

优化你的AWS账单

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AWS Certified

SysOps Administrator – Associate Level

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Has successfully completed the AWS Certification requirements and is recognized
as an **AWS Certified SysOps Administrator – Associate Level**

Certificate AWS-ASOA-1743


Director, Training and Certification

August 27, 2015

Certification Issue Date

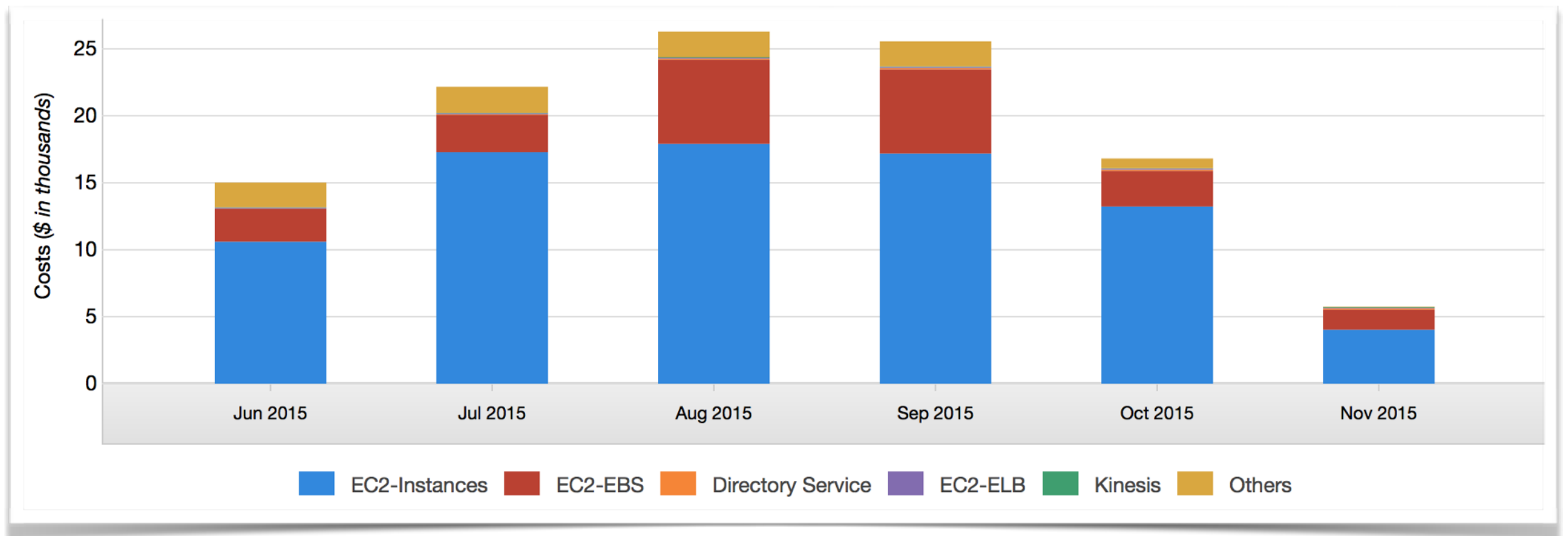
August 27, 2017

Expiration Date



Certified

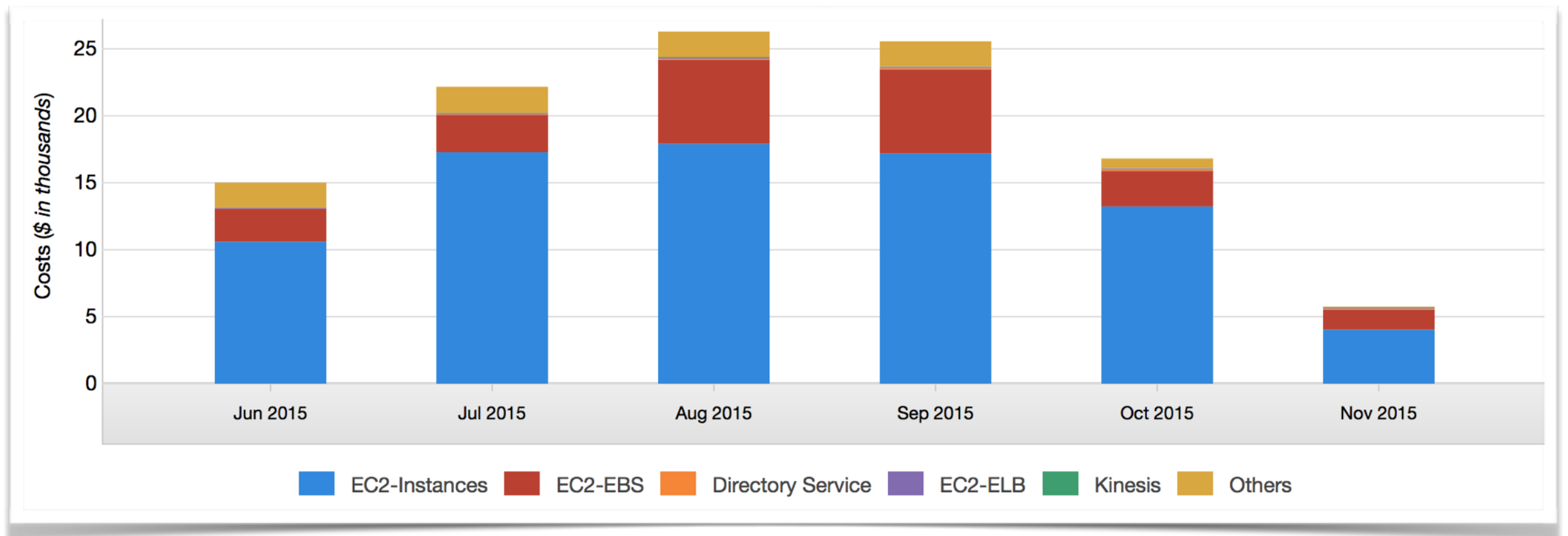
持证上岗



Do more with LE\$\$\$

主题

1. 关闭/删除 Instance
2. 删除未使用的EBS Volume
3. 删除Security Group
4. 节能模式
5. 了解AWS Billing报表

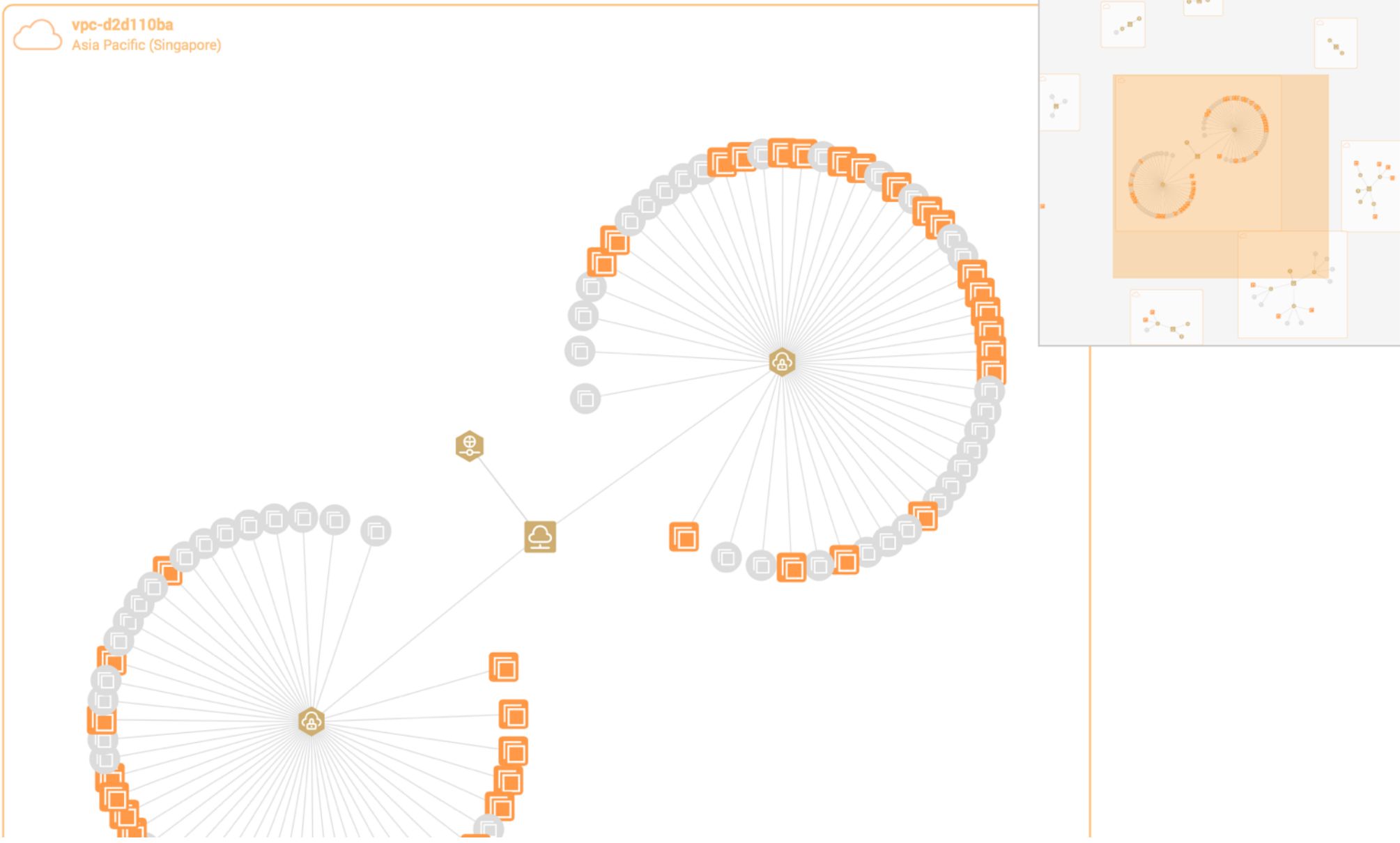


绝大部分开销在EC2

1. 关闭 / 删除 Instance

Search by ID or name.

- > VPC (8) ✓
- > Instance (122) ✓
- > Subnet (15) ✓
- Volume (122) ☐
- Security Group (137) ☐
- Network Interface (127) ☐
- ACL (9) ☐
- Route Table (11) ☐
- IAM ☐



但，究竟哪些
instance可以关？

谁污染， 谁治理

谁创建(运行)， 谁负
责

根据Key Pair

Select an existing key pair or create a new key pair



A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

NO! ! !

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

☒ Choose an existing key pair

Create a new key pair

Proceed without a key pair

☐ I acknowledge that I have access to the selected private key file (akamai_inject_sin.pem), and that without this file, I won't be able to log into my instance.

YES! !

Cancel

Launch Instances

根据Key Pair

Key Pair Usage

Key Name ↕	Region ↕	Instance Count ↕	Percent ↕
qakey	ap-southeast-1	55	<div><div></div><div>34%</div></div>
dev_key	ap-southeast-1	32	<div><div></div><div>20%</div></div>
saas_testing	ap-southeast-2	12	<div><div></div><div>7%</div></div>
saasapp_qa_auto	us-west-2	10	<div><div></div><div>6%</div></div>
aws_training_lab_key_saasapp_ap	ap-southeast-1	6	<div><div></div><div>4%</div></div>
jovekey	ap-southeast-1	6	<div><div></div><div>4%</div></div>

“为每个IAM创建一个新的Key Pair”

–Best Practice #1

追溯到CloudTrail

sourcetype=aws:cloudtrail i-8cb9a446 | table eventTime, eventName, user|

Previous year ▾ 🔍

▼

✓ 9 events (1/1/15 12:00:00.000 AM to 1/1/16 12:00:00.000 AM)

Job ▾ || ■ ↗ ⬇ 🖨 💡 Smart Mode ▾

Events

Patterns

Statistics (9)

Visualization

100 Per Page ▾

✎ Format ▾

Preview ▾

eventTime ⚡	eventName ⚡	user ⚡
2015-04-09T03:15:36Z	CreateTags	marissa
2015-04-09T03:15:09Z	CreateTags	marissa
2015-06-02T06:53:27Z	DescribeInstanceStatus	czhang
2015-06-02T06:46:09Z	DescribeInstances	czhang
2015-06-02T06:46:02Z	DescribeInstances	czhang
2015-10-20T02:06:50Z	DeleteTags	rzhang

“为每个用户创建IAM”

–Best Practice #0

Tag Schema



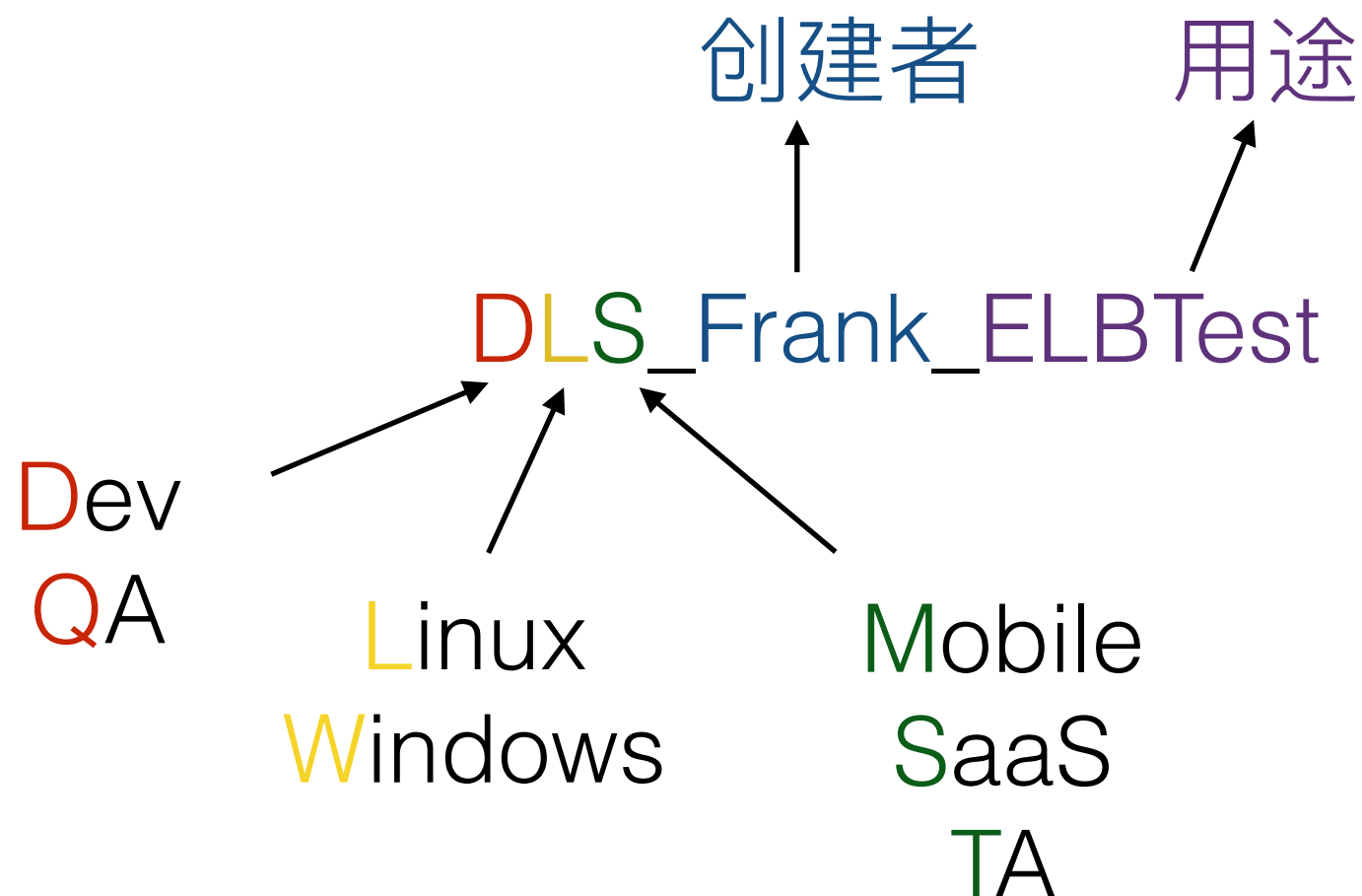
DLS_Frank_ELBTest



QLT_TA_automation

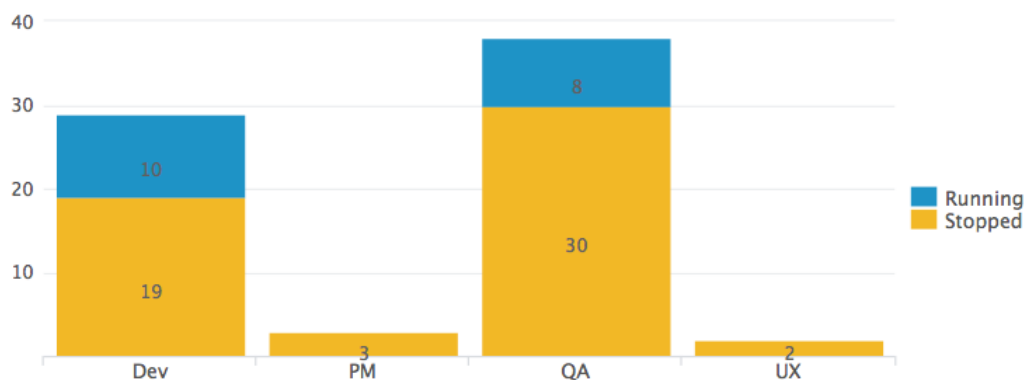


DLM_CUSTOMER_DOWNLOAD

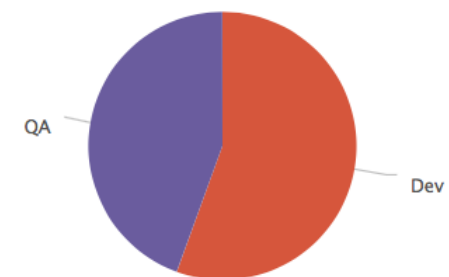


利用Tag

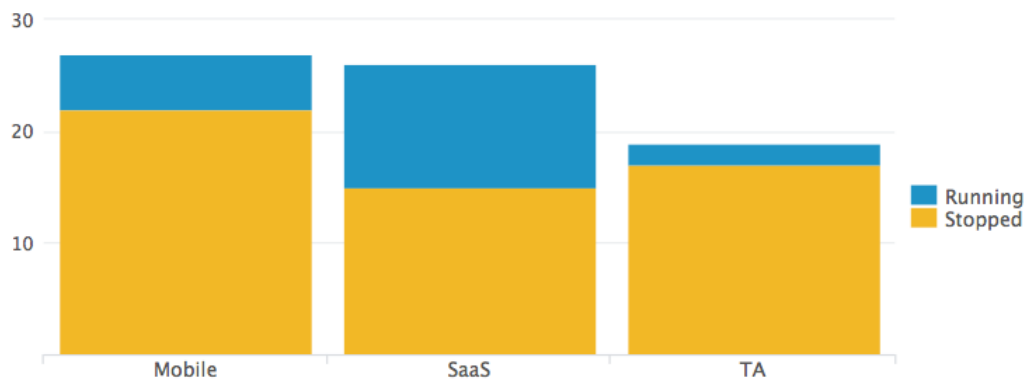
All instances by QA/Dev/PM/UX



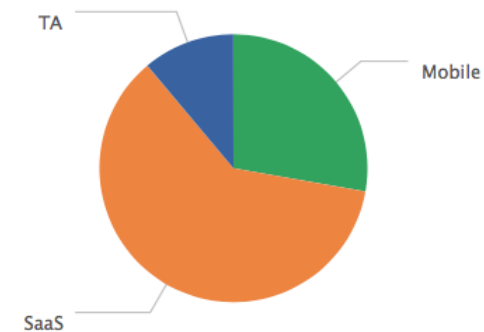
Running instances by QA/Dev/PM/UX



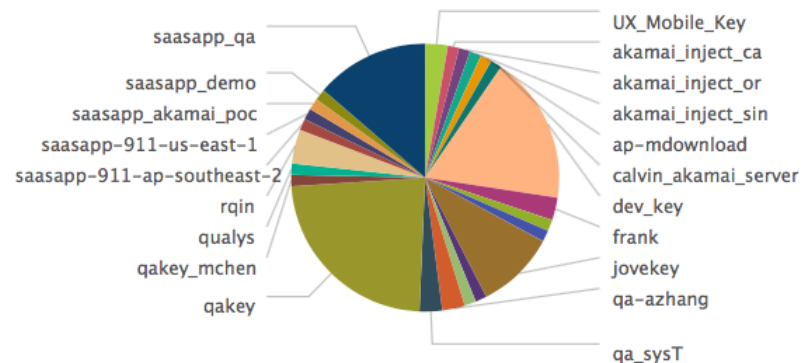
All instances by product



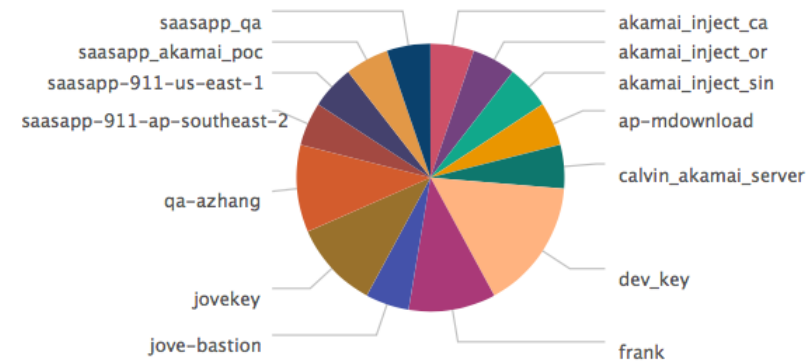
Running instances by product



All instances by key name



Running instances by key name



“代码要有注释， Instance要有Tag”

–Best Practice #2

2. 删除未使用的EBS Volume

?

算一笔账

Storage

29

UNUSED EBS VOLUMES

3,449

UNUSED EBS SIZE (GB)

463

S3 SIZE (GB)

$3449\text{GB} * \$0.12\text{GB/月} = \400每月
然而我们9月总帐单是\$25000

$400/25000 = 1.6\%$



–Best Practice #3

3. 删除Security Groups

Status of EC2 Instance

All



Tags (match all)

Select a tag key and valu

Time

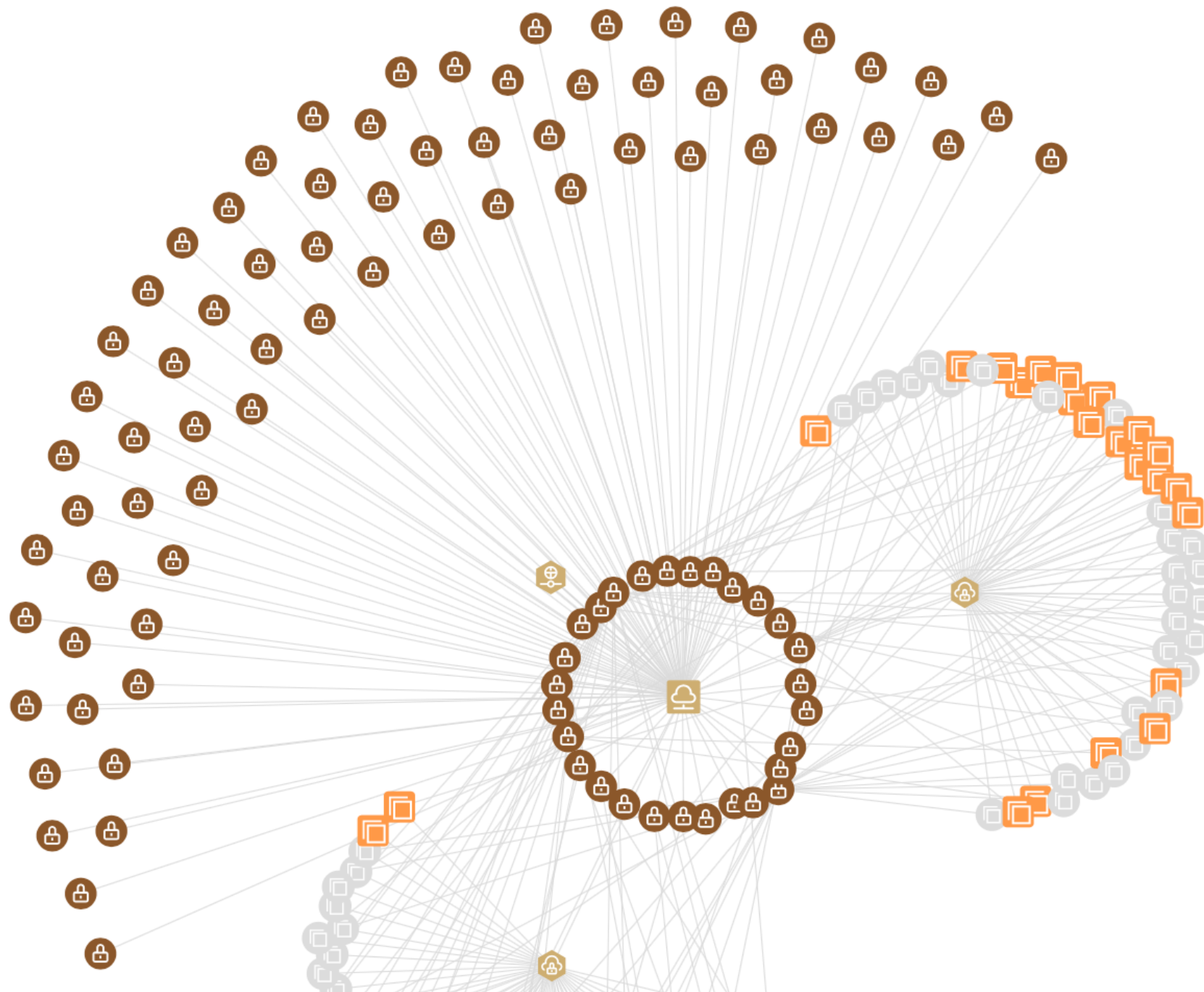
11/24/2014

01/12/2016

09/30/2015



vpc-d2d110ba
Asia Pacific (Singapore)



尽量复用已有的Security Group

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from groups.

Assign a security group: ☒ Create a **new** security group
☐ Select an **existing** security group

Security group name:

launch-wizard-8

Description:

launch-wizard-8 created 2016-03-17T14:41:45.710+08:00

NO!!

Type ⓘ

SSH

Protocol ⓘ

TCP

Port Range ⓘ

22

Add Rule

YES!!

自己动手，丰衣足食

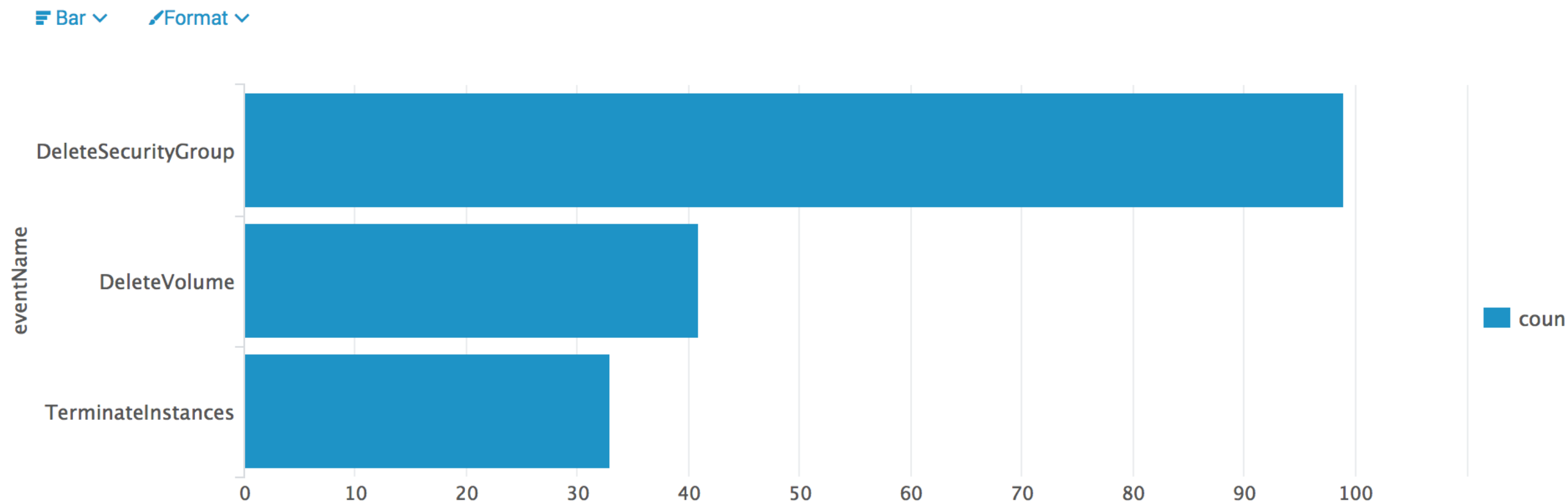
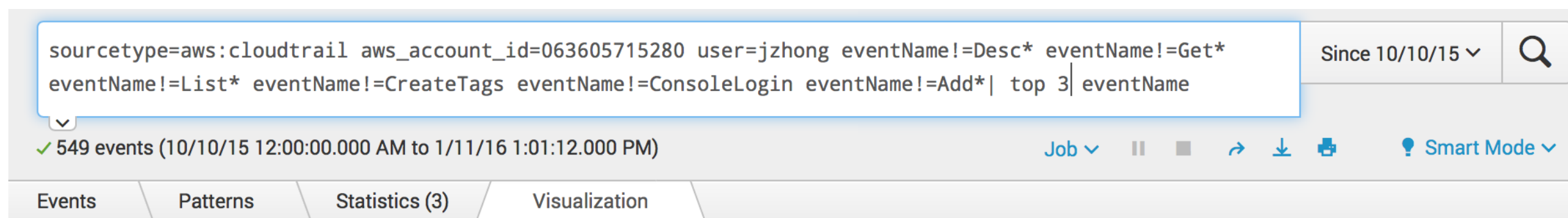
Unused Security Groups

Resource ID ↕	Name ↕	Group Name ↕	Region ↕	VPC ID ↕
sg-d5a15ab1		launch-wizard-7	Asia Pacific (Singapore)	vpc-d2d110ba
sg-e93ad78d		sec-airwatch-server	Asia Pacific (Singapore)	vpc-311b8f54
sg-ce5741ab		launch-wizard-6	Asia Pacific (Singapore)	vpc-d2d110ba
sg-aa1920cf		launch-wizard-4	Asia Pacific (Singapore)	vpc-d2d110ba
sg-32a3b757		default	Asia Pacific (Singapore)	vpc-43d0b826
sg-fb22b79e		sg_rqin_elk	Asia Pacific (Singapore)	vpc-d2d110ba
sg-3032a755		launch-wizard-10	Asia Pacific (Singapore)	vpc-d2d110ba
sg-6a36190f	splunk_on_ec2_secure	launch-wizard-3	Asia Pacific (Singapore)	vpc-d2d110ba
sg-4db85728		qa_s611	Asia Pacific (Singapore)	vpc-d2d110ba
sg-d0daf9b5		default	Asia Pacific (Singapore)	vpc-40c55125

“能用钱解决的问题，都不是问题”

–Best Practice #4

最终成果



4. 节能模式

``aws-description-sourcetype` (aws_account_id="063605715280") (region="**") state_code=16 | timechart dc(id) minspan=1h by instance_type`

Last 30 days

✓ 10,680 events (12/12/15 12:00:00.000 AM to 1/11/16 4:27:52.000 PM)

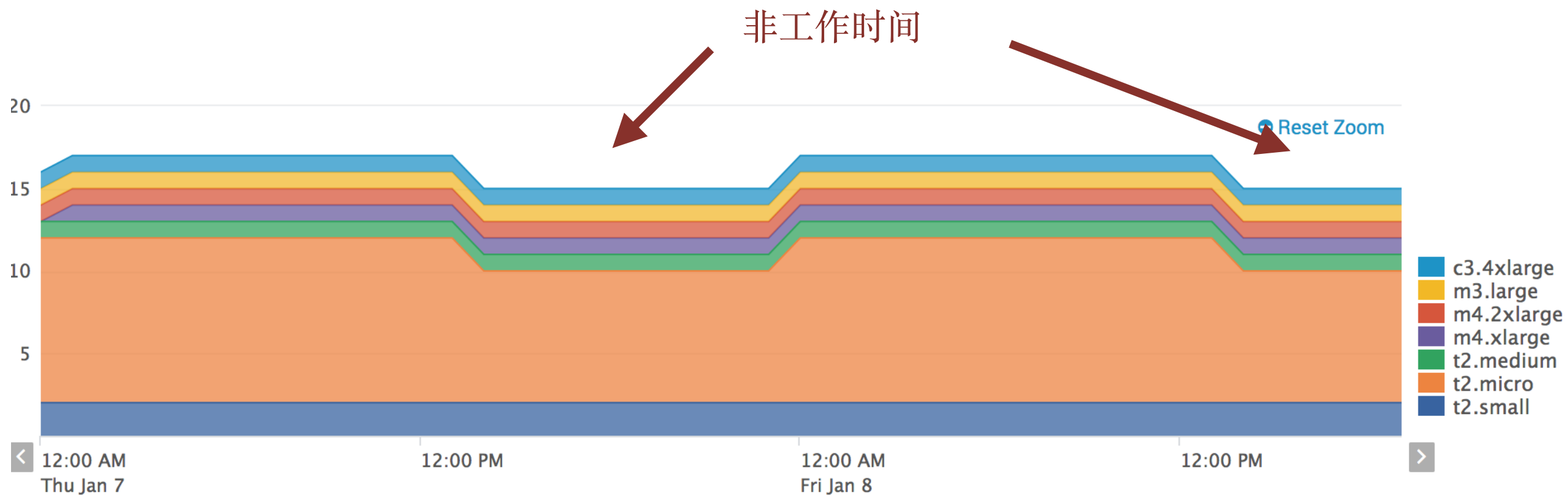
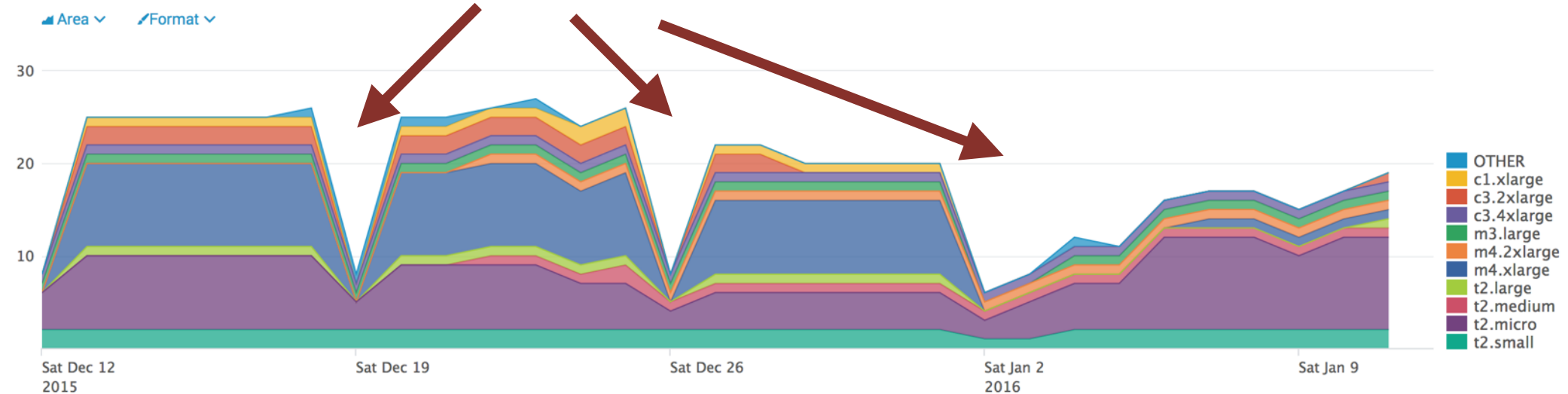
Job

Events

Patterns

Statistics (31)

Visualization



- 每天晚上9:50查询所有运行的Instance
- 关闭所有没有LongRun Tag的Instance (Normal, RareRun)
- Cron schedule: 50 13 * * 1-5
- powerSaveStop.py

powerSaveStop.py

```
import sys
import csv
import gzip
import subprocess

if __name__=="__main__":
    try:
        eventContents=csv.reader(gzip.open(sys.argv[8], 'rb'))
    except Exception, e:
        raise Exception, "%s" % str(e)
    eventIterator=iter(eventContents)
    eventIterator.next() #skip header
    stopCmd="aws --profile robot_911_ap ec2 stop-instances --instance-ids"
    for line in eventIterator:
        stopCmd+=" "+line[0]

    subprocess.call(stopCmd, shell=True)
```

- 每天早上7:10, 查询所有停止的Instance
- 启动所有没有RareRun Tag的Instance
- Cron schedule: 10 23 * * 0-4
- powerSaveStart.py

“XX像海绵，挤一挤还能再省一点”

–Best Practice #5

5. 了解AWS Billing报表

自动生成报告

Consolidated Billing

Preferences

Credits

Tax Settings

DevPay

☒ Receive Billing Reports

Turn on this feature to receive ongoing reports of your AWS charges once or more daily. AWS delivers these reports to the Amazon S3 bucket that you specify where indicated below. For consolidated billing customers, AWS generates reports only for paying accounts. Linked accounts cannot sign up for billing reports.

Save to S3 Bucket:

Verify

✓ Valid Bucket

Note: You must apply appropriate permissions to your S3 bucket [sample policy](#)

You can also configure the granularity of these reports to display your AWS usage. In the table below, select whether you want the reports to display data by the month, day, or hour. Your reports can also display usage by custom tags that you create, or by AWS resource.

Report	
Monthly report ?	<input checked="" type="checkbox"/>
Detailed billing report ?	<input checked="" type="checkbox"/>
Cost allocation report ?	<input checked="" type="checkbox"/>
Detailed billing report with resources and tags* ?	<input checked="" type="checkbox"/>

* Needed for EC2 Usage Reports

[Manage report tags](#)

Save preferences

附加Tag

- Dashboard
- Bills
- Cost Explorer
- Budgets
- Reports
- Cost Allocation Tags**
- Payment Methods
- Payment History
- Consolidated Billing
- Preferences
- Credits
- Tax Settings
- DevPay

Cost Allocation Tags

?

Select the cost allocation tags below for your reports.

Search:

All Tags

Search Tag Keys...

Showing: 3

Tag Key	Active
Hello	<input checked="" type="checkbox"/>
Name	<input checked="" type="checkbox"/>
aws:autoscaling:groupName	<input checked="" type="checkbox"/>

两种类型

	Monthly	Detailed
文件大小	较小 (<10MB)	非常大 (40GB)
粒度	月花费 by 服务, 类型	小时花费 by 服务, 类型, 资源
例子	m3.medium的所有instance 在10月运行花费\$1000	m3.medium的i-12345678在 10月1号23点运行花费\$3

关键列

- ProductName
- ItemDescription
- **UsageType (required)**
- **Operation (optional)**

Demo

“Listen to your data”

–Best Practice #6

Thanks!