Mac Manager Requirements

1. Allocate vip mac (virtual mac address) for all the tenants/vpcs

* e.g) (VPC 1, Port 1) 🡪 MAC 1

1. Release (port, mac) association when a port is released
2. Guarantee unique of mac address in region scope
3. Algorithm with random, but less conflict possibility
4. Fail back mechanism if conflict
5. Allow onboarding a list of mac ranges
6. Delete a list of mac ranges.
7. APIs to activate and deactivate a mac address
8. Working together with other services including api gateway, vpc manager, and route manager

Rest APIs

**(1) Get(Verify) Mac State By MacAddress**

* Method: GET
* Request: /macaddress/{mac}
* Request Parameter:
  + @PathVariable String mac,
* Response: mac address state
* Example

Request:

http://127.0.0.1:8080/mac/00-14-2A-3B-47-37

Response:

{

"mac\_state": {

"project\_id": "3dda2801-d675-4688-a63f-dcda8d327f50",

"vpc\_id": "9192a4d4-ffff-4ece-b3f0-8d36e3d88038",

"port\_id": "f37810eb-7f83-45fa-a4d4-1b31e75399df",

"mac": "00-14-2A-3B-47-37"

}

}

**(2) Create Mac State (= Allocate Mac Address to Port)**

* Method: POST
* Request: /mac
* Request Parameter:
* Response: mac state
* Example

Request:

http://127.0.0.1:8080/mac

Body:

{

"mac\_state": {

"project\_id": "3dda2801-d675-4688-a63f-dcda8d327f50",

"vpc\_id": "9192a4d4-ffff-4ece-b3f0-8d36e3d88038",

"port\_id": " f37810eb-7f83-45fa-a4d4-1b31e75399df"

"mac": “null”

}

}

Response:

{

"mac\_state": {

"project\_id": "3dda2801-d675-4688-a63f-dcda8d327f50",

"vpc\_id": "9192a4d4-ffff-4ece-b3f0-8d36e3d88038",

"port\_id": " f37810eb-7f83-45fa-a4d4-1b31e75399df",

"mac": "00-14-2A-3B-47-37"

}

}

**(3) Delete (Release) Mac State By Mac Address**

* Method: DELETE
* Request: /mac/{macaddress}
* Request Parameter: String macaddress
* Response: Mac state
* Example

Request:

http://127.0.0.1:8080/mac/{00-14-2A-3B-47-37}

Body:

{

"mac\_state": {

"project\_id": "3dda2801-d675-4688-a63f-dcda8d327f50",

"vpc\_id": "9192a4d4-ffff-4ece-b3f0-8d36e3d88038",

"port\_id": " f37810eb-7f83-45fa-a4d4-1b31e75399df",

"mac": "00-14-2A-3B-47-37"

}

}

Response:

{

"mac\_state": {

"project\_id": "null",

"vpc\_id": "null",

"port\_id": " null",

"mac": "00-14-2A-3B-47-37"

}

}

Mac Address Structure

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 |
| OU (Organization Unit), (Project\_id/Vpc\_id) in Alcor  ( 0 ~ 16383\*1024) | | | NIC (Network Interface Card), Port\_id  ( 0 ~ 16383\*1024) | | |

Redis / Mac Address Mapping

