Cyclops

The ultimate billing framework for cloud services

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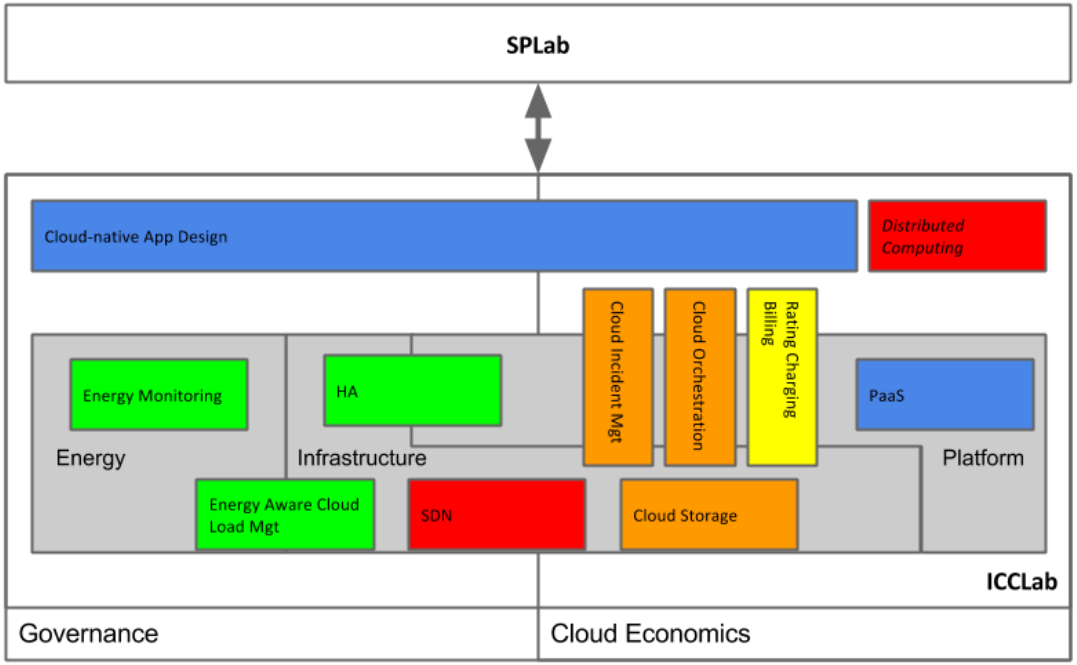
Switzerland

ICCLab - Who we are ?

InIT Cloud Computing Lab (ICCLab)



Cloud Services Today

- Volume based service
- Undifferentiated services like compute, storage & network
- Prices & SLAs are similar to each other

Value addition propositions

- Common basic service, differentiated VAS
- Ability to respond quickly to changing business requirements
- Similar approach for Rating, Charging & Billing (RCB) towards resellers, distributors, customer

What is RCB ?

- R = Rating
- C = Charging
- B = Billing

RCB: How things are done today?

- Semi automated process, rigid in nature
- Changes in portfolio requires changes in RCB component
- Many still do this process manually

RCB: How things should be done!

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RCB should be

- Generic
- Support changes to service portfolio
- Modular and not monolithic

Cyclops: USP

A billing framework for clouds designed from grounds up

- Architecture - Micro Services
- External applications - Plug n Play
- Dynamic rates for cloud resources
- Orchestration ready (RCBaaS)
- Native support for OpenStack

Cyclops: RCBaaS

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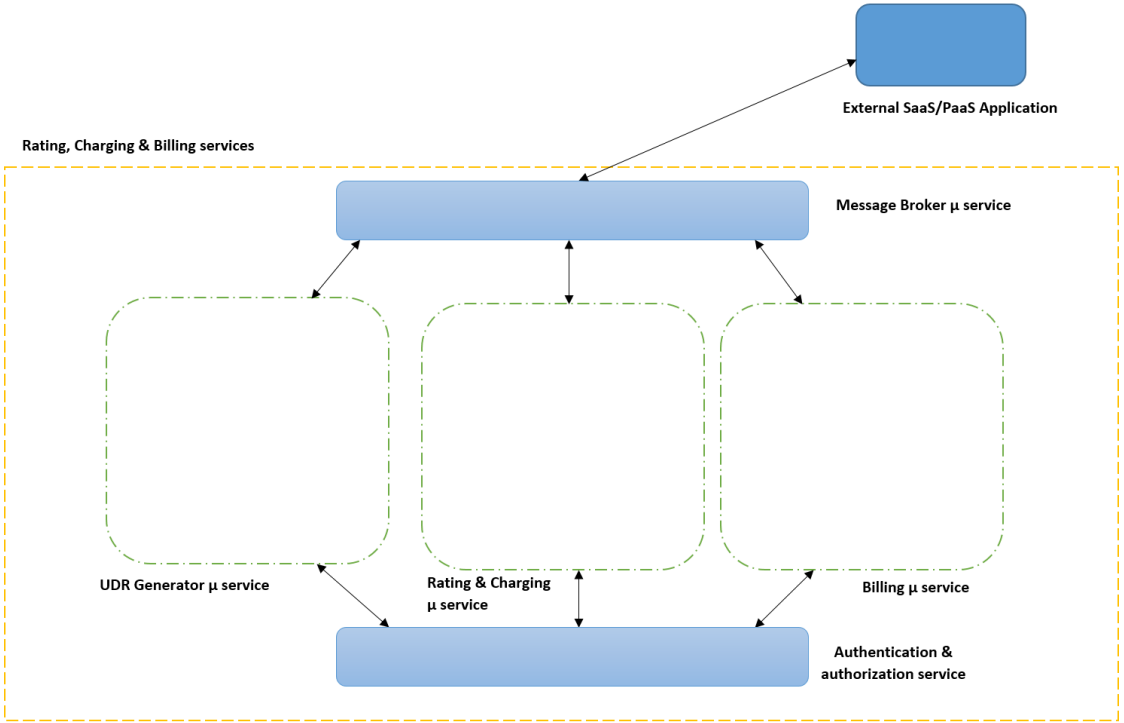
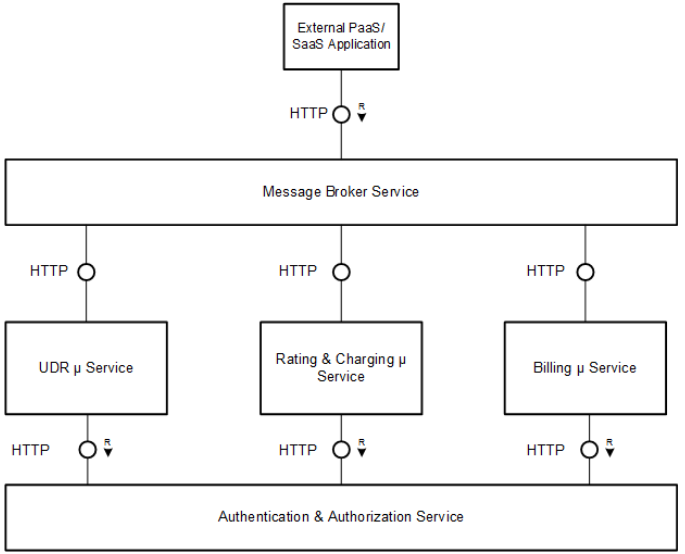
- One step installation & configuration
- Powered by OpenStack Heat
- Standalone installation scripts for micro services

Cyclops: Architecture

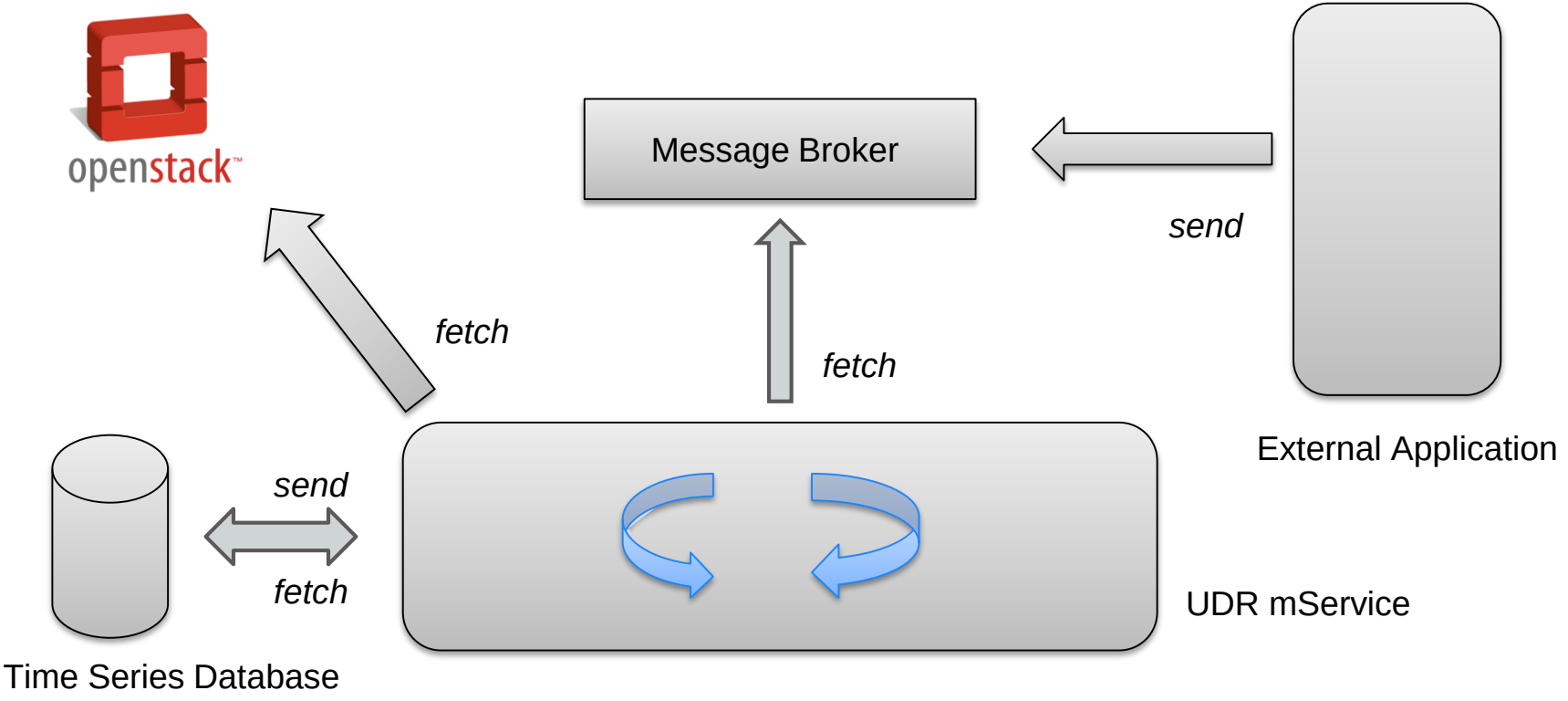




Cyclops: UDR mService

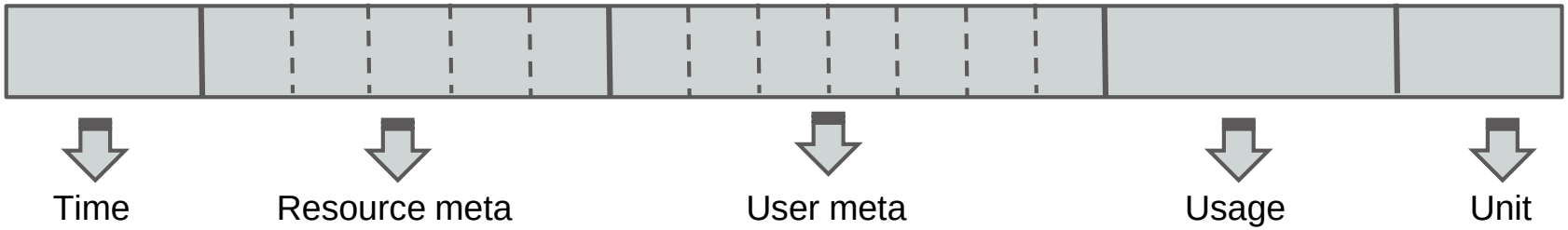
- Creation of Usage Data Records
- Interfaces with IaaS (OpenStack, CloudStack, etc)
- Gateway for external applications (PaaS/SaaS)
- API for data visualization & analytics, usage reports

Cyclops: UDR mService



Cyclops: UDR mService

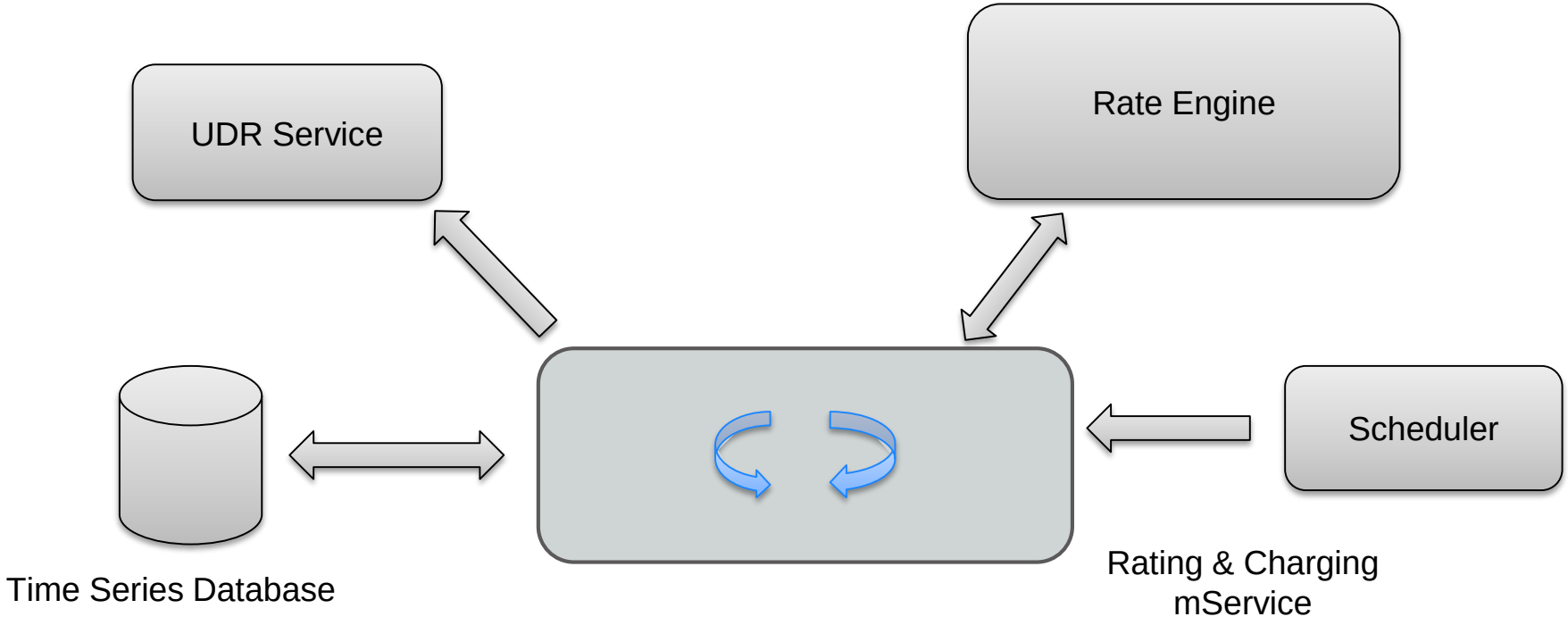
Usage Data Record



Cyclops: RC mService

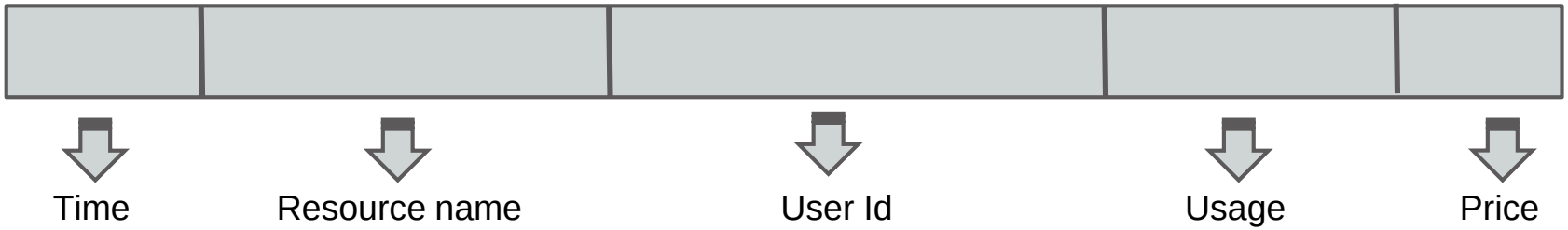
- Generation of Charge Data Records (CDR)
- Rating policy configuration (Dynamic/Static rating policy)
- Interfaces with the rate engine
- API for User’s Charge & resource’s rate report

Cyclops: RC mService



Cyclops: RC mService

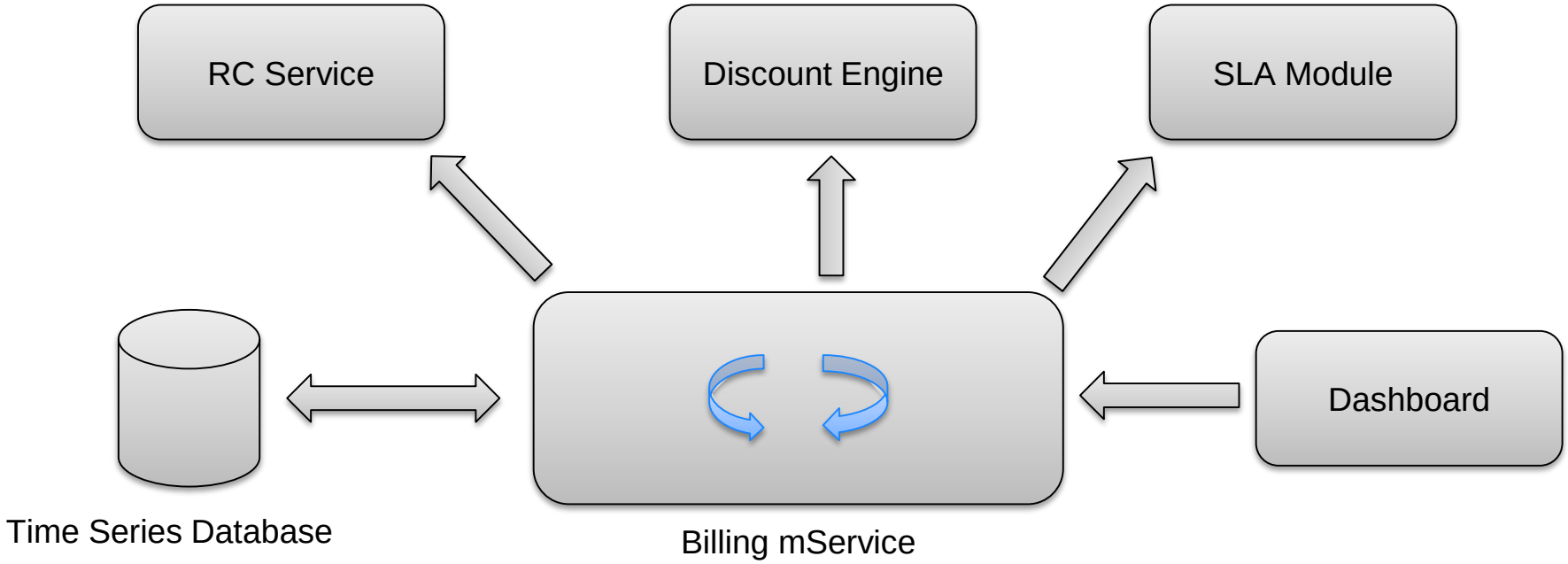
Charge Data Records



Cyclops: Billing mService

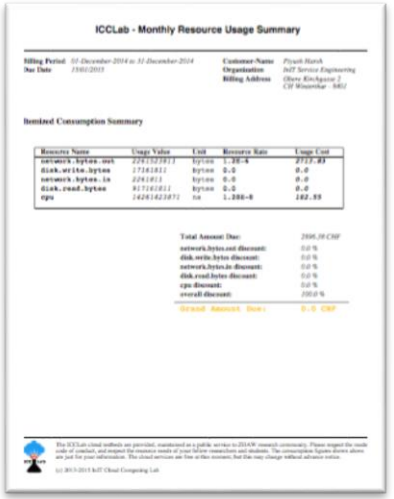
- Conversion of charge records into periodic bills
- Factors in discounts, promotions, etc..
- Integration with external SLA module
    - Support for Penalties

Cyclops: Billing mService

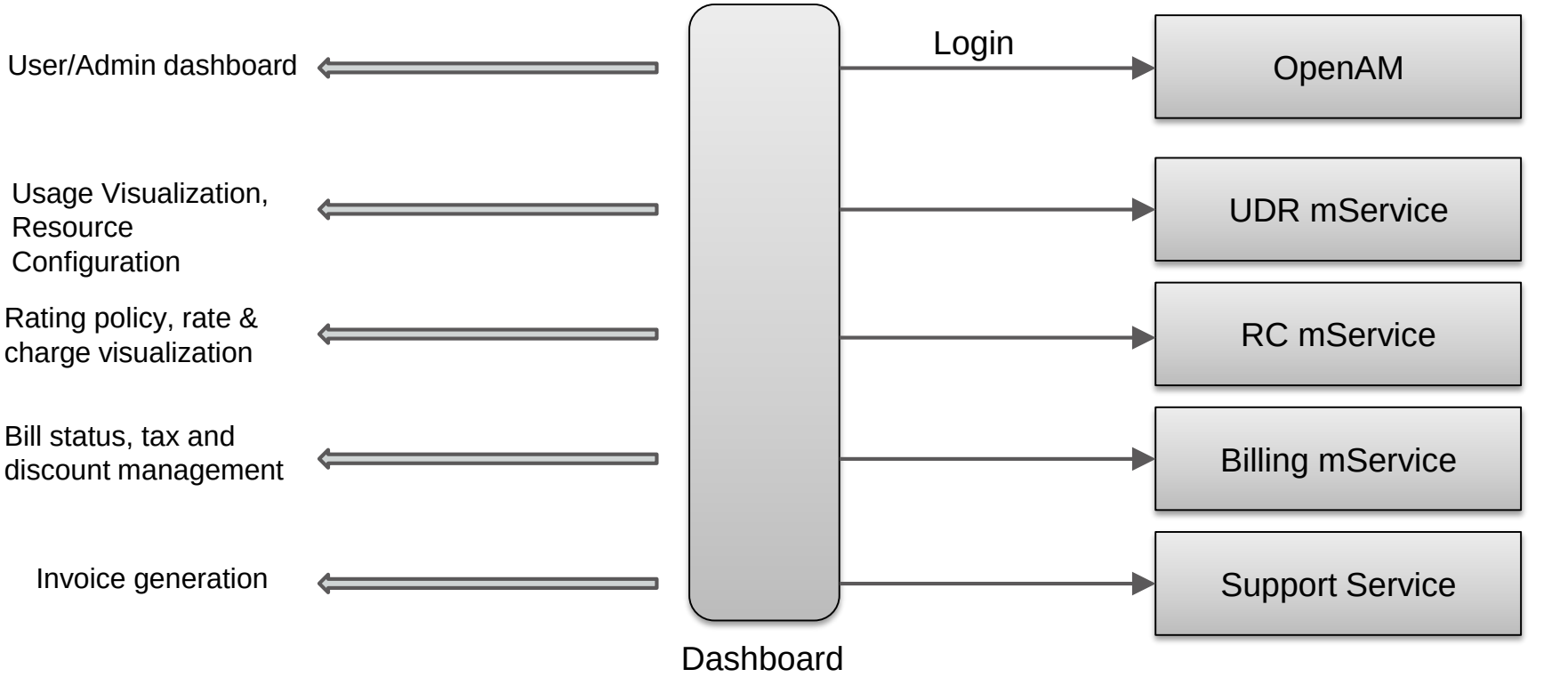


Cyclops: Dashboard

- Unified web based interface
- Differentiated views for administrators & end-users
- Uses APIs from RCB micro services
- Integrated with OpenAM OpenID Connect



Cyclops: Dashboard



Cyclops: USE CASES (MCN)

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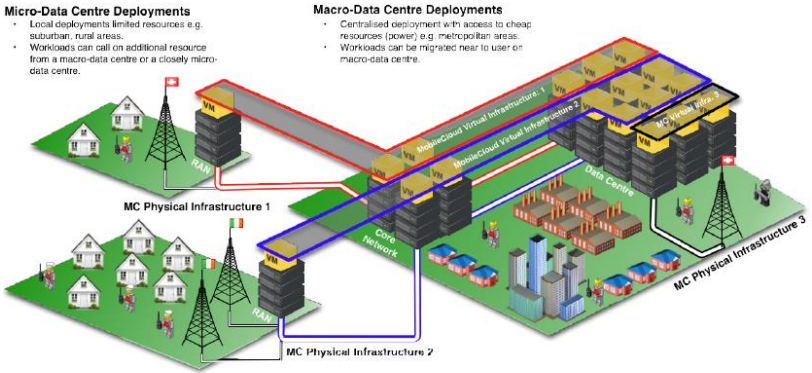
Consolidated billing for applications served out of cloud!

- Billing based on application specific metrics + usual cloud meters.

DSSaaS: Digital Signage System
Billing based on: #Number of Active Screens.

- Content served and hosted out of OpenStack clouds
- Cyclops UDR allows external usage data to be sent in, rated and billed upon.



Cyclops: USE CASES (TNova)

- Multiple stakeholder support
  - Revenue sharing between SP & NF-Provider

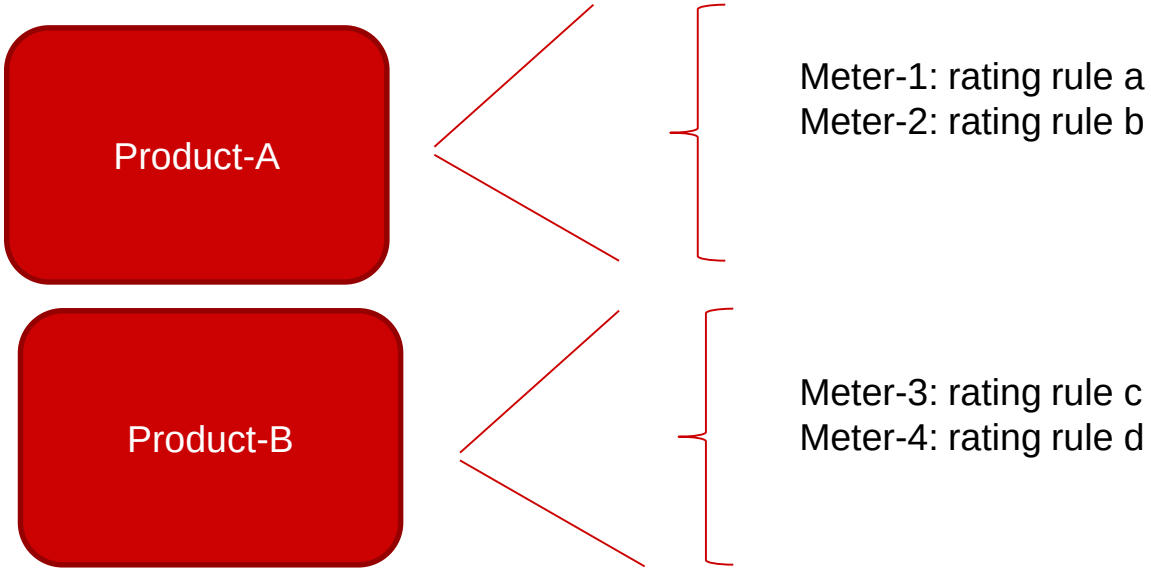
- Support for pay-as-you-go and subscription billing models
  - Subscription windows (begin/end) handled as events
  - UDR translates those events into time-based usage reports.

Cyclops: USE CASES (Product Catalog)

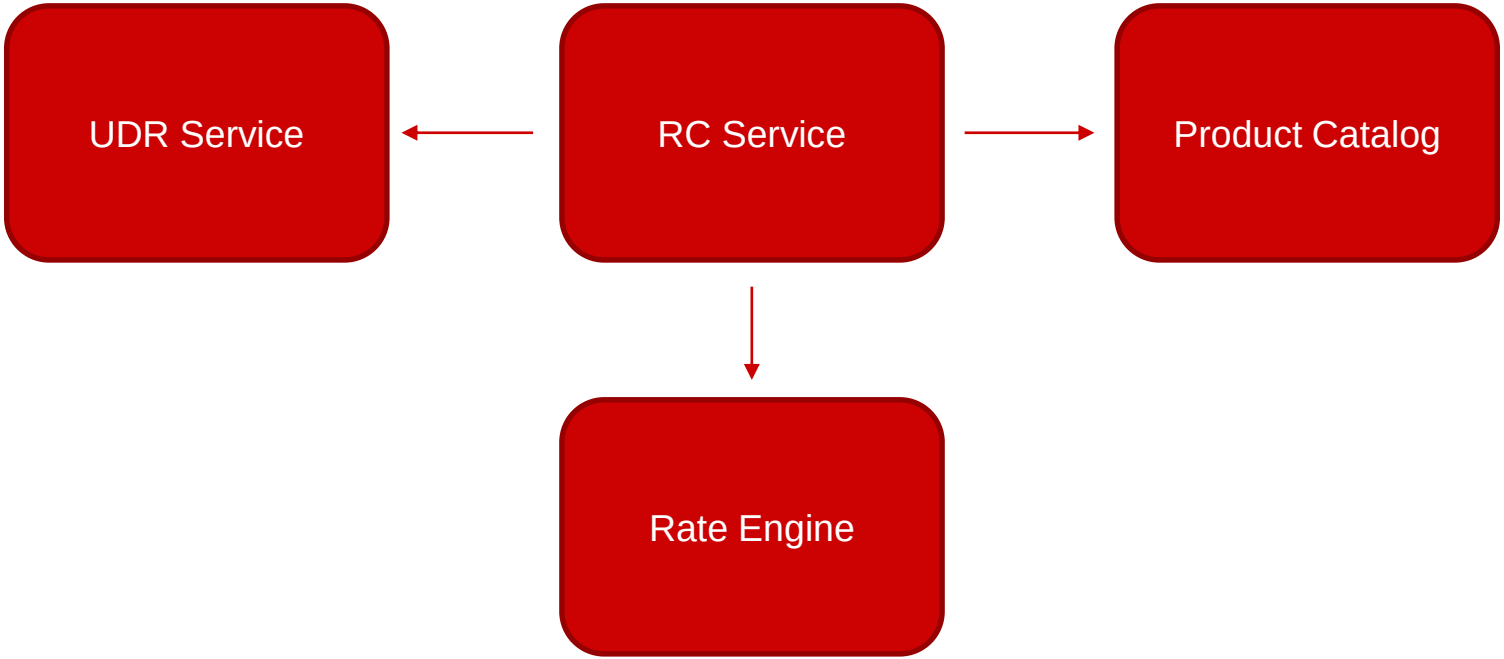
Base meters -> product bundles

- Rules attached to the bundles are stored in the rule engine
- Using bundles/products to offer different billing models such as Pay as you go (Usage based, Time based), Subscription
- Aimed at B2C scenarios

Cyclops: USE CASES (Product Catalog)



Cyclops: USE CASES (Product Catalog)



Cyclops: Short Demo

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Upcoming Features

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- Security - Full integration with OpenAM
- Intelligent caching
- Auditability: WORM
- Resource consumtion forecasting

General Availability

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CYCLOPS v1.0 Release – June 14th 2015

Apache Licence v2

http://icclab.github.io/cyclops

https://github.com/icclab/cyclops-udr

https://github.com/icclab/cyclops-billing

https://github.com/icclab/cyclops-rc

https://github.com/icclab/cyclops-support

Questions?

For further details contact -

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Backup Slides

Cyclops: USP

1. Subscription based billing
2. Resource Usage based billing
3. Visualization: Usage metrics, charge and resource rate
4. Invoice generation