

BetterNow

实时分析统计系统

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“测量一切可测之物，
并把不可测的变为可
测。”

—伽利略

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- ◆ BetterNow场景
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BetterNow简介

- ◆ 还要从ECAE说起



BetterNow简介

- ◆ 实时数据分析框架，可以用其开发各种面向数据流的统计，分析，汇总等应用
- ◆ 电子商务系统的过程中统计会员购买记录的汇总
- ◆ 快速处理网站可用性监控。

betternow 场景

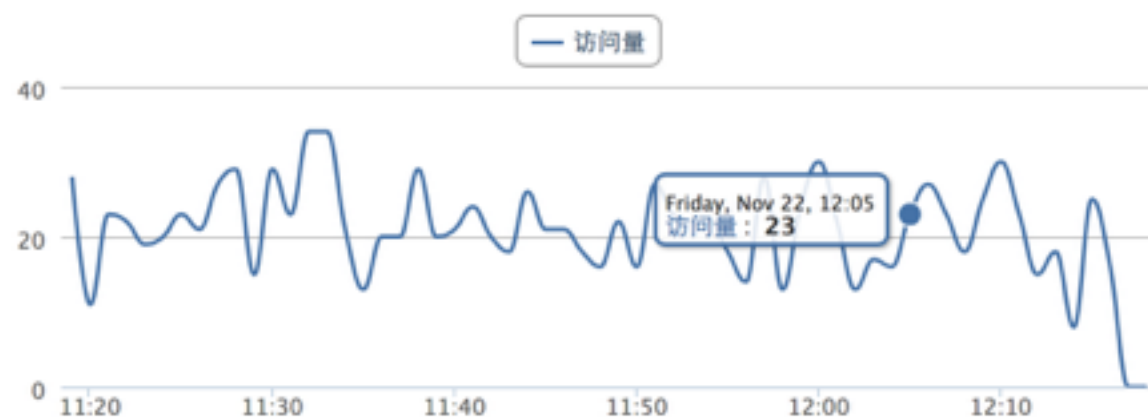


BetterNow 场景

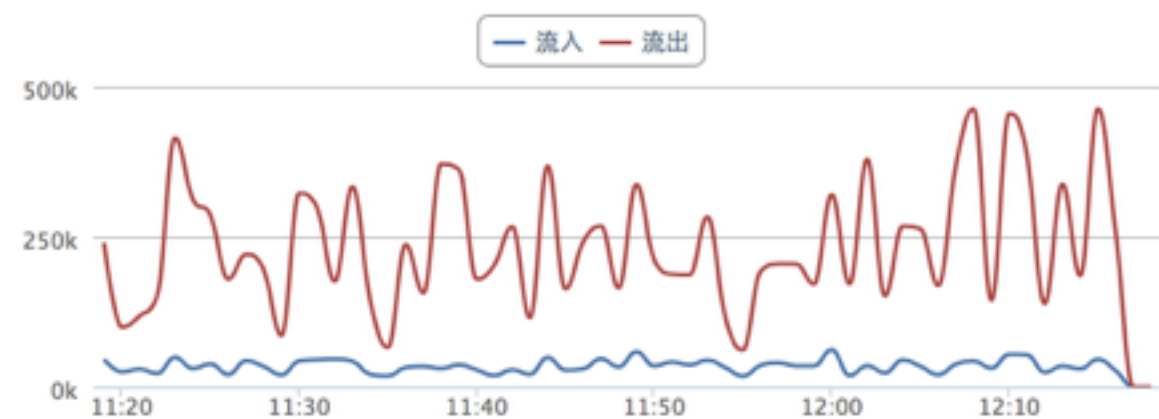
www.shopex.cn

Submit

访问量



流量



来源分析TOP10

2013/11/22 12:00:00

390

%	domain	num
10.51%	http://www.shopex.cn/	41
4.36%	http://www.shopex.cn/products	17
2.31%	http://www.shopex.cn/products/fenxiaowang	9
2.31%	http://www.shopex.cn/products/ekaidian_standard	9
1.79%	http://www.shopex.cn/products/ekaidian	7
1.54%	http://www.shopex.cn/customer	6

BetterNow 场景

访问量TOP5 (2013/11/22 12:00:00至今) »

%	domain	pv
10.46%	www.cloudmall.shopex.cn	10251
10.33%	passport.shopex.cn	10124
3.91%	www.nmdian.com	3829
1.26%	scywkj.b2bqd.shopexdrp.cn	1240
0.94%	www.lijingshop.com	917

流量TOP5 (2013/11/22 12:00:00至今) »

%	domain	bytes
5.16%	www.cloudmall.shopex.cn	1372.34 MB
4.42%	passport.shopex.cn	1174.70 MB
3.49%	www.nmdian.com	929.27 MB
3.14%	nmdian-images.s3.b2c.ekaidian.com	835.95 MB
1.78%	scywkj-images.s3.b2bqd.shopexdrp.cn	474.52 MB

4xx错误 TOP5 (2013/11/22 12:00:00至今) »

%	domain	num
7.16%	www.hzfsjd.com	675
4.85%	www.modtoy.com	457
4.76%	www.poljes.com	449
4.67%	www.nmdian.com	440
3.20%	ocstest.taoex.ec-ae.net	302
总 9431		

5xx错误 TOP5 (2013/11/22 12:00:00至今) »

%	domain	num
50.00%	www.dpls.com.cn	8
12.50%	scywkj.b2bqd.shopexdrp.cn	2
6.25%	www.teyinfang.com	1
6.25%	www.sanjiangcha.cn	1
6.25%	www.omniwork.cn	1
总 16		

BetterNow接入

◆ xml

```
<app>
  <name>myapp</name>
  <author>someone@somewhere.com</author>
  <copyright>mycompany</copyright>
  <desc>a short description of this app.</desc>

  <filter id="f1" class="http-scope" />
  <action id="a1" type="update" item="url/${host}" value="status" function="sum" />
  <trigger filter="f1" action="a1" />

  <action id="a3" type="websocket" item="channel-1" />
  <trigger filter="f1" action="a3" />

  <filter id="f2" class="http-scope" >
    <assert left="${uri}" right="^/goods-id/([0-9]+)/.*" test="match" >
      <set var="goods-id" value="a${1}b" />
    </assert>
  </filter>

  <action id="a2" type="plugin" item="http_scope" />
  <trigger filter="f2" action="a2" />

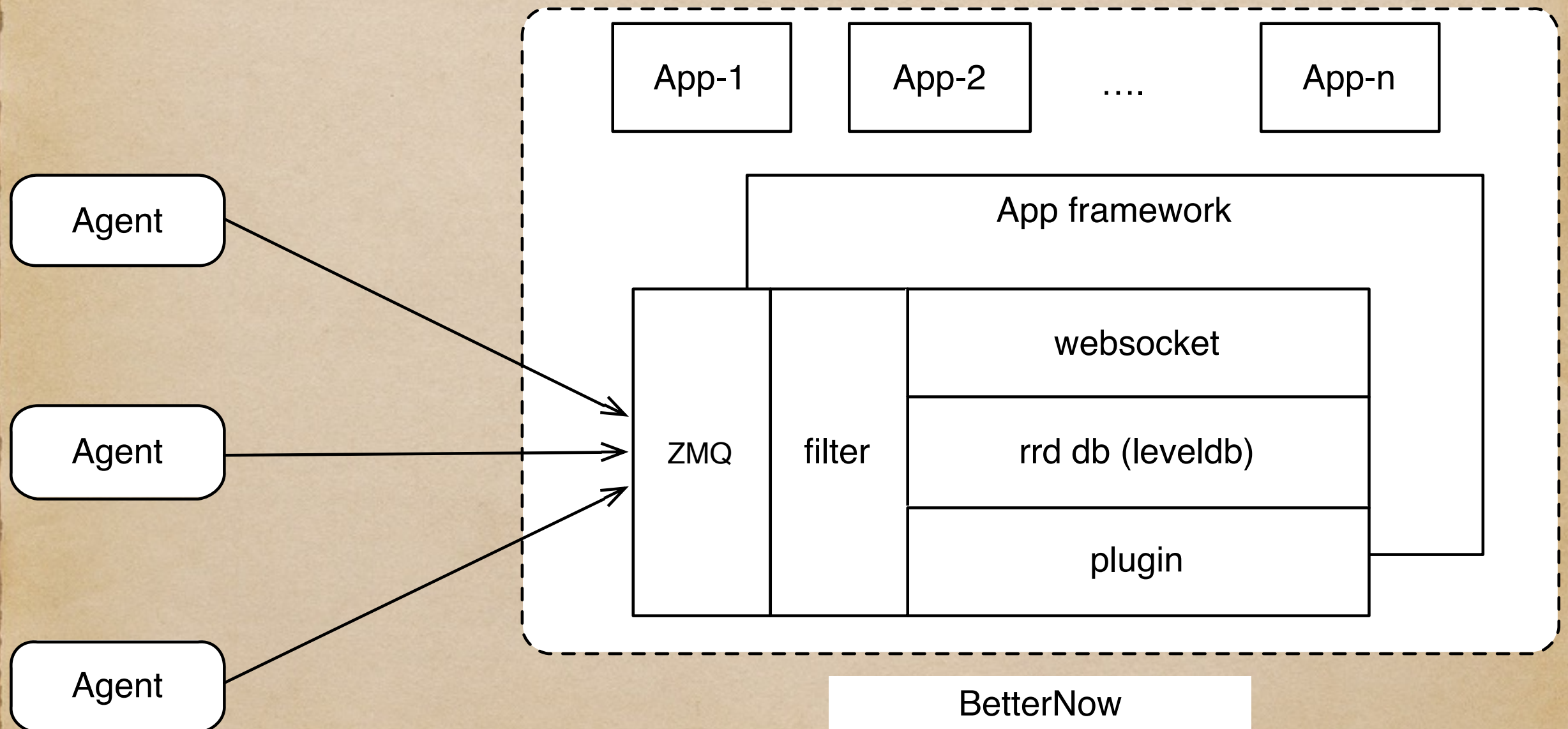
  <filter id="f3" class="http-scope">
    <assert left="${up-bytes} + ${down-bytes}" test="&gt;" right="15000" />
  </filter>

  <filter id="f4" class="http-scope">
    <assert left="up-bytes" right="GET" test="isset"/>
  </filter>

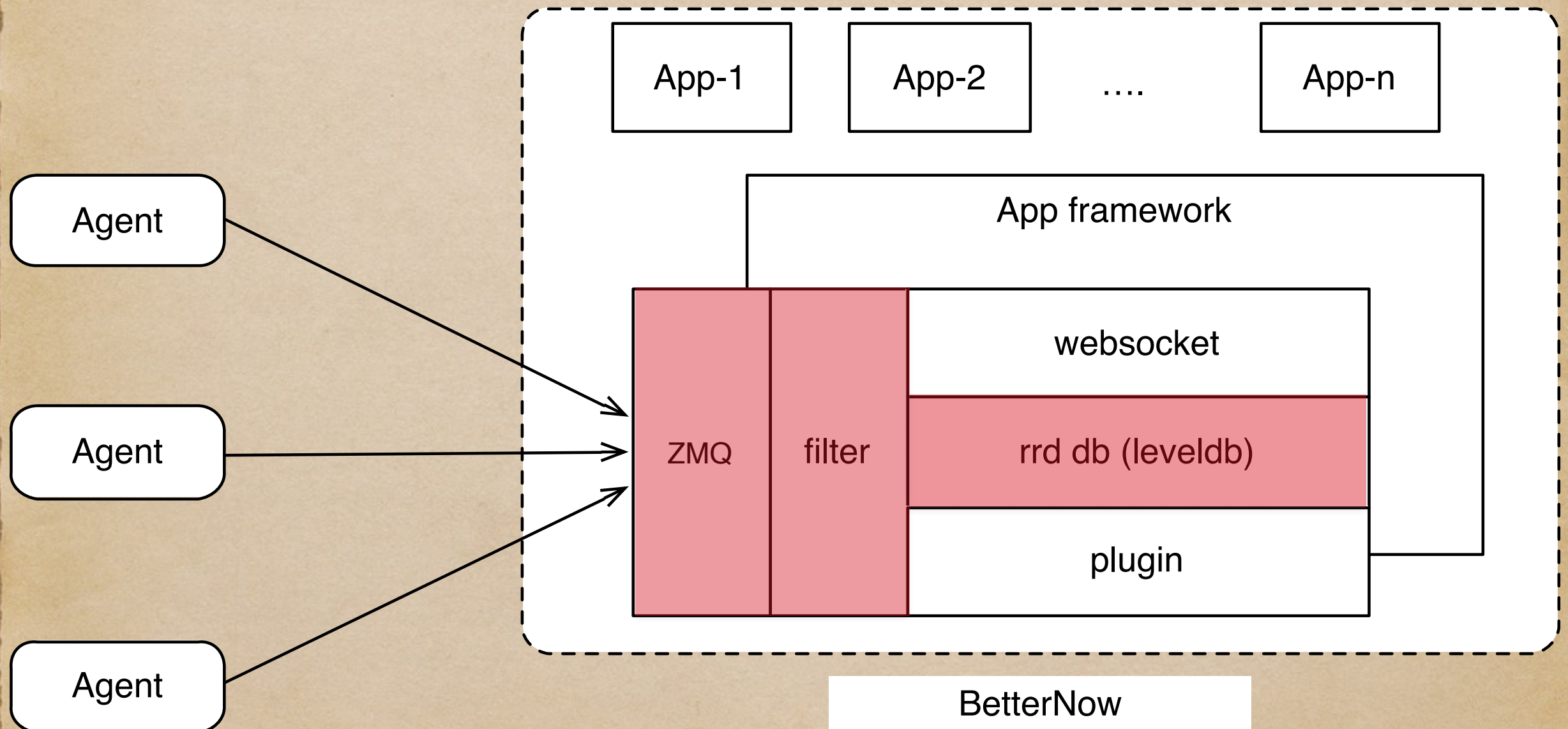
  <plugin module="my_erlang_plugin" />

  <menu text="menu1" desc="" link="doc.php" />
  <menu text="menu2" desc="" link="step.php" />
  <menu text="menu3" desc="" link="appxml.php" />
  <menu text="menu4" desc="" link="websocket.php" />
  <menu text="menu5" desc="" link="online.php" />
</app>
```


BetterNow 前世:架构



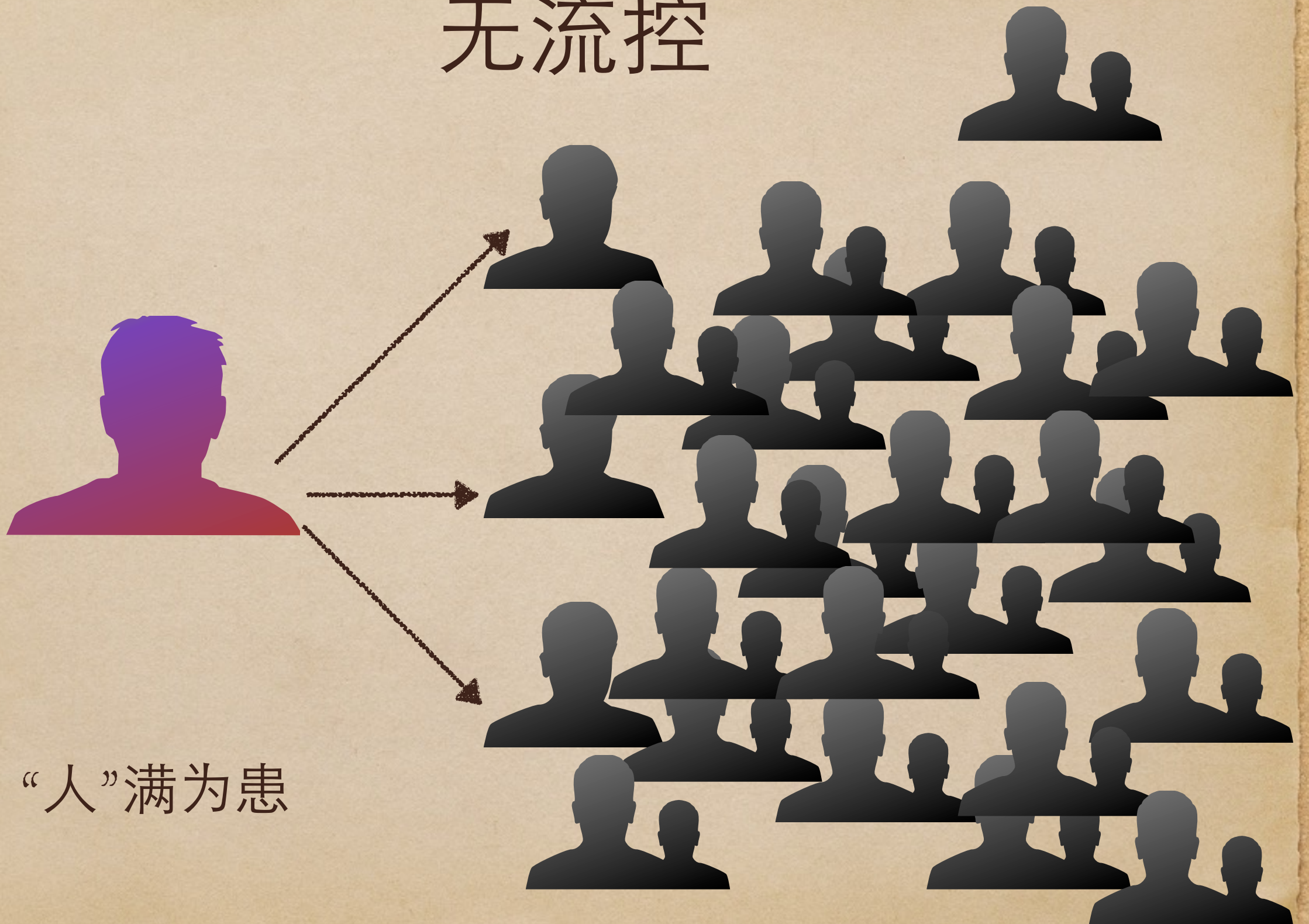
BetterNow 前世:架构



BetterNow 前世:问题

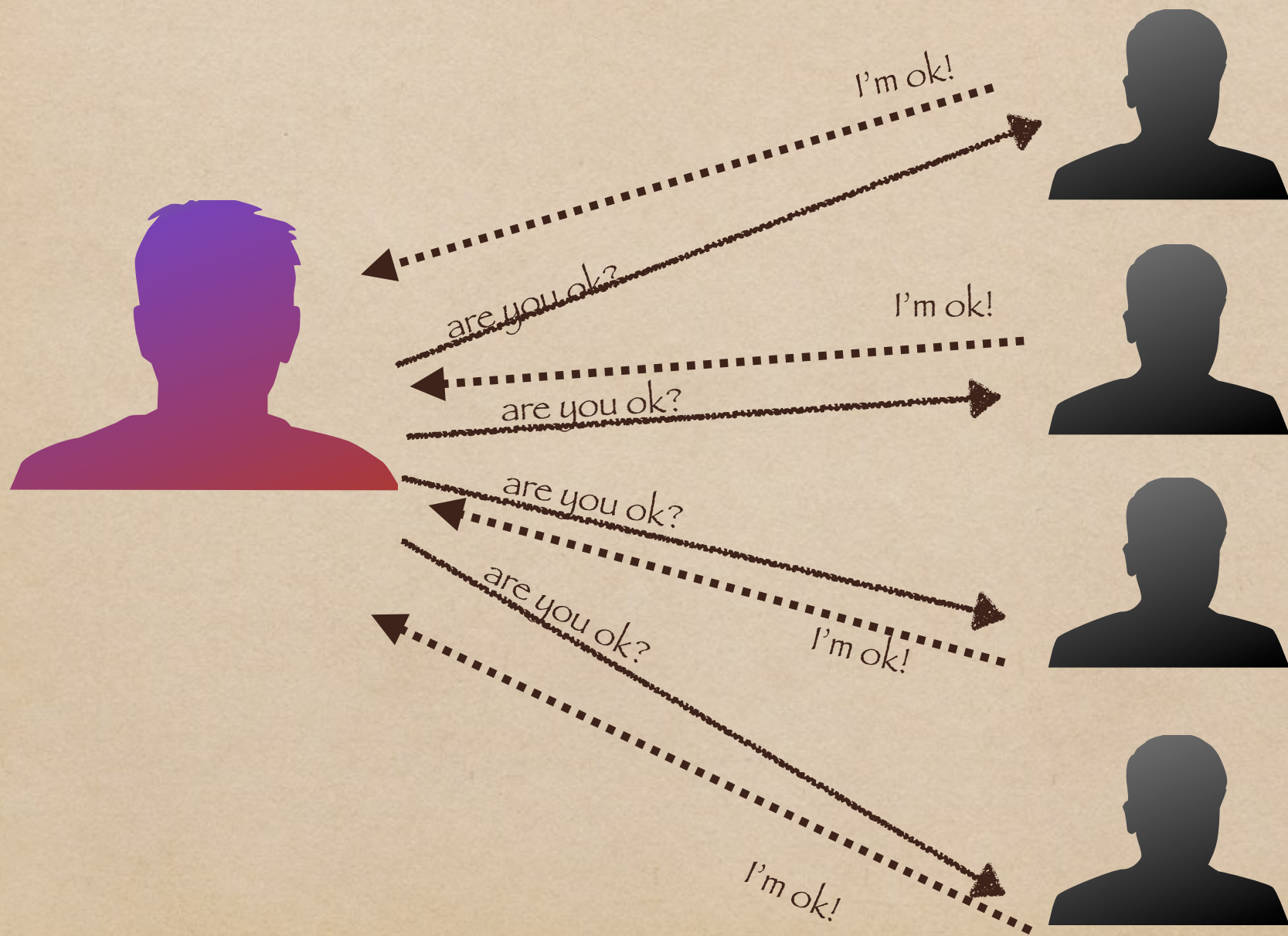
- ◆ 无流控

无流控



“人”满为患

无流控



BetterNow 前世:问题

- ◆ 无流控
- ◆ 资源占用率过大
- ◆ 数据读取慢
- ◆ filter处理慢

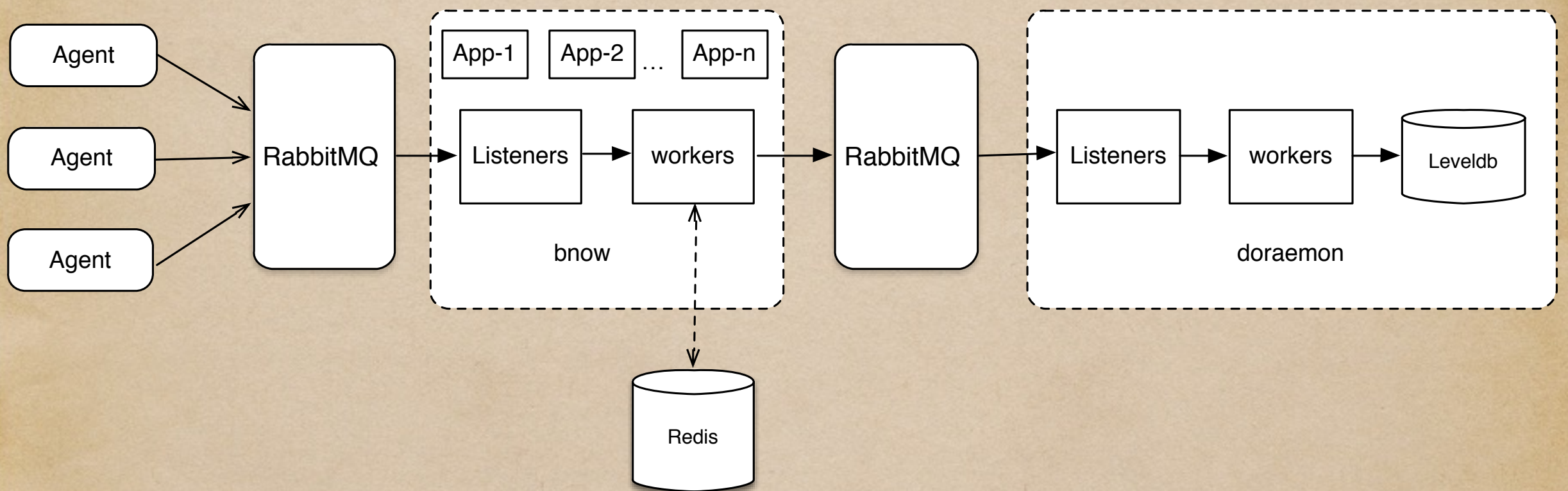
BetterNow 前世:优化

- ◆ 加阀门
- ◆ 启固定数量worker(匹配核数)
- ◆ 给leveldb 加内存缓存 (ets)
- ◆ 使用进程字典

BetterNow前世:隐患

- ◆ ZeroMQ
- ◆ 功能揉杂
- ◆ 不易扩展

BetterNow 今生:架构



BetterNow 今生:优化

- ◆ rabbitmq 多连接, 多queue

- ◆ filter 改进

1. 多worker

2. key,value存储方式的改变: ets -> 进程字典

3. 进程字典的格式由: `put({record, D,K}, V)` 变为: `put({record, D}, [K, V])`

- ◆ 增加去重服务(redis)

11.11成果

- ◆ 总处理数据:四千万条
- ◆ 最高频率:10分钟四百万条
- ◆ 每个订单绘制18个rrd图, 9个topn图
- ◆ 每秒约绘制5万+ rrd 图, 2万+ topn图

接入实例


```
<app>
  <name>apptop</name>
  <author>flaboy@shopex.cn</author>
  <copyright>shopex</copyright>
  <desc> 内部应用排行 </desc>

  <filter class="apptop">
    <filter>
      <assert left="price" test="isset"/>
      <set var="@payment" value="{price} * 100" type="number"/>
      <assert left="tid" test="isset"/>
      <assert left="create" test="isset"/>
      <assert left="{create}" right="" test="not is"/>
      <set var="@time" value="{create}" modifier="date2time" type="string" />
      <assert left="apptop_order---{tid}" right="100day:{@time}" test="distinct" />
      <action item="/apptop/order/flow" type="flow" />
      <action item="/apptop/order/price" value="{@payment}" type="update" function="sum"/>
      <action item="/apptop/order/{to_type}/price" value="{@payment}" type="update" function="sum"/>
      <action item="/apptop/order/count" value="1" type="update" function="sum"/>
      <action item="/apptop/order/{to_type}/count" value="1" type="update" function="sum"/>
    </filter>

    <filter>
      <assert left="pay_time" test="isset"/>
      <assert left="{pay_time}" right="" test="not is"/>
      <assert left="price" test="isset"/>
      <set var="@payment" value="{price} * 100" type="number"/>
      <assert left="tid" test="isset"/>
      <assert left="apptop_pay_order---{tid}" right="100day:{@time}" test="distinct" />
      <action item="/apptop/order/pay/flow" type="flow" />
      <action item="/apptop/order/pay/price" value="{@payment}" type="update" function="sum"/>
      <action item="/apptop/order/pay/{to_type}/price" value="{@payment}" type="update" function="sum"/>
      <action item="/apptop/order/pay/count" value="1" type="update" function="sum"/>
      <action item="/apptop/order/pay/{to_type}/count" value="1" type="update" function="sum"/>
    </filter>

  </filter>
</app>
```



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  <action item="/apptop/order/count" value="1" type="update" function="sum"/>
  <action item="/apptop/order/{to_type}/count" value="1" type="update" function="sum"/>
</filter>
```

下单总金额
下单总个数

```
<filter>
  <assert left="pay_time" test="isset"/>
  <assert left="{pay_time}" right="" test="not is"/>
  <assert left="price" test="isset"/>
  <set var="@payment" value="{price} * 100" type="number"/>
  <assert left="tid" test="isset"/>
  <assert left="apptop_pay_order---{tid}" right="100day:{@time}" test="distinct" />
  <action item="/apptop/order/pay/flow" type="flow" />
  <action item="/apptop/order/pay/price" value="{@payment}" type="update" function="sum"/>
  <action item="/apptop/order/pay/{to_type}/price" value="{@payment}" type="update" function="sum"/>
  <action item="/apptop/order/pay/count" value="1" type="update" function="sum"/>
  <action item="/apptop/order/pay/{to_type}/count" value="1" type="update" function="sum"/>
</filter>
```

付款总金额
付款总个数

```
</filter>
```

```
</app>
```



```

<app>
  <name>apptop</name>
  <author>flaboy@shopex.cn</author>
  <copyright>shopex</copyright>
  <desc> 内部应用排行 </desc>

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      <action item="/apptop/order/pay/price" value="{@payment}" type="update" function="sum"/>
      <action item="/apptop/order/pay/{to_type}/price" value="{@payment}" type="update" function="sum"/>
      <action item="/apptop/order/pay/count" value="1" type="update" function="sum"/>
      <action item="/apptop/order/pay/{to_type}/count" value="1" type="update" function="sum"/>
    </filter>
  </filter>
</app>

```

```

1      @time: 1385719723
2      to_node_id: 1785844336
3      status: TRADE_ACTIVE
4      price: 10.00
5      to_type: ecos.ome
6      pay_time:
7      from_node_id: 1840320932
8      @class: apptop
9      ship_status: SHIP_NO
10     create: 1385719699
11     modified: 1385719793
12     from_type: taobao
13     tid: 466192464901260
14     pay_status: PAY_NO
15     @channel: pptexam
16

```



```

<app>
  <name>apptop</name>
  <author>flaboy@shopex.cn</author>
  <copyright>shopex</copyright>
  <desc> 内部应用排行 </desc>

  <filter class="apptop">
    <filter>
      <assert left="price" test="isset"/>
      <set var="@payment" value="${price} * 100" type="number"/>
      <assert left="tid" test="isset"/>
      <assert left="create" test="isset"/>
      <assert left="${create}" right="" test="not is"/>
      <set var="@time" value="${create}" modifier="date2time" type="string" />
      <assert left="apptop_order---${tid}" right="100day:${@time}" test="distinct" />
      <action item="/apptop/order/flow" type="flow" />
      <action item="/apptop/order/price" value="${@payment}" type="update" function="sum"/>
      <action item="/apptop/order/${to_type}/price" value="${@payment}" type="update" function="sum"/>
      <action item="/apptop/order/count" value="1" type="update" function="sum"/>
      <action item="/apptop/order/${to_type}/count" value="1" type="update" function="sum"/>
    </filter>

    <filter>
      <assert left="pay_time" test="isset"/>
      <assert left="${pay_time}" right="" test="not is"/>
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      <action item="/apptop/order/pay/flow" type="flow" />
      <action item="/apptop/order/pay/price" value="${@payment}" type="update" function="sum"/>
      <action item="/apptop/order/pay/${to_type}/price" value="${@payment}" type="update" function="sum"/>
      <action item="/apptop/order/pay/count" value="1" type="update" function="sum"/>
      <action item="/apptop/order/pay/${to_type}/count" value="1" type="update" function="sum"/>
    </filter>

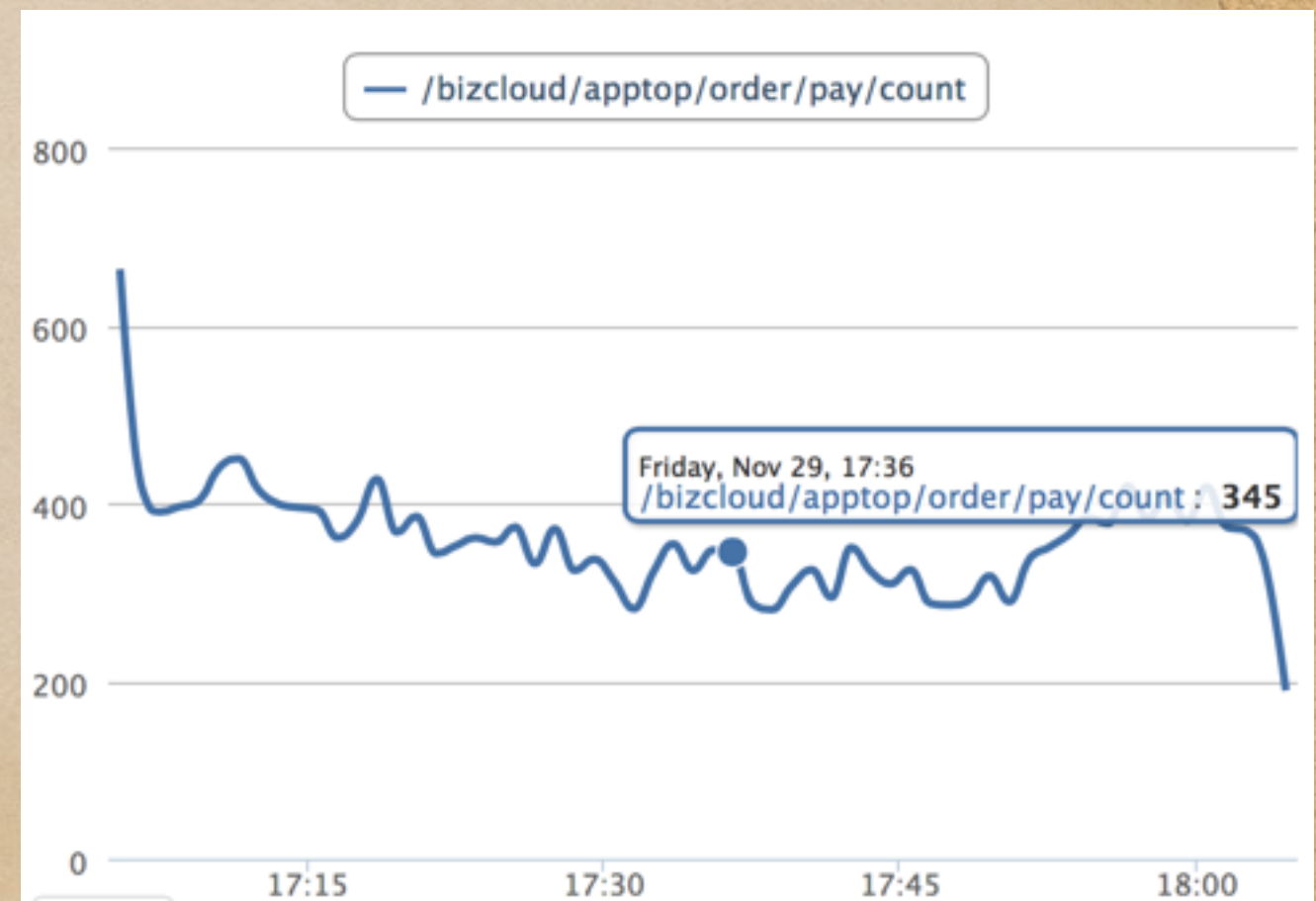
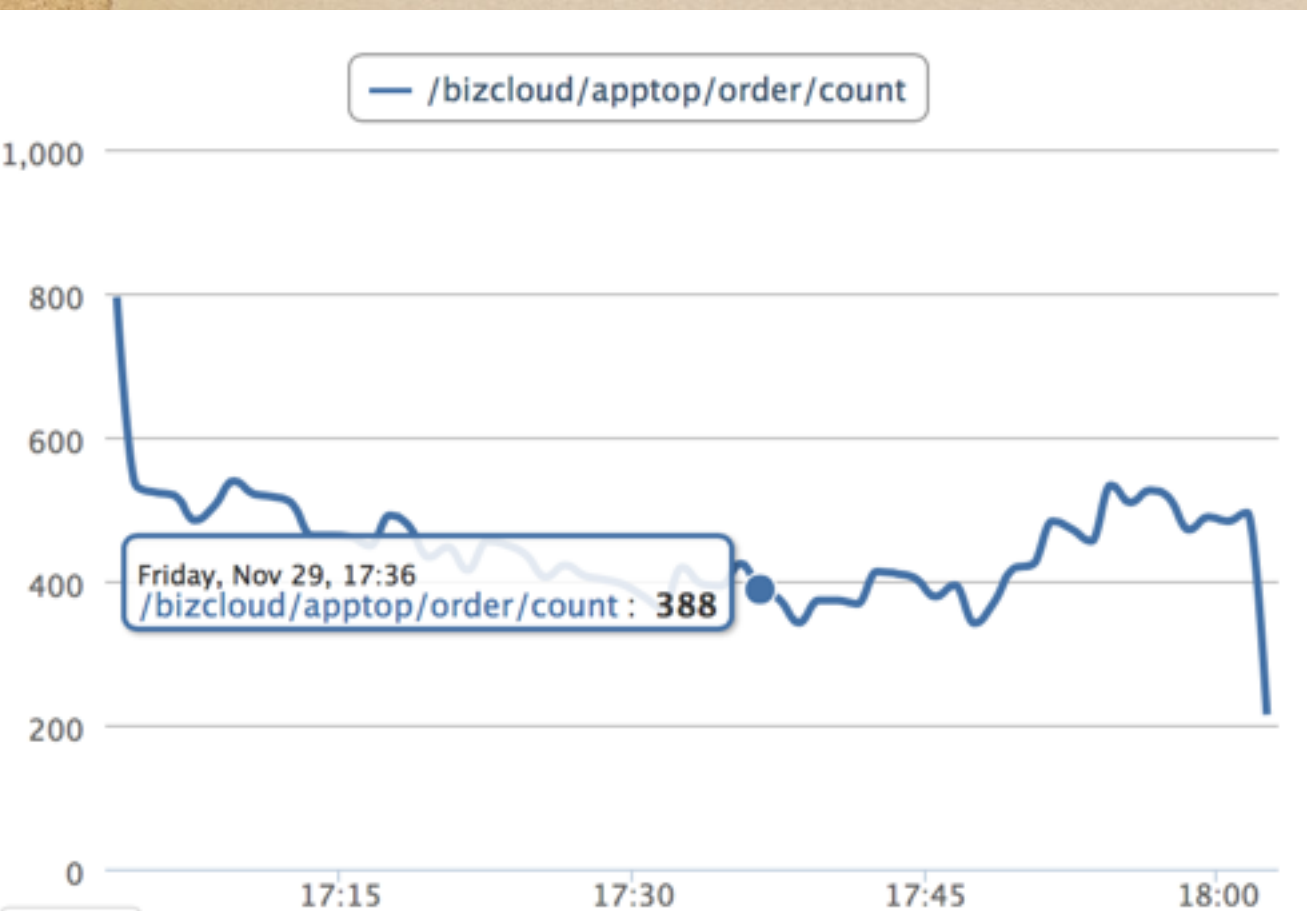
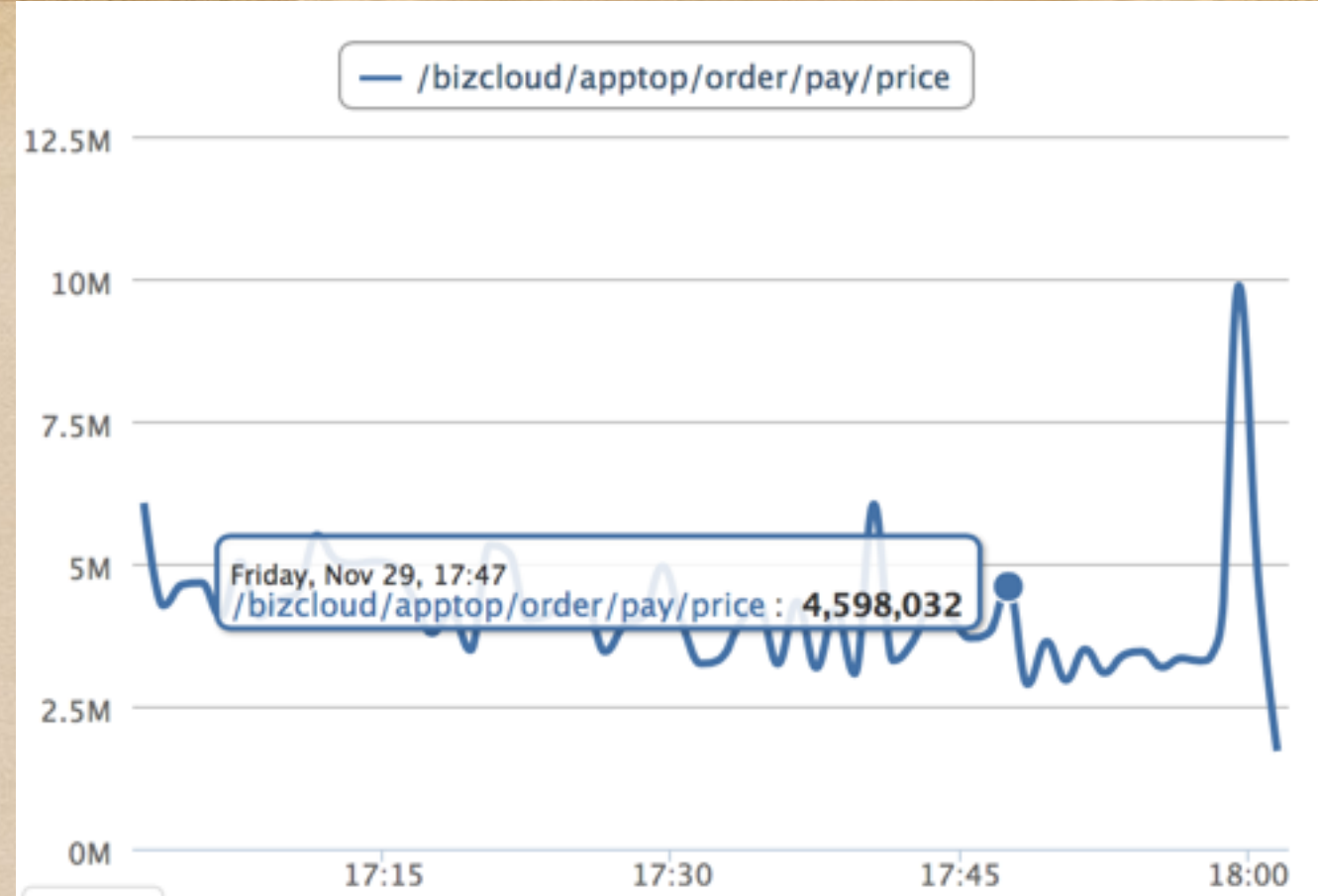
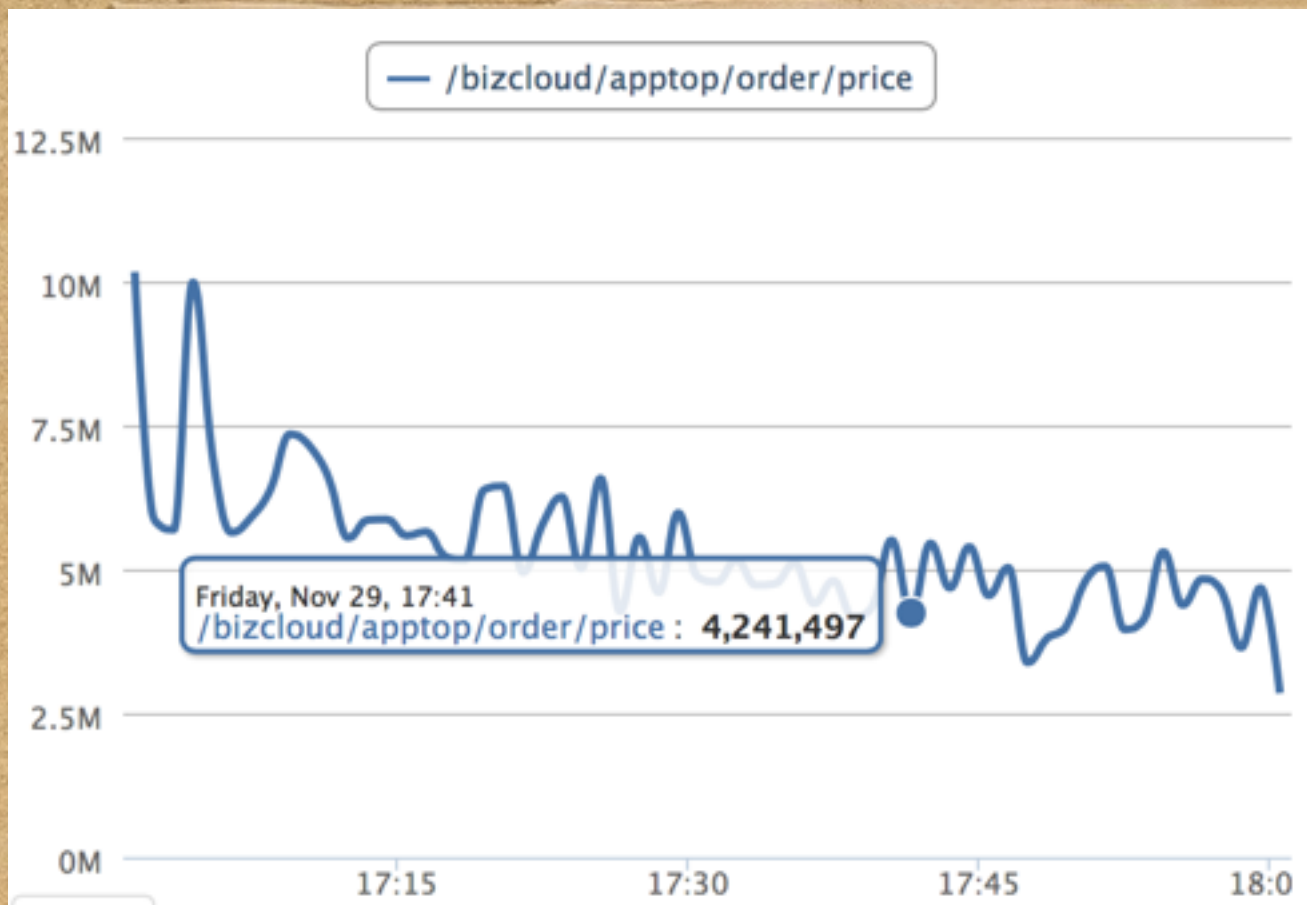
  </filter>
</app>

```

```

1      @time: 1385719721
2      to_node_id: 1520752330
3      status: TRADE_FINISHED
4      price: 29.88
5      to_type: ecos.yunmaotb
6      pay_time: 1385701630
7      from_node_id: 1141756131
8      @class: apptop
9      ship_status: SHIP_FINISH
10     create: 1385701605
11     modified: 1385719793
12     from_type: taobao
13     tid: 466024782121820
14     pay_status: PAY_FINISH
15     @channel: pptexam
16

```

BetterNow未来

- ◆ 分布式
- ◆ 使用体验完善

Thank you