Agenda

- Problem Statement

- Overview

- New Flavor (1:4)

Problem Statement

- Applications have specific requirements

- Cloud infrastructure becomes scattered

- Challenging to scale

- Current Flavors are limited and non-dynamic

Overview

- Flavors in OpenStack define the size of a virtual machine:
  - vCPU, vRAM, vDisk(root, ephemeral, swap)
  - Metadata (extra_specs) – for example:
    - cpu_pinning
    - huge_pages

- Applications can be categorized based on their resource requirements towards cloud infrastructure

- Additional flavors are required for an application deployment due to different VM requirements

(New) flavor for CPU Centric host group 1:4

Generic (1:4 vCPU:RAM ratio)				
.conf (1)	vCPU (2)	RAM (GB)	External Storage (GB) (3)	New Attributes
.tiny	-	-	-	-
.small	1	4	10	cpu_policy=shared mem_page_size=small generic=true
.medium	2	8	100	cpu_policy=shared mem_page_size=small generic=true
.large	4	16	100	cpu_policy=shared mem_page_size=small generic=true
.2xlarge	8	32	100	cpu_policy=shared mem_page_size=small generic=true
.4xlarge	16	64	100	cpu_policy=shared mem_page_size=small generic=true
.8xlarge	32	128	100	cpu_policy=shared mem_page_size=small generic=true

(1) tiny configuration not proposed
(2) Limit not a standard value (the current table in CNTT is for VNF → CNF)
(3) Local Storage is not considered

Supported flavor metadata attributes:

cpu pinning
- cpu_policy=dedicated is specified when cpu pinning is used
- cpu_policy=shared is specified when cpu pinning is not used

huge pages
- mem_page_size=1GB is specified when huge pages are used
- mem_page_size=small is specified when huge pages are not used

vCPU struct
- Generic = true is specified when generic vCPU "struct" is used
- Generic = false is specified when only specifc vCPU attributes shall be is used

When these are explicitly specified also when not used, they become visible to the nova scheduler which can then better ensure that all workloads are scheduled to the right servers