



Accounting and Reporting Console (ARCo)

Jana Olivova

Software Developer

Sun Microsystems



Agenda

- Overview
- New features
- Existing features
- User interface overview

ARCo Overview

Components

- dbwriter
- reporting
- Relational database server
 - > PostgreSQL, Oracle, MySQL
- Sun Java Web Console

ARCo New Features

- Multi-cluster support
 - > Cross-cluster queries
- Batch inserts
 - > dbwriter performance improvement of over 1000%
- Improved check-pointing mechanism
 - > Checkpoint written to database after each successful batch execution
- Possibility to specify different TABLESPACE for tables and indexes
 - > Improves performance

Supported Database Configurations



Supported Database Configurations



Supported Database Configurations



Cross-Cluster Queries

```
SELECT
  u_user
FROM
  denver.sge_user
INTERSECT
SELECT
  u_user
FROM
  london.sge_user
```


Existing Features

- derived values
- deletion rules

Derived Values

Building Values with SQL

```

<derive object="user" interval="hour" variable="h_sum_cpu">
  <sql>
    SELECT date_trunc('hour', ju_end_time) AS time_start,
           date_trunc('hour', ju_end_time) + INTERVAL '1 hour' AS time_end,
           SUM(ju_cpu) AS value
    FROM sge_job, sge_job_usage
    WHERE j_owner = __key_0__ AND
           j_id = ju_parent AND
           ju_end_time <= ' __time_end__ ' AND
           ju_end_time > ' __time_start__ '
    GROUP BY time_start
  </sql>
</derive>

```

Derived Values

Building Values with Auto Function

```
<derive object="user" interval="day" variable="d_sum_cpu">  
  <auto function="SUM" variable="h_sum_cpu" />  
</derive>
```

Deletion Rules

```
<delete scope="host_values" time_range="year" time_amount="2"/>
```

```
<delete scope="host_values" time_range="day" time_amount="7">  
  <sub_scope>np_load_avg</sub_scope>  
  <sub_scope>cpu <sub_scope>  
  <sub_scope>mem_free</sub_scope>  
  <sub_scope>virtual_free</sub_scope>  
</delete>
```

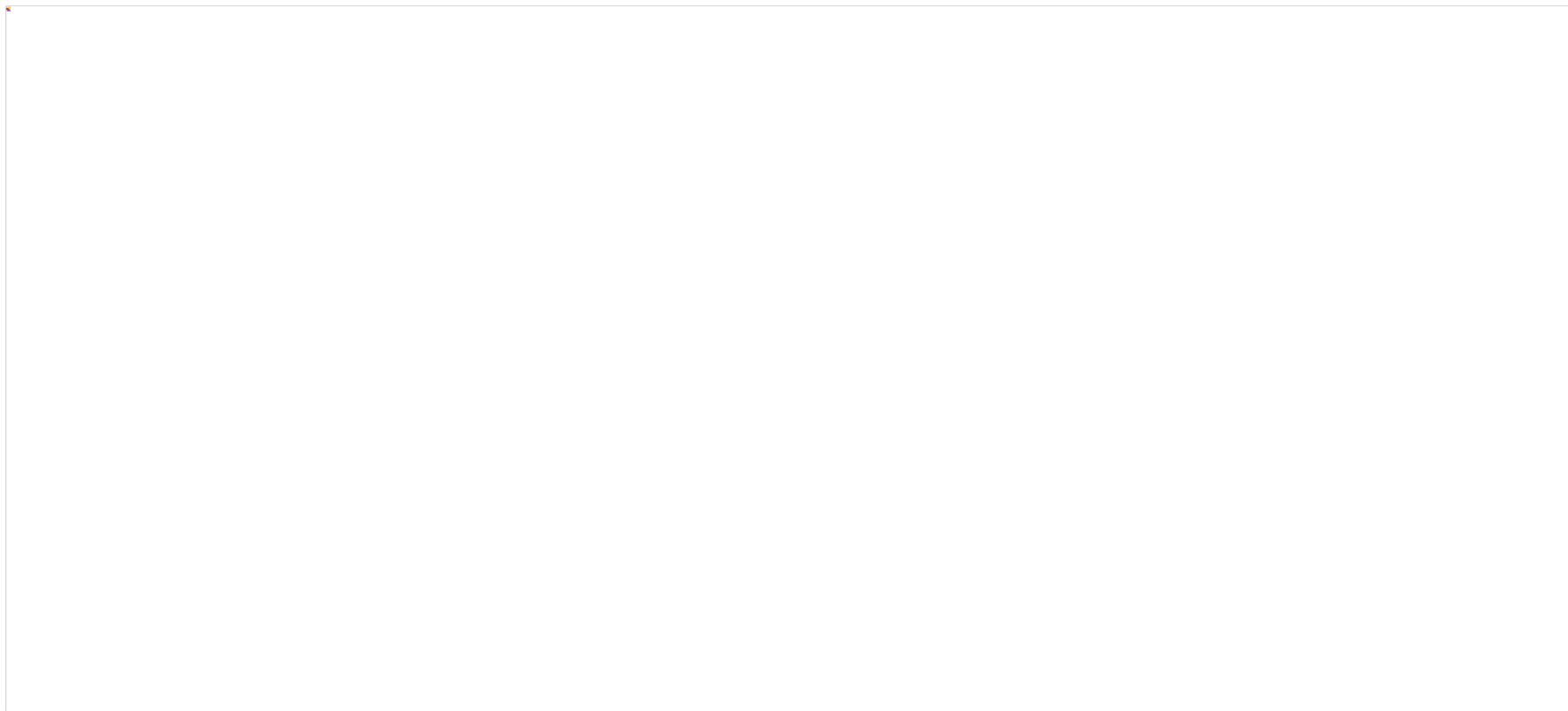
User Interface – Predefined Queries



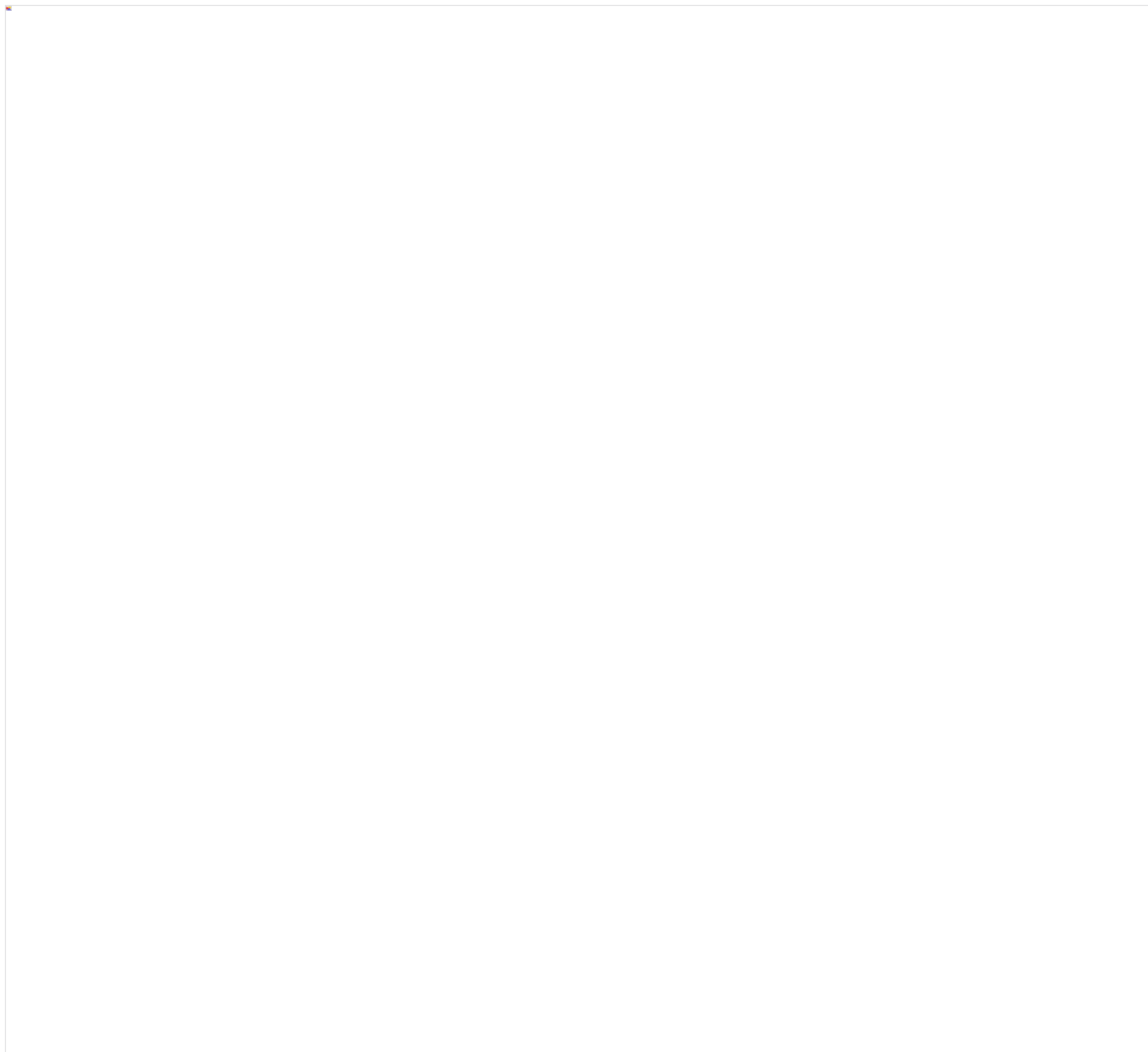
Simple Query



Advanced Query



Graphs



Graphs Configuration



Pivot Tables



Pivot Table Configuration



Advanced Sort



Why ARCo?

- Scalability
- Fine-grained resource usage monitoring over time
- Sophisticated data mining
- Flexibility in defining the data being inputted in the database

