants the information again, it comes from the cache. If the CDS is done, the information is used from the cache.
- Once the binding is established, the client talks directly to the server.

Stale Information

- The CDS is abundant with stale information.
- The Clerk caches are abundant with stale information.
- The client can force a cache re-fresh and go directly to the CDS for the best information.
- The rpc does auto time out and binding repair.

Groups of Services

- A group of services may be available. Any one service in the group can do the job. Here you have many identical services to handle the client request.
- This is done with a CDS group. Not the same as a Security group.

Groups

- example name or group /.:/math
- There may be many math servers. Their names could be /.:/math/one, /.:/math/two, or /.:/math/three.
- The client asks for math and will randomly get the bindings for one, two, or three.
- If the service goes off line, the rpc will go find another service.

Why Groups?

- Load balancing
- Change in the load requirements. If you need more machine, no problem. If you need less machines, no problem.
- Fault tolerance. If the services fails, no problems, just try another service. The rpc plus a few lines of code, will do this for you.
- Parallelism of tasks.

Profiles

- Profiles are just like groups except they have a priority for each entry. You just don’t get a service but the best service based on the priority.

The profile hierarchy

- The profiles form a hierarchy.
- the root of the hierarchy is /.:/cell-profile.
- The system will try to find servers, following the hierarchy, until a binding is established.

What is a binding?

- IP
- Version number
- UUID of the interface
- Port number
- There is a binding for each network protocol, tcp, udp

End Point Mapper

- The end point mapper is a list of all services running on that machine. When a service starts, it registers with the end point mapper.
- The mapper runs on port 135