# Problem to solve

Collect all quota/usages data at project level

The basic api provide a way to get quota/usage for a specific project.

Using :

Request: GET /v2/{tenant\_id}/limits/{tenant\_id}

Refer to:

<http://docs.openstack.org/api/openstack-compute/2/content/GET_os-used-limits-for-admins-v2_getCustomerLimits__v2__tenant_id__limits__tenant_id__ext-compute_limits_admins.html>

But there seems no api for administrator to get a total list of quotas just with one request. This means more projects we maintained, more http request to be commit.(O(n)).

# To solve scale problem: O(n) -> O(1)

a solution is to extend current api. A sample as following:

Request : GET: v2/{tenant\_id}/limits/detail

Description: Get a total list of limits at project level for all projects

Parameters:

all\_tenants=1 : only for administrator and return all quotas at project level including non-mine projects.

all\_tenants=0(default) : only return quotas for current project .

# Limitation

If we access backend db, there’re 2 tables to persist quota/usage data: quotas and quota\_usages.

Both of them only persist data while some event is triggered. E.g. when a project is launching a new VM.

This means for the projects who didn’t use any resources or didn’t modified the quota setting(will apply default quota setting), quotas data for these projects won’t be persisted.

So PPM will get a total list of projects and check quota/usages. If the value is not available(means not persisted in db), we can use default values to apply.

# Python Code changes in Icehouse/stable:

<https://github.com/henryzzq/nova/compare/stable/icehouse?expand=1>

# Demo Server to have a try:

10.74.125.116

Steps to call the api:

1. Get token id:

curl -i 'http://10.74.125.116:35357/v2.0/tokens' -X POST -H "Accept: application/json" -H "Content-Type: application/json" -H "User-Agent: python-novaclient" -d '{"auth": {"tenantName": "admin", "passwordCredentials": {"username": "admin", "password": "cisco123"}}}'

1. set the token id(according to step1 response) and call this api:

curl -i 'http://10.74.125.116:8774/v2/4a6bdf89f7f146dfb5792563ac83e8df/limits/detail?all\_tenants=1' -X GET -H "Accept: application/json" -H "User-Agent: python-novaclient" -H "X-Auth-Project-Id: admin" -H "X-Auth-Token: **{$token\_id}**"

Response sample as following:

{"limits": [{"maxServerMeta": 128, "maxPersonality": 5, "maxImageMeta": 128, "totalCoresUsed": 1, "maxPersonalitySize": 10240, "totalRAMUsed": 512, "totalInstancesUsed": 1, "totalSecurityGroupsUsed": 1, "maxTotalInstances": 10, "project\_id": "499292b0747048879f1e906826b290a2", "maxTotalRAMSize": 51200, "maxTotalCores": 21}, {"maxServerMeta": 128, "maxPersonality": 5, "maxImageMeta": 128, "maxPersonalitySize": 10240, "maxTotalCores": 21, "maxTotalInstances": 10, "project\_id": "68e33a2be82e4548a07ba998c03db90b", "maxTotalRAMSize": 51200}, {"maxServerMeta": 128, "maxPersonality": 5, "maxImageMeta": 128, "maxPersonalitySize": 10240, "maxTotalCores": 20, "maxTotalInstances": 10, "project\_id": "10b0985a572545d7a7224fed11cda8a9", "maxTotalRAMSize": 51200}, {"maxServerMeta": 128, "maxPersonality": 5, "maxImageMeta": 128, "totalCoresUsed": 1, "maxPersonalitySize": 10240, "totalRAMUsed": 512, "totalInstancesUsed": 1, "totalSecurityGroupsUsed": 1, "maxTotalInstances": 10, "project\_id": "bea4c605874f4a0b993fbc84b3958216", "maxTotalRAMSize": 51200, "maxTotalCores": 21}, {"maxServerMeta": 128, "maxSecurityGroupRules": 20, "maxPersonality": 5, "maxImageMeta": 128, "totalCoresUsed": 6, "maxPersonalitySize": 10240, "maxTotalKeypairs": 100, "totalRAMUsed": 10752, "maxSecurityGroups": 10, "totalInstancesUsed": 6, "totalSecurityGroupsUsed": 1, "maxTotalFloatingIps": 10, "maxTotalInstances": 10, "project\_id": "4a6bdf89f7f146dfb5792563ac83e8df", "maxTotalRAMSize": 51200, "maxTotalCores": 20}, {"maxServerMeta": 128, "maxPersonality": 5, "maxImageMeta": 128, "maxPersonalitySize": 10240, "maxTotalCores": 20, "maxTotalInstances": 10, "project\_id": "473722ce861d41f0ab158361cc197702", "maxTotalRAMSize": 51200}]}