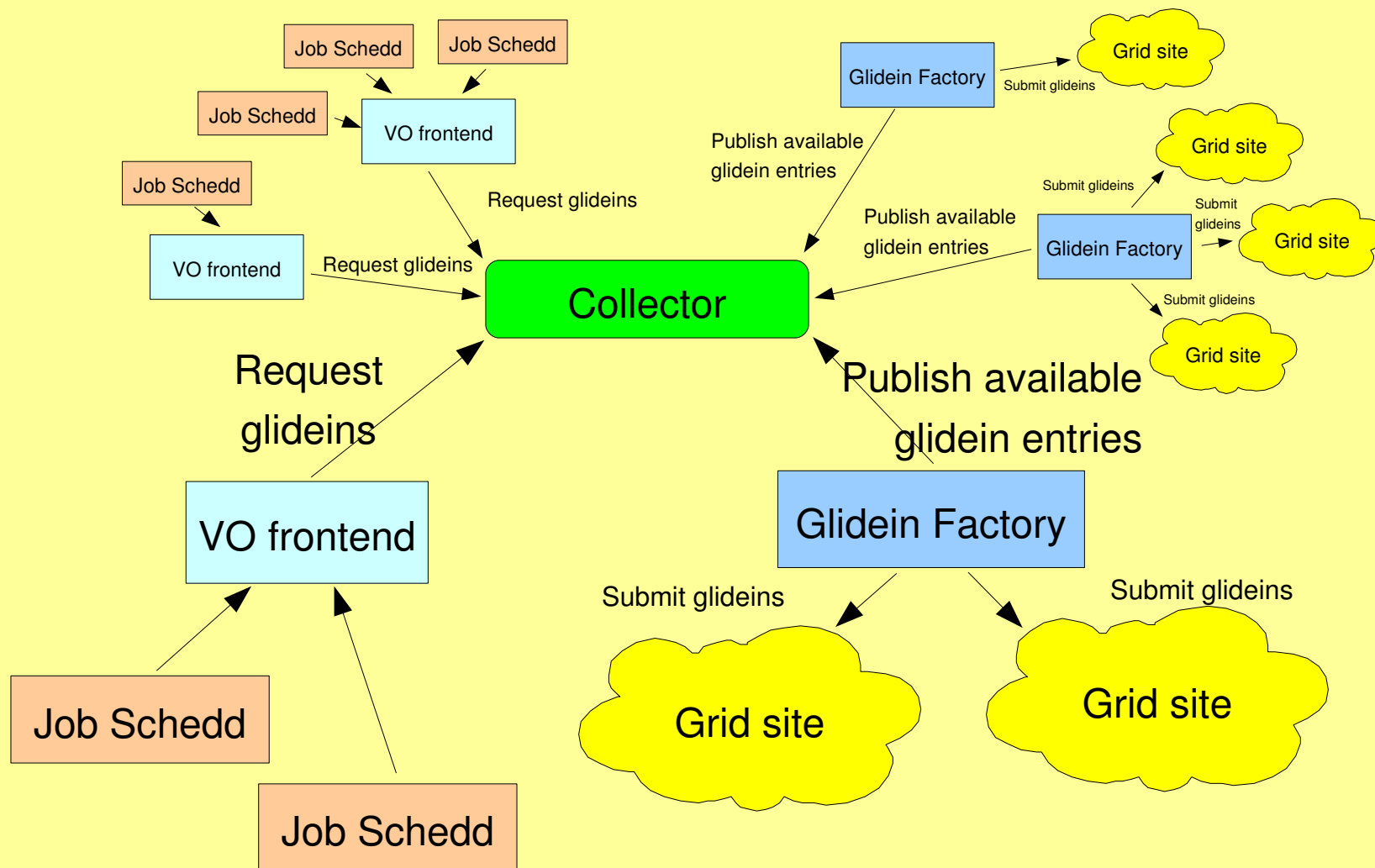


Just-in-time WMS Meeting – March 9th, 2007

Glidein Factory Monitoring

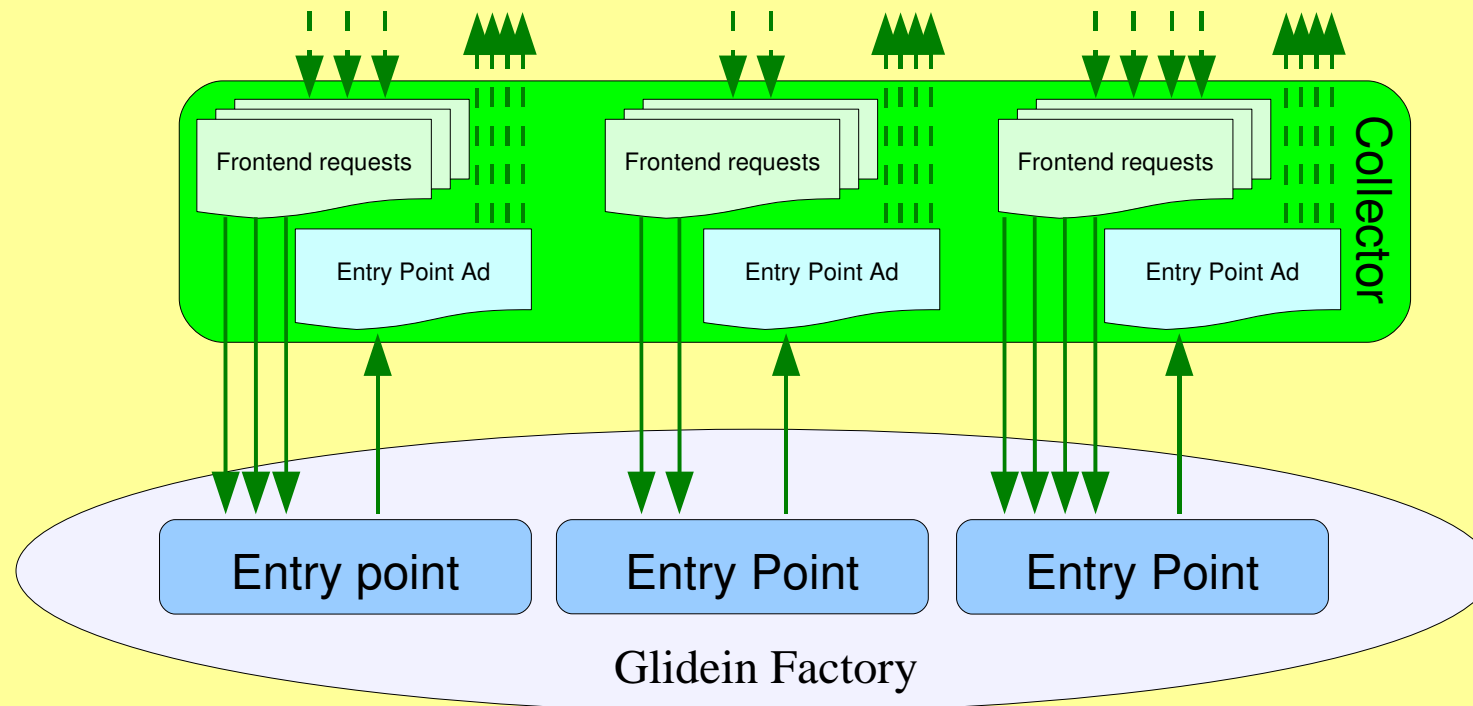
by Igor Sfiligoi

glideinWMS overview



Glidein Factory internals

- Many Entry Points x Glidein Factory
 - Many frontend requests x Entry Point



Factory Monitoring

- There is no factory wide monitoring right now!
 - Each entry point independent
- Most probably one such thing needed
 - Listing of active entry points
 - Entry point summary?
- Last point-in-time or also historical?



Let first see what IS implemented

Entry Point Monitoring

- Implemented:
 - Summary file with all requests and current statuses
 - xml format
 - Historical data for each request
 - rrd databases (one x attribute, 2 granularities)
 - xml files (one x attribute, 3 granularities)
 - output of '*rrdtool xport*'

Request format

```

    Published classad
    MyType="glideclient"
    Name="reqX@client"
    ClientName="client"
    ReqName="reqX"
    ReqGlidein="entry@factory"
    ReqIdleGlideins=nr
    ReqMaxRun=nr
    ReqMaxSubmitXHour=nr
    GlideinParamWWW="val1"
    ...
    GlideinParamZZZ="valY"
    
```

Due to Condor limitations,
define also GlideinMyType

Limits on the amount of
glideins submitted envisioned
but not yet implemented

Trying to keep a steady stream
of glideins starting

GlideParamXXX must match the names
published by the factory

Entry Point Monitor Data

- Named “*schedd_status.xml*”
- When last updated
- List of all served requests, and for each request
 - What attributes were requested
 - What is the status of the requested attributes
 - Other attributes can be present, but not required
- Requested parameters not included
 - Should they be?

Entry Point Static Example

```
<frontends updated="1173376587">
  <frontend name="G1_v9_ultralight8@cmsrv13.fnal.gov@cms11_20">
    <Status Held="2" Idle="100" Running="1440"/>
    <Requested Idle="100"/>
  </frontend>
  <frontend name="G1_v9_ultralight8@cmsrv13.fnal.gov@cms11_21">
    <Status Held="0" Idle="100" Running="0"/>
    <Requested Idle="100"/>
  </frontend>
  <frontend name="G1_v9_ultralight8@cmsrv13.fnal.gov@cms11_22">
    <Status Held="0" Idle="100" Running="0"/>
    <Requested Idle="100"/>
  </frontend>
</frontends>
```


Dynamic data

- The current implementation has
 - RRDs
 - long: $5 \text{ min} * 2 \text{ days} + 30 \text{ min} * 45 \text{ days} + 2 \text{ hours} * 1 \text{ year} = 57 \text{ k}$
 - short: $6 \text{ min} * 6 \text{ hours} + 30 \text{ min} * 2 \text{ days} + 2 \text{ hours} * 45 \text{ days} = 6 \text{ k}$
 - xml files
 - hour: $5 \text{ min} = 1 \text{ k}$
 - day: $5 \text{ min} = 16 \text{ k}$
 - month: $30 \text{ min} = 16 \text{ k}$

Dynamic example

Status_Attribute_Running.hour.xml

```

<?xml version="1.0" encoding="ISO-8859-1"?> <data>
<xport>
  <meta>
    <start>1173373200</start>
    <step>300</step>
    <end>1173376800</end>
    <rows>13</rows>
    <columns>1</columns>
    <legend>
      <entry>Running</entry>
    </legend>
  </meta>
    <row><t>1173373200</t><v>1.4400000000e+03</v></row>
    <row><t>1173373500</t><v>1.4300000000e+03</v></row>
    <row><t>1173373800</t><v>1.4200000000e+03</v></row>
    <row><t>1173374100</t><v>1.4150000000e+03</v></row>
    <row><t>1173374400</t><v>1.4200000000e+03</v></row>
    <row><t>1173374700</t><v>1.4100000000e+03</v></row>
    <row><t>1173375000</t><v>1.4300000000e+03</v></row>
    <row><t>1173375300</t><v>1.4400000000e+03</v></row>
    <row><t>1173375600</t><v>1.4400000000e+03</v></row>
    <row><t>1173375900</t><v>1.4300000000e+03</v></row>
    <row><t>1173376200</t><v>1.4250000000e+03</v></row>
    <row><t>1173376500</t><v>1.4300000000e+03</v></row>
    <row><t>1173376800</t><v>NaN</v></row>
  </data>
</xport>

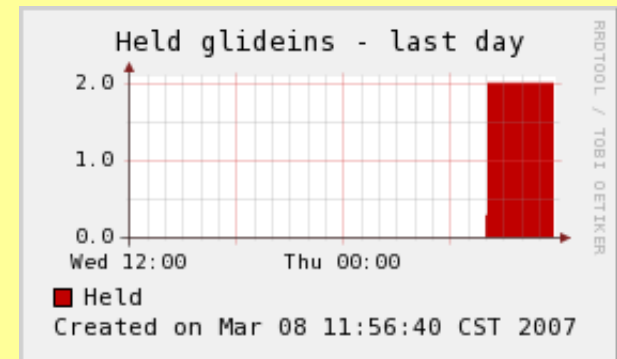
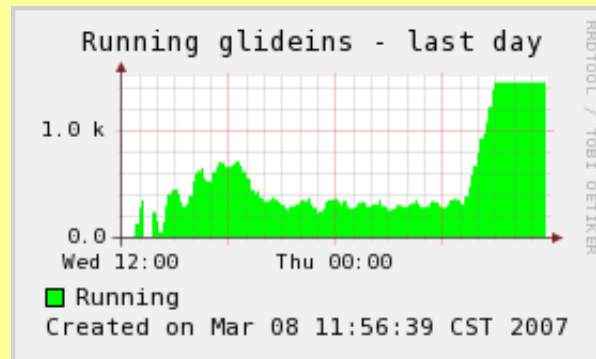
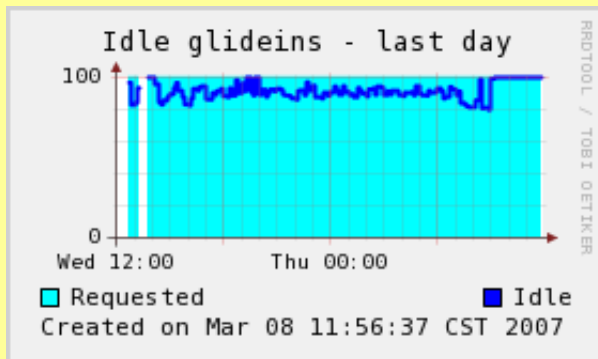
```

Optional attributes

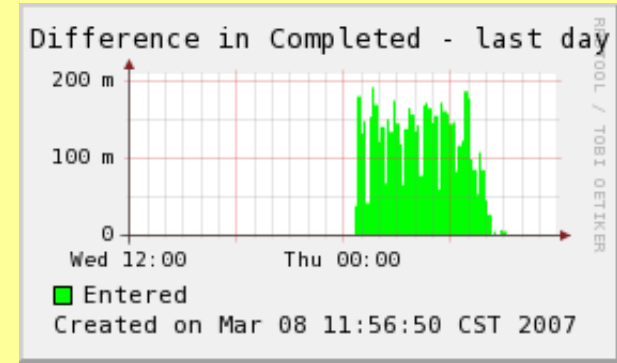
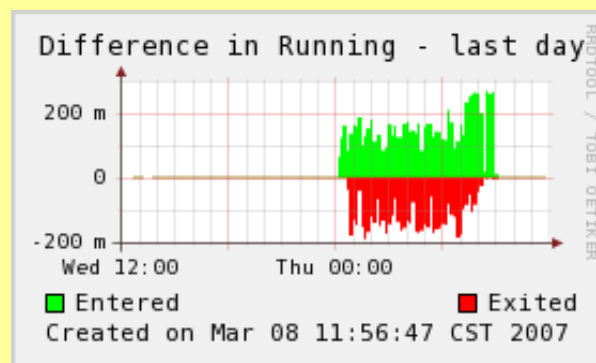
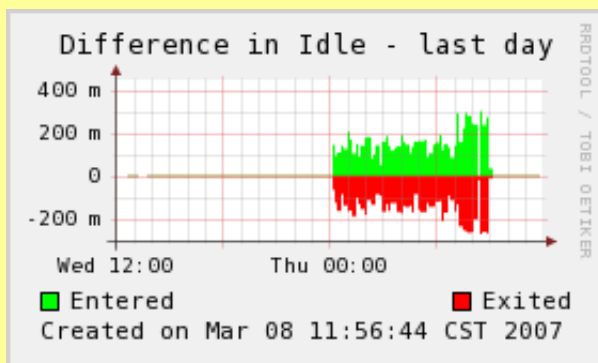
- Implemented everywhere
 - Held
- Partially implemented
 - Submission/termination rates
 - Mismatches between condor_q and actual state

Graphs also created

Absolute Values



Rates



Monitoring status

- Entry Point monitoring in reasonable shape
 - Maybe should add requested parameters
 - Need to harmonize optional attributes
 - Explicit glidein error checking missing
- Factory monitoring needs to be implemented
- Is the format acceptable?
- What about naming conventions?
- Do we need more info?