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Topic: 基于**Senlin**的**Auto-Scaling**和**Auto-Healing**

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Channel: #senlin





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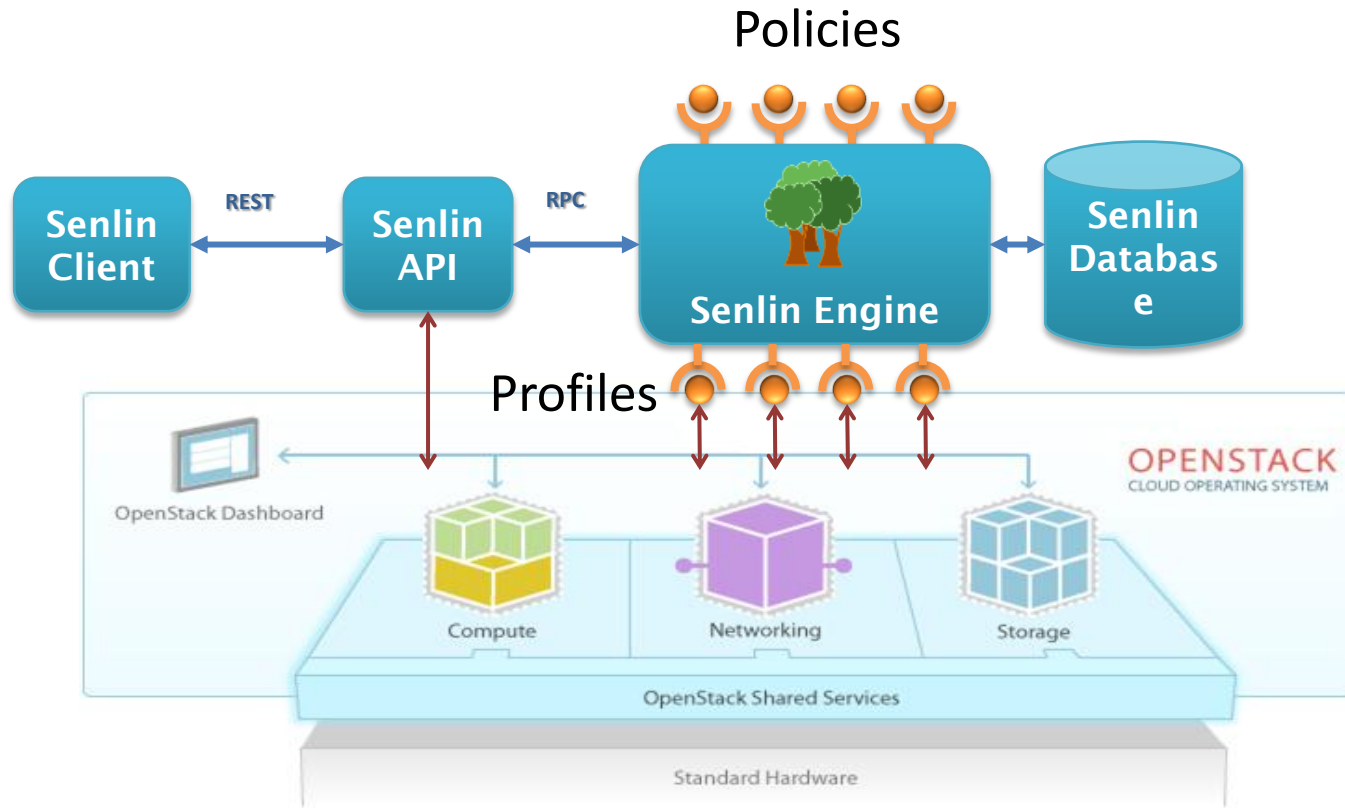
- Senlin Overview
- Auto-Scaling & Auto-Healing
- How we are using Senlin
- Q&A



Senlin Overview



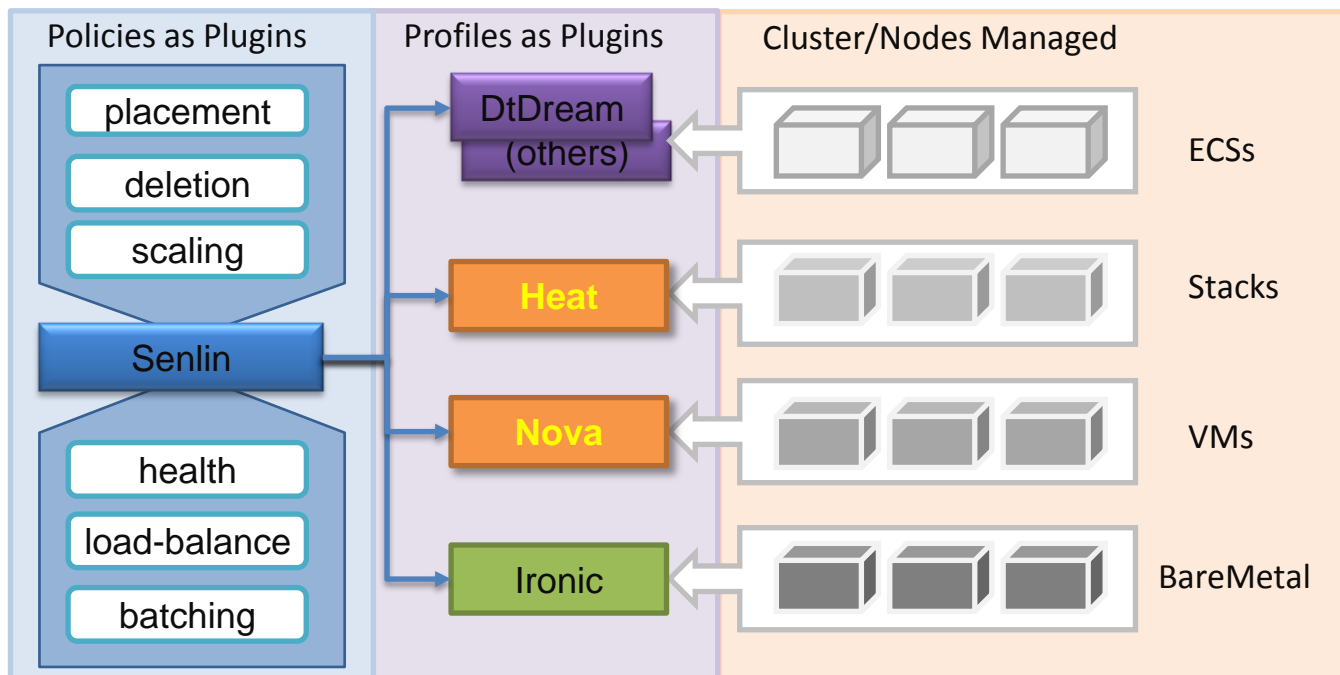
Senlin Architecture





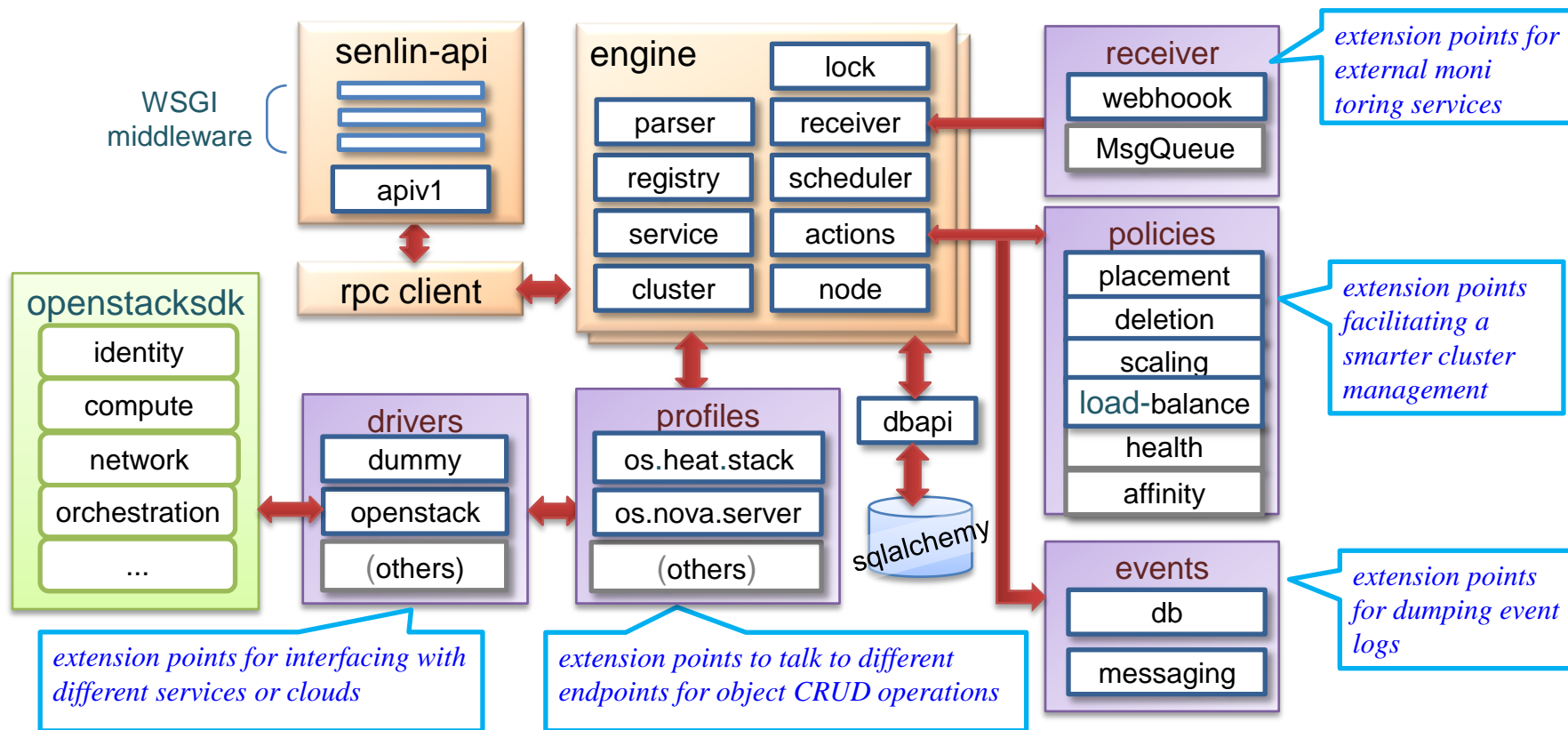
Senlin Features

- Profiles: A specification for the objects to be managed
- Policies: Rules to be checked/enforced before/after actions are performed





Senlin Server Architecture





Relation To Other Projects

- Senlin provides the array data type for cloud programming

```
struct person { // Heat stack containing senlin clusters
    int age;
    char name[0]; // Senlin cluster of nova servers
}
person team[10]; // Senlin cluster of Heat stacks
```

Ceilometer

Monasca

Sahara

Horizon

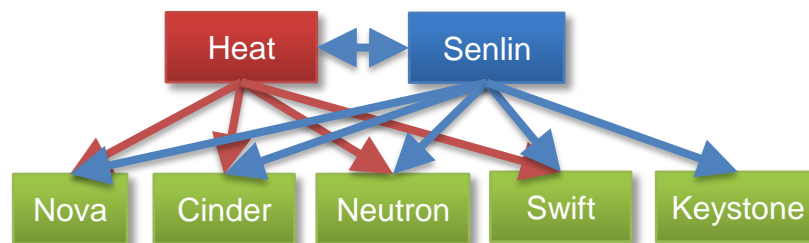
Tacker

Mistral

Magnum

Zaqar

Complex Data Types



Primitive Data Types



Auto-Scaling & Auto-Healing

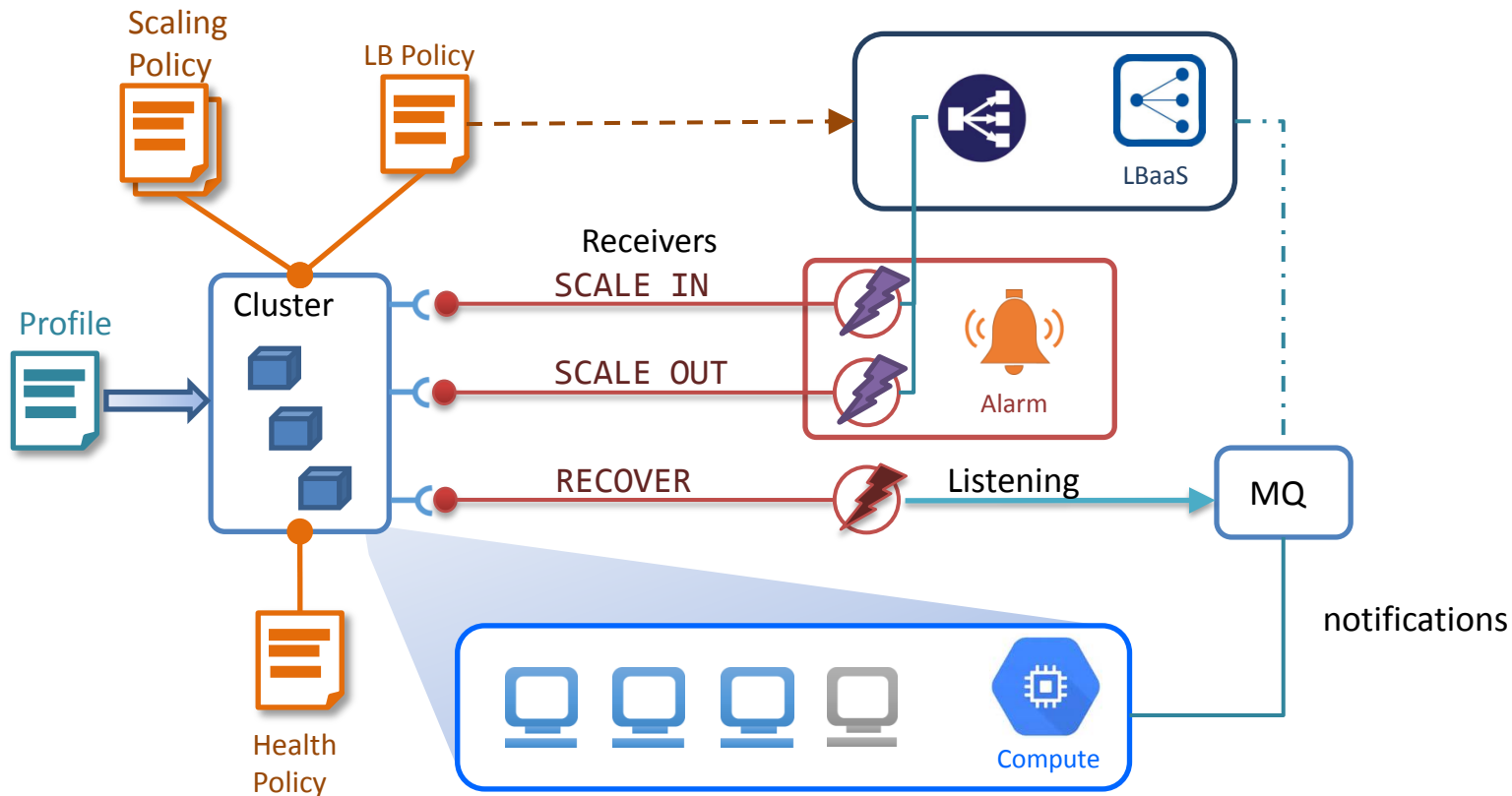


Generic Requirements

- Manageability
 - cluster membership
- Elasticity
 - key feature of a cloud, pay-as-you-go
- Load-Balanced
 - distribute loads evenly on all members
- Flexibility
 - customizable to meet the needs of real-life use cases
- Extensibility
 - easy to add resource types and policies
- Availability
 - detect the error status of resources

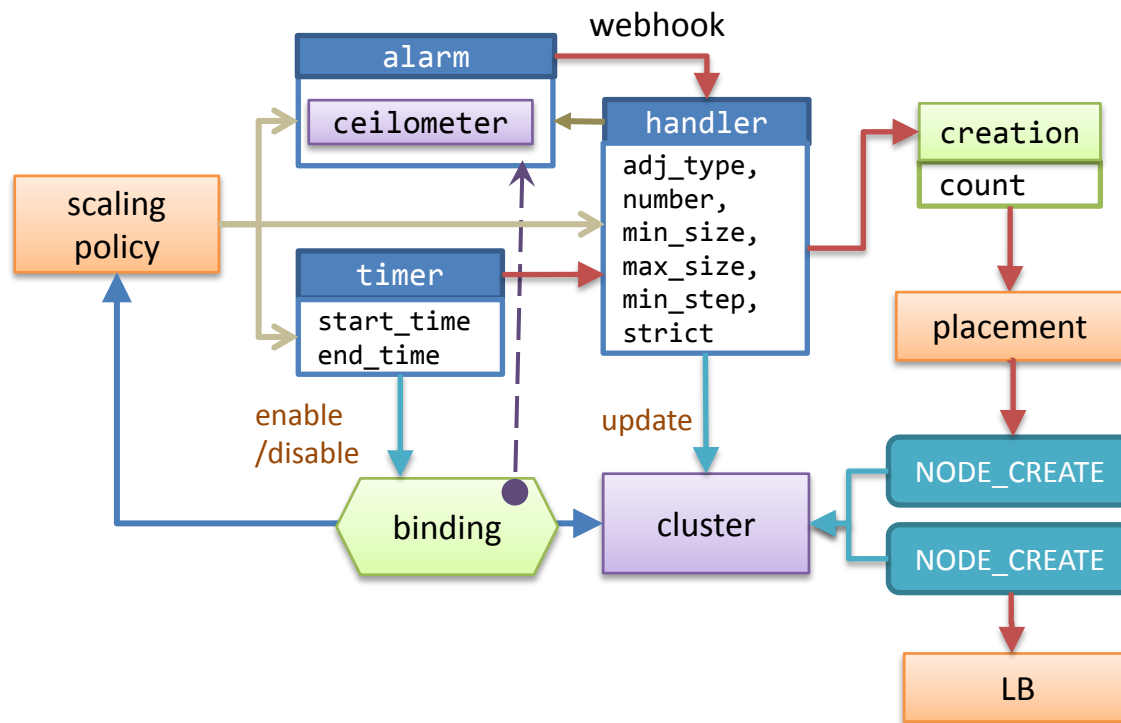


AS & AH Use Case





How policies work together?

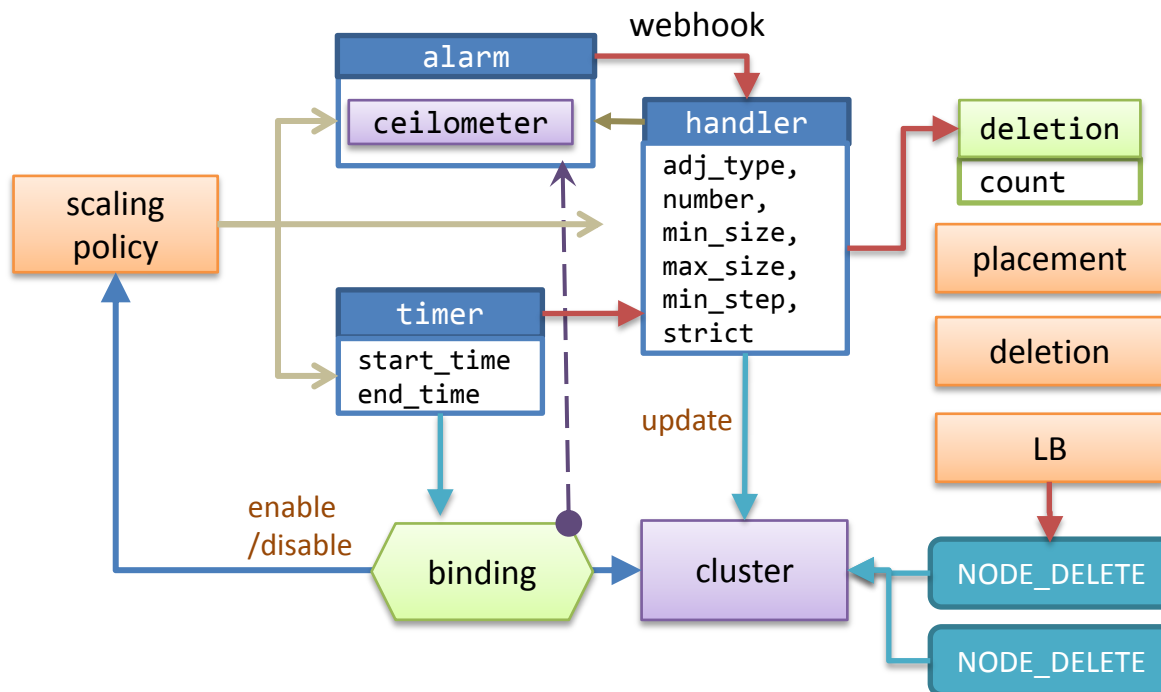


```
"creation": {"count": 2}
```

```
"creation": {
  "count": 2,
  "regions": {
    "RegionOne": 1,
    "RegionTwo": 1
  }
}
```



How policies work together?



```
"deletion": {"count": 2}
```

```
"deletion": {
  "count": 2,
  "regions": {
    "RegionOne": 1,
    "RegionTwo": 1
  }
}
```

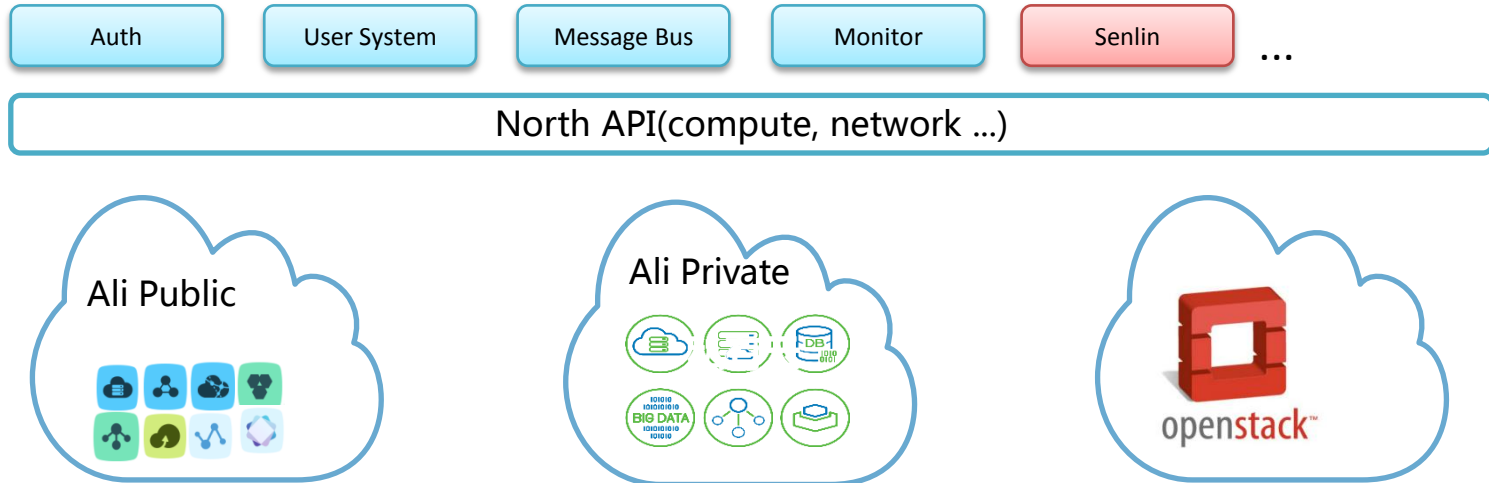
```
"deletion": {
  "count": 2,
  "candidates": []
}
```

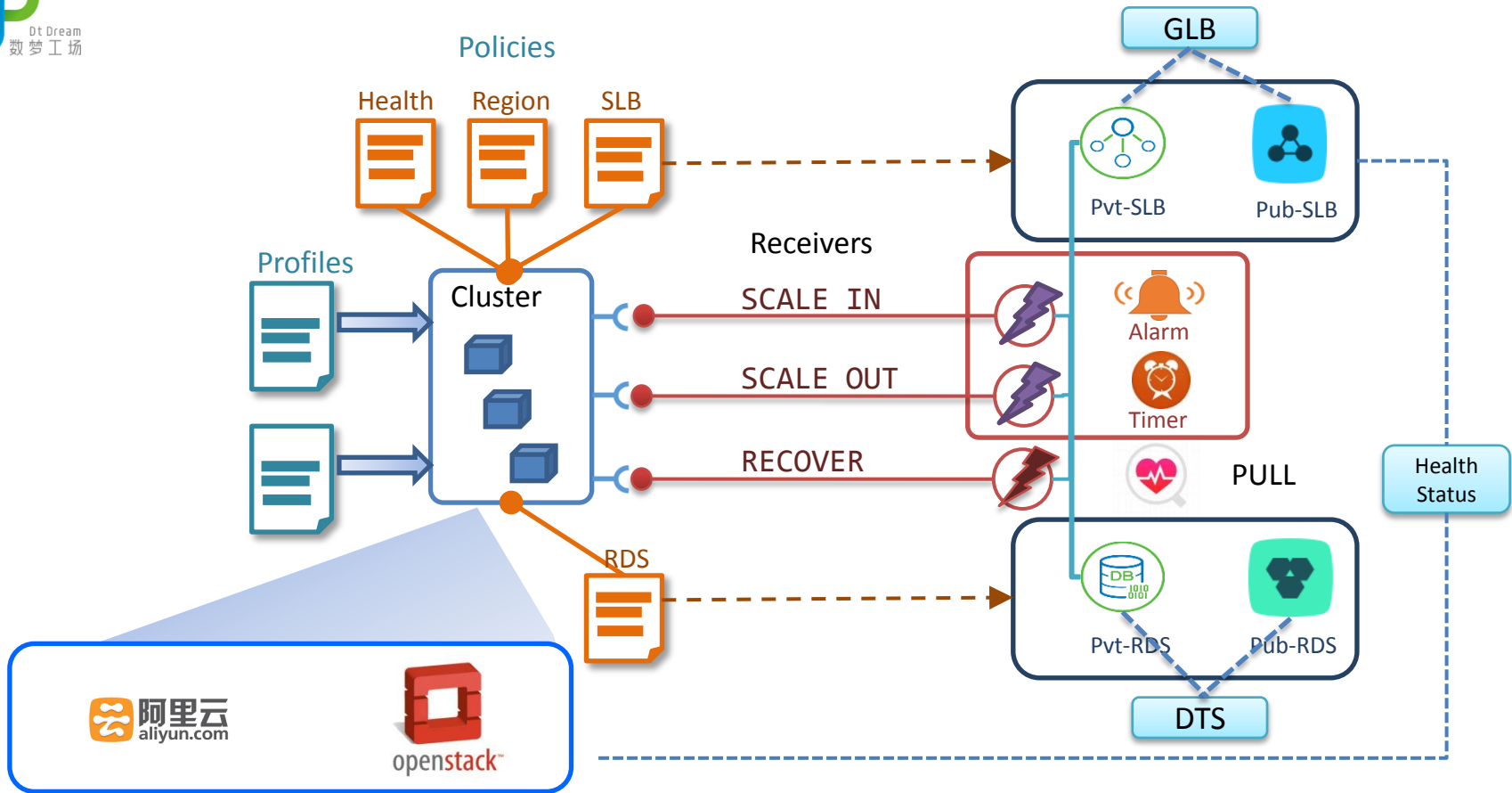


How we are using Senlin



Architecture

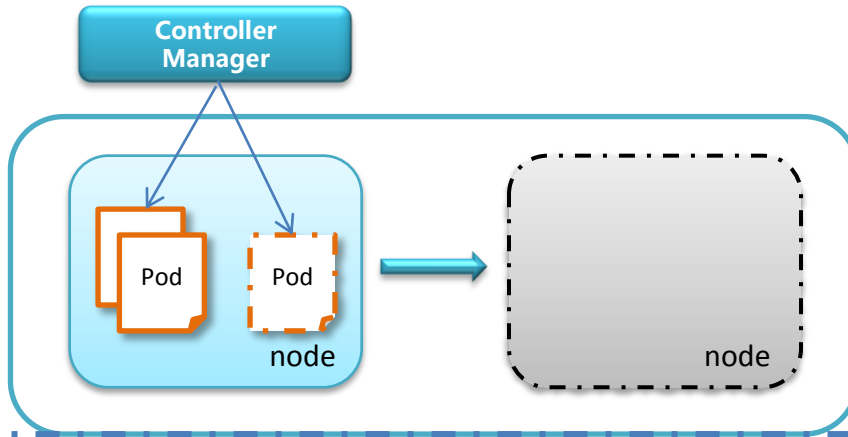




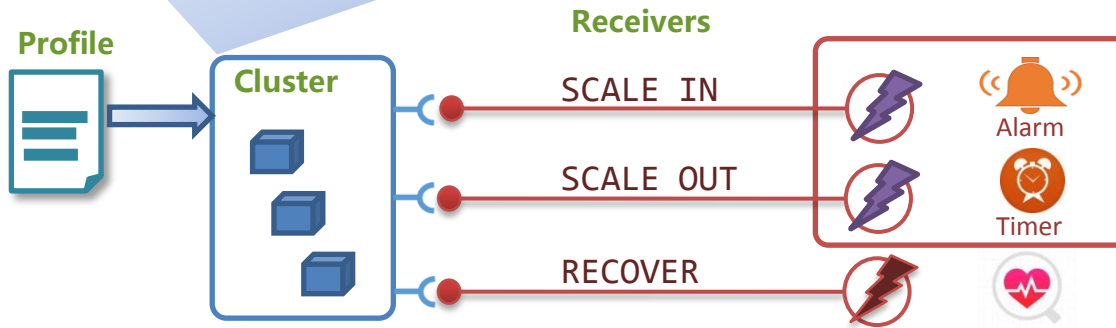


Senlin & K8S

APP Layer



Resource Layer





Health Policy

```
type: dtdream.policy.health
version: 1.0
properties:
  detection:
    type:
      -
        check_type: slb
        check_params:
      -
        check_type: ecs
        check_params:
  options:
    interval: 60
    delay: 60
  recovery:
    action_name: RECREATE
    action_params:
```

Region Policy

```
type: dtdream.policy.region
version: 1.0
properties:
  default_region:
    region_name: region_a
    region_id: region_a
    profile_id: profile_a
  regions:
    -
      region_name: region_b
      region_id: region_b
      profile: profile_b
      weight: 50
  policy:
    type: capacity
    value: 10
```



SLB Policy

```
type: dtdream.policy.slb
version: 1.0
properties:
  slbs:
    -
      region_name: region_a
      region_id: region_a
      slb_id: region_slb_id
      weight: 100
    -
      region_name: region_b
      region_id: region_b
      slb_id: region_slb_id
      weight: 100
```

RDS Policy

```
type: dtdream.policy.rds
version: 1.0
properties:
  rds:
    -
      region_name: region_a
      region_id: region_a
      rds_id: region_rds_id
    -
      region_name: region_b
      region_id: region_b
      rds_id: region_rds_id
```



Deletion Policy

```
type: dtdream.policy.deletion
version: 1.0
properties:
  # OLDEST_FIRST, YOUNGEST_FIRST, RANDOM
  criteria: OLDEST_FIRST
  # not required
  regions:
    -
      region_a
    -
      region_b
  destroy_after_deletion: True
```

Batch Policy

```
type: dtdream.policy.batching
version: 1.0
properties:
  min_in_service: 1
  max_batch_size: 2
  pause_time: 3
```



Q&A

THANK YOU