Inca Data Display
(data consumers)

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Inca Workshop
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Data Consumers

- Anything that queries and digests data from the depot

- Inca distribution includes a container and webapp to provide Web view of Inca deployment

- Designed for grid operators, system administrators, and users
Consumer displays data

• Current and historical views

• Web application packaged with Jetty

• JSP 2.0 pages/tags to query data and format using XSLT

• CeWolf/JFreeChart to graph data

• Extensible
Files for customization

Inca webapp runs inside
Jetty 6 container

Config colors

Config authentication

Config files for views
Default Status Pages

Welcome to the Inca Consumer web pages!

- Display latest results in a table or Google Map
- Query current and historical data interactively
- Display historical result details and summary information in reports
- Display series configuration information and configure web status pages
Inca’s status pages provide multiple levels of details.
Inca's status pages provide multiple levels of details.

Series Summary

Suite & resource histories

Error history summary

Related series histories

Series Details

Weekly status report

Individual series history

Cumulative series status by resource

Weekly status report

Cumulative series status by resource

Series status by package and resource

Individual report details

Current status

Historical
View cumulative series status by resource

- Register for a Google Map API key

- Specify size of map, center of map, zoom level

- Define sites -- logo and resources

- Optionally change icons or colors
Inca's status pages provide multiple levels of details:

- **Series Summary**
  - Average suite & resource series pass rate history
  - Error history summary
  - Related series histories

- **Series Details**
  - Individual series history

- **Historical**
  - Weekly status report

- **Current status**
  - Cumulative series status by resource
  - Series status by package and resource
  - Individual report details

**Example Data**:

<table>
<thead>
<tr>
<th>Package</th>
<th>resource1</th>
<th>resource2</th>
<th>resource3</th>
<th>resource4</th>
</tr>
</thead>
<tbody>
<tr>
<td>gsi-openssh</td>
<td>4.6p1</td>
<td>4.6p1</td>
<td>4.5p1</td>
<td>4.5p1</td>
</tr>
<tr>
<td>gssish-unit</td>
<td>pass</td>
<td>pass</td>
<td>error</td>
<td>pass</td>
</tr>
<tr>
<td>gx-map</td>
<td>0.5.3.2p1</td>
<td>0.5.3.2p1</td>
<td>0.5.3.2p1</td>
<td>0.5.3.2p1</td>
</tr>
<tr>
<td>myproxy</td>
<td>resource1</td>
<td>resource2</td>
<td>resource3</td>
<td>resource4</td>
</tr>
<tr>
<td>version</td>
<td>&gt;= 3.4</td>
<td>3.4</td>
<td>3.4</td>
<td>3.4</td>
</tr>
<tr>
<td>sofenv</td>
<td>resource1</td>
<td>resource2</td>
<td>resource3</td>
<td>resource4</td>
</tr>
<tr>
<td>version</td>
<td>1.6.2</td>
<td>1.6.2</td>
<td>1.6.2</td>
<td>1.6.2</td>
</tr>
<tr>
<td>sofenv-unit</td>
<td>pass</td>
<td>pass</td>
<td>pass</td>
<td>pass</td>
</tr>
<tr>
<td>tgproxy</td>
<td>resource1</td>
<td>resource2</td>
<td>resource3</td>
<td>resource4</td>
</tr>
<tr>
<td>version</td>
<td>1.8.2</td>
<td>1.8.2</td>
<td>1.8.2</td>
<td>1.8.2</td>
</tr>
<tr>
<td>tgproxy-unit</td>
<td>pass</td>
<td>pass</td>
<td>pass</td>
<td>pass</td>
</tr>
</tbody>
</table>
View series status by package and resource

• Specify list of suite(s) and resource(s) in URL

http://host:8080/inca/jsp/status.jsp? suiteNames=s1[,s2,…] resourceIds=r1[,r2,…]

REST equivalent:
http://host:8080/inca/HTML/rest/s1/r1
View individual report details

- Linked from other views

- Specify series nickname, resource, and collected time

http://host:8080/inca/jsp/instance.jsp

  nickname=ant_version &
  resource=localResource &
  collected=2010-08-11T20:51:08.000-07:00

REST equivalent (latest instance):
http://host:8080/inca/HTML/rest/sampleSuite/
  localResource/ant_version
View individual series history

- Linked from individual report details page
- Requires series nickname, resource, and title
- By default for week, month, quarter or year
- Options:
  - Mouseovers and links
  - Legend (and position)
  - Width, Height
  - Background color
Choose selected series histories

• Is an error related to the resource or the software?

• What is the reliability of a service (viewing multiple tests)?
Inca's status pages provide multiple levels of details:

- **Series Summary**
  - Weekly status report
  - Cumulative series status by resource
- **Series Details**
  - Suite & resource histories
  - Error history summary
  - Related series histories
  - Individual series history
- **Historical**
  - Individual report details
- **Current status**
  - Series status by package and resource
View related series histories

- Requires multiple series nickname, resource, and title
- Two weeks of history by default
- Options:
  - Mouseovers and links
  - Legend (and position)
  - Width, Height
  - Background color

Diagram:
- Consumer
- HTML
- Graphs charts
- graph.jsp
- query results (XML)
- Depot
- inca
- SAN DIEGO SUPERCOMPUTER CENTER
View related series histories as report

- Requires multiple series nickname, resource, and titles described in XML file
- Two weeks of history by default

Options:
- Mouseovers and links
- Legend (and position)
- Width, Height
- Background color
- Metrics
View error history summary ("diff")

- Designed for daily/weekly review
- Uses cached historical query
- Four weeks of history by default
- Sortable by column
Inca's status pages provide multiple levels of details.

Series Summary

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Average series pass rate for 'data-movement.teragrid.org-4.1.0'

Average series pass rate for 'data-movement.teragrid.org-4.1.2'
View average suite and resource histories

- Designed for daily/weekly review
- Uses cached historical query
- Four weeks of history by default
- Click to view further details
View suite or resource history details

![Graph: Average series pass rate for 'data-movement.teragrid.org-4.1.2']

- Suite status for each resource
- Status of suite on all resources

![Graph: Average series pass rate for 'tacc-lonestar']

![Graph: Average series pass rate for 'tacc-viz']
View weekly suite and resource status

- Designed for daily/weekly review
- Uses cached historical query
- Four weeks of history by default
- Click to view further details
### Status history for suite data-movement.teragrid.org-4.1.0

<table>
<thead>
<tr>
<th>Resource</th>
<th>08/23/08 - 08/30/08</th>
<th>08/16/08 - 08/23/08</th>
</tr>
</thead>
<tbody>
<tr>
<td>loni-lsu-qb</td>
<td>33.3% (-21%)</td>
<td></td>
</tr>
<tr>
<td>ornl-login</td>
<td></td>
<td>100.0% (+9%)</td>
</tr>
<tr>
<td>sdsc-bg</td>
<td>62.5% (-7%)</td>
<td></td>
</tr>
<tr>
<td>sdsc-datastar</td>
<td></td>
<td>83.3% (+3%)</td>
</tr>
<tr>
<td>sdsc-ia64</td>
<td></td>
<td>95.5% (+0%)</td>
</tr>
</tbody>
</table>

**Average series pass rate**

- **ioni-lsu-qb:** 33.3% (-21%)
- **ornl-login:** 100.0% (+9%)
- **sdsc-bg:** 62.5% (-7%)
- **sdsc-datastar:** 83.3% (+3%)
- **sdsc-ia64:** 95.5% (+0%)
Caching provides quick page load times

- Periodically load and store large queries
- Latest suite instances cached by default -- frequency from **reload** property
- Query management page allows view, execute, refresh, and modification action on queries (requires authentication)

**Query management page**
Daily history query analyzes errors

**PERIOD, DAYS, CONDITION**

where

**PERIOD = DAY | WEEK | MONTH | QUARTER**

- Four weeks of history loaded every day -- time of day from `reloadAt` property
- TeraGrid - 10 weeks of history (WEEK, 70, 1 = 1)
Daily history query output

<quer:object>
  <row><series>
    <guid>incas://rocks-101.sdsc.edu:6323/sampleSuite</guid>
    <nickname>gcc_hello_world</nickname>
    <resource>localResource</resource>
  </series>
  <period>
    <begin>1217830004174</begin>
    <end>1218434804173</end>
    <success>1008</success>
    <failure>
      <message>gcc: Command not found</message>
      <count>2</count>
    </failure>
  </period>
  <period>
    <begin>1218434804174</begin>
  </period>
...
Create a custom query

- View subset of series in a suite
- View series in multiple suites

Requires authentication and suiteNames
Use custom query name in views

- Use `queryNames` in place of `suiteNames`

http://host:8080/inca/jsp/status.jsp?queryNames=myquery&resourceIds=defaultGrid

REST equivalent:
http://host:8080/inca/HTML/rest/myquery/defaultGrid
Admin pages: configure Google map view

Size of map

Center of map -- default is middle of US

Site name, location, logo and list of resources

All options are described in detail in the user guide:
http://inca.sdsc.edu/releases/latest/guide/userguide-one.html#GOOGLE-SETUP
Admin pages: Google map site logos
Admin pages: Run Now

- triggers reporter execution on the local machine
- useful for admin who have worked on an issue and want to verify that a problem has been resolved
Admin pages: Knowledge Base

- designed to collect problem resolution information for tests
- used to debug problems

Knowledge Base Search Results
You searched for:
```
incaseries='gcc_version' OR incareporter='cl'
 OR incaartifacttext LIKE '%gcc_version%'
```

The following articles were returned:
- Resolving gcc version errors
Admin pages: Series Error Summary

- summarize test series errors by time period
- time periods and titles (i.e., PAST 4 WEEKS) can be customized

<table>
<thead>
<tr>
<th>Suite -</th>
<th>Resource</th>
<th>Nickname</th>
<th>THIS WEEK</th>
<th># errs</th>
<th>unique errs</th>
<th>% pass</th>
<th>CHANGE BETWEEN THIS WEEK AND LAST WEEK</th>
<th>% pass this week</th>
<th>% pass last week</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>workflow.teragrid.org-4.0.0</td>
<td>sdsc-bq</td>
<td>condor-condorq</td>
<td>3</td>
<td>1</td>
<td>50%</td>
<td>-4</td>
<td>-50%</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>workflow.teragrid.org-4.0.0</td>
<td>lori-lsu-qb</td>
<td>gridshell-version</td>
<td>7</td>
<td>1</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>workflow.teragrid.org-4.0.0</td>
<td>ncsatungsten</td>
<td>condor-condorq</td>
<td>1</td>
<td>1</td>
<td>86%</td>
<td>+6%</td>
<td>86%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>workflow.teragrid.org-4.0.0</td>
<td>lori-lsu-qb</td>
<td>condor-condorq</td>
<td>7</td>
<td>1</td>
<td>0%</td>
<td>+7</td>
<td>100%</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>workflow.teragrid.org-4.0.0</td>
<td>purdue-steeles</td>
<td>condor-condorq</td>
<td>1</td>
<td>1</td>
<td>86%</td>
<td>+1</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>usage</td>
<td>sdsc-lsb64</td>
<td>grid:joos.usage</td>
<td>7</td>
<td>1</td>
<td>0%</td>
<td>0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>
Admin pages: Pass/Fail Reports

- historical summary reports with pass/fail status and error information
- selected series can be customized
Admin Pages: Statistics – new for 2.6

- historical summary reports with statistics
- selected series can be customized
Password authentication can be customized

- Ports: HTTP on 8080, HTTPS on 8443

- Password protection on query.jsp and status-auth.jsp (change in $INCA_DIST/webapps/inca/WEB-INF/web.xml)

- Password set in $INCA_DIST/etc/realm.properties
  username: password
**REST Syntax**

- Fetch suite or stored query data in XML or HTML format using REST URLs.

- By default, the consumer recognizes a REST URL using the following format:
  
  http://localhost:8080/inca/XML|HTML/rest/<suiteName>|<queryName>[/<resourceId>[/<seriesNickname>[/week|month|quarter|year]]]

- [http://inca.sdsc.edu/releases/2.6/guide/userguide-one.html#REST](http://inca.sdsc.edu/releases/2.6/guide/userguide-one.html#REST)
## Customize the header

*Add logo or background color here*

<table>
<thead>
<tr>
<th>INCA STATUS PAGES</th>
<th>CURRENT DATA</th>
<th>REPORTS</th>
<th>QUERY</th>
<th>ADMIN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Table of sampleSuite results</td>
<td>Past week: sampleSuite pass/fail graphs and</td>
<td>Create sampleSuite graph</td>
<td>List running reporters</td>
</tr>
<tr>
<td></td>
<td></td>
<td>err msgs</td>
<td>Create sampleSuite stored query</td>
<td>List running reporters - detail</td>
</tr>
<tr>
<td></td>
<td>Map of sampleSuite results</td>
<td>Past week: avg pass rate by resource/suite</td>
<td>Manage stored queries</td>
<td>View/Change configuration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Past 4 weeks: series error summary</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Resource avg pass history</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Suite avg pass history</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Header can be customized by editing unordered list in header.xsl -- change for your suites

- Add logo at top or background color by adding row to table
<table width="100%" class="subheader">
<tr> <td> <a href="http://www.geongrid.org">
<img src="http://www.geongrid.org/images/logo_lofi.gif"/>
</a></td>
</tr> <tr>
</tr>
</table>

Add GEON logo to top of page

<h2>Current Data</h2>
<ul>
<li><a href="{concat($jsp, 'status.jsp?', $all)}">Table View</a></li>
<li><a href="{concat($jsp, 'status.jsp?', $all)}">All Tests</a></li>
<li><a href="{concat($jsp,'status.jsp?suiteNames=Common&amp;resourceIds=ROCKS')}">Common Tests</a></li>
</ul>
Changing colors in CSS

- Edit CSS (Cascading Style Sheet) to change colors and fonts

- E.g. change .header background-color

```css
$INCA_INSTALL/webapps/inca/css/inca.css

.header {
  background-color: #D07651;
}
```
Summary

- A data consumer is anything that queries and digests data from the depot

- Inca includes a data consumer -- an embedded Jetty web container that includes a webapp

- Inca’s status pages provide multiple levels of details from historical to current data and summary and detail views

- Caching of queries is automated to optimize page load times and can be customized

- Status pages’ content, look, and security can be customized