Administering Inca with incat
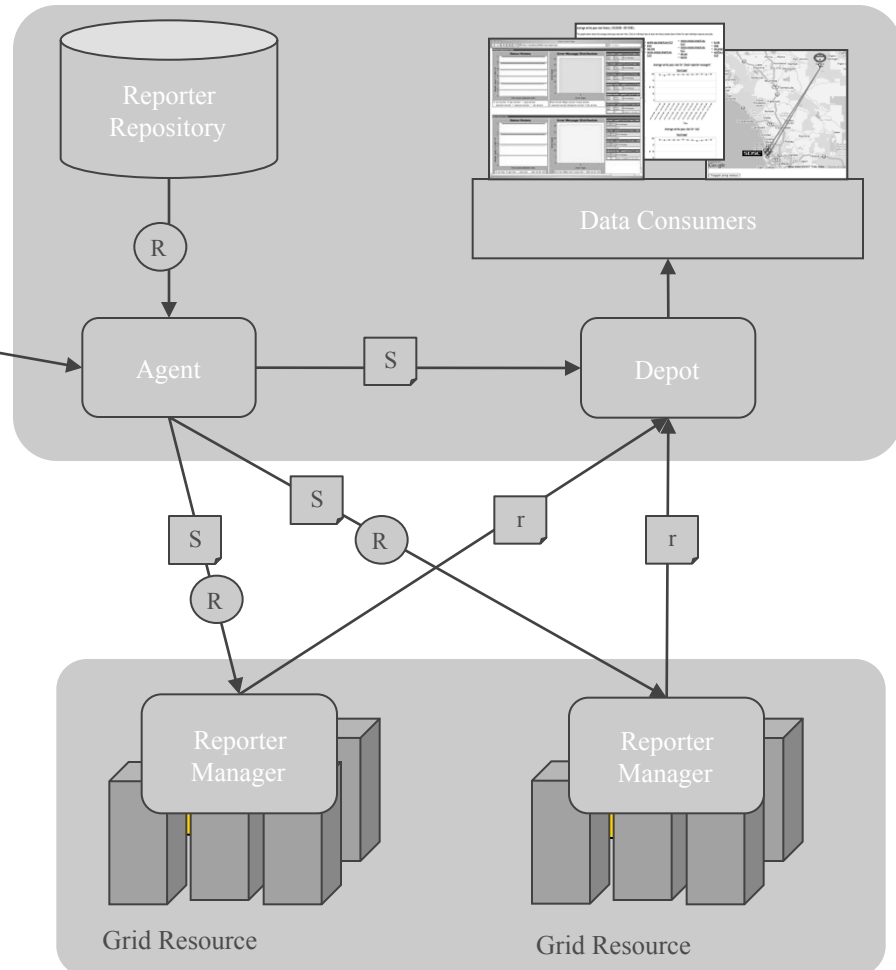
Shava Smallen

ssmallen@sdsc.edu
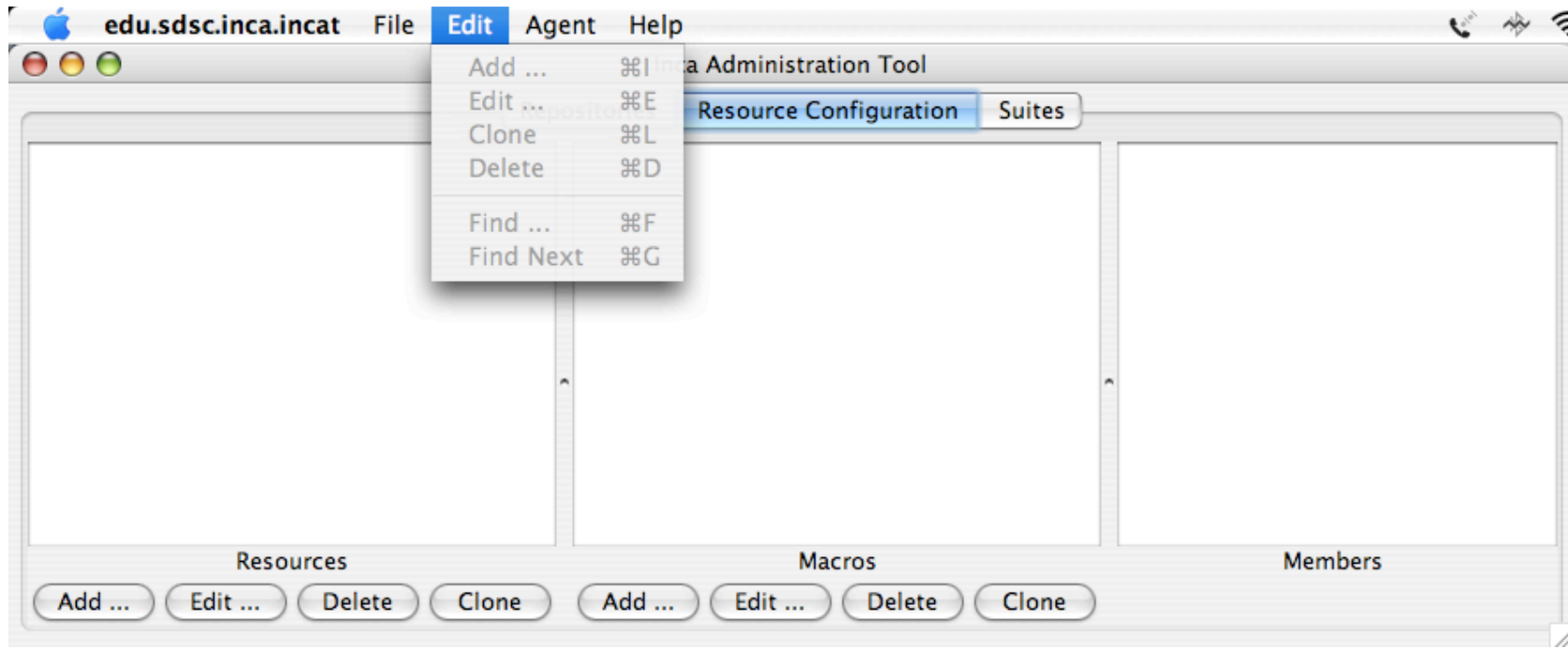
Inca Workshop

August 26, 2010

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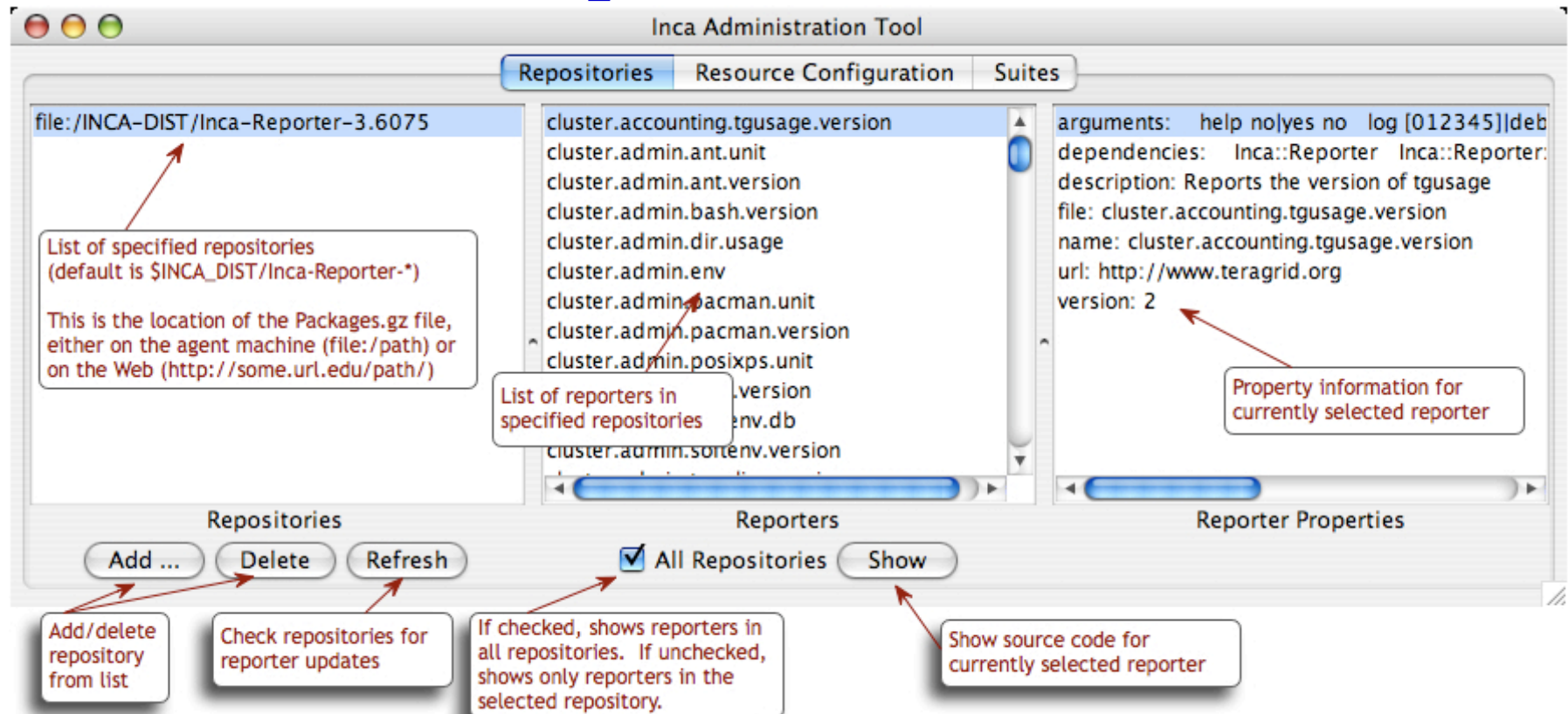
incat
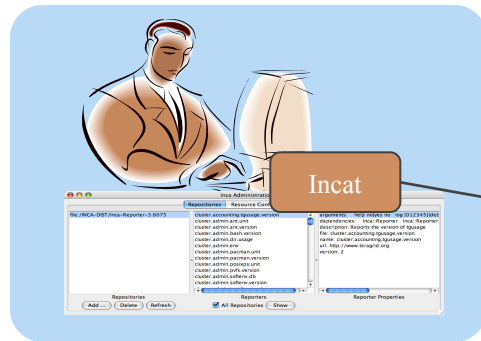
- A graphic editor for an Inca deployment configuration (XML describing repositories, resources, and series)

- Retrieves existing configuration from Agent and/or loads specified file

incat Display

- Tabs for repositories, resources, and suites
- File Open/Save/Save As menu
- Edit menu supports modifying and searching selected panel
- Agent/Commit sends Inca deployment configuration to Agent
- Online user's guide via Help menu

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Repositories Tab

Inca Administration Tool

Tabs: Repositories | Resource Configuration | Suites

file:/INCA-DIST/Inca-Reporter-3.6075

List of specified repositories
(default is $INCA_DIST/Inca-Reporter-*)

This is the location of the Packages.gz file,
either on the agent machine (file:/path) or
on the Web (http://some.url.edu/path/)

Reporters list:
cluster.accounting.tgusage.version
cluster.admin.ant.unit
cluster.admin.ant.version
cluster.admin.bash.version
cluster.admin.dir.usage
cluster.admin.env
cluster.admin.pacman.unit
cluster.admin.pacman.version
cluster.admin.posixps.unit
cluster.admin...version
cluster.admin...env.db
cluster.admin.softenv.version

List of reporters in
specified repositories

Reporter Properties:
arguments: help no|yes no   log [012345]|deb
dependencies: Inca::Reporter   Inca::Reporter:
description: Reports the version of tgusage
file: cluster.accounting.tgusage.version
name: cluster.accounting.tgusage.version
url: http://www.teragrid.org
version: 2

Property information for
currently selected reporter

Repositories | Reporters | Reporter Properties

Buttons: Add ... | Delete | Refresh | ☑ All Repositories | Show

Add/delete
repository
from list

Check repositories for
reporter updates

If checked, shows reporters in
all repositories. If unchecked,
shows only reporters in the
selected repository.

Show source code for
currently selected reporter

- Repository list, reporter collection, catalog entry
- Reporter information retrieved from connected Agent

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Resource Configuration Tab
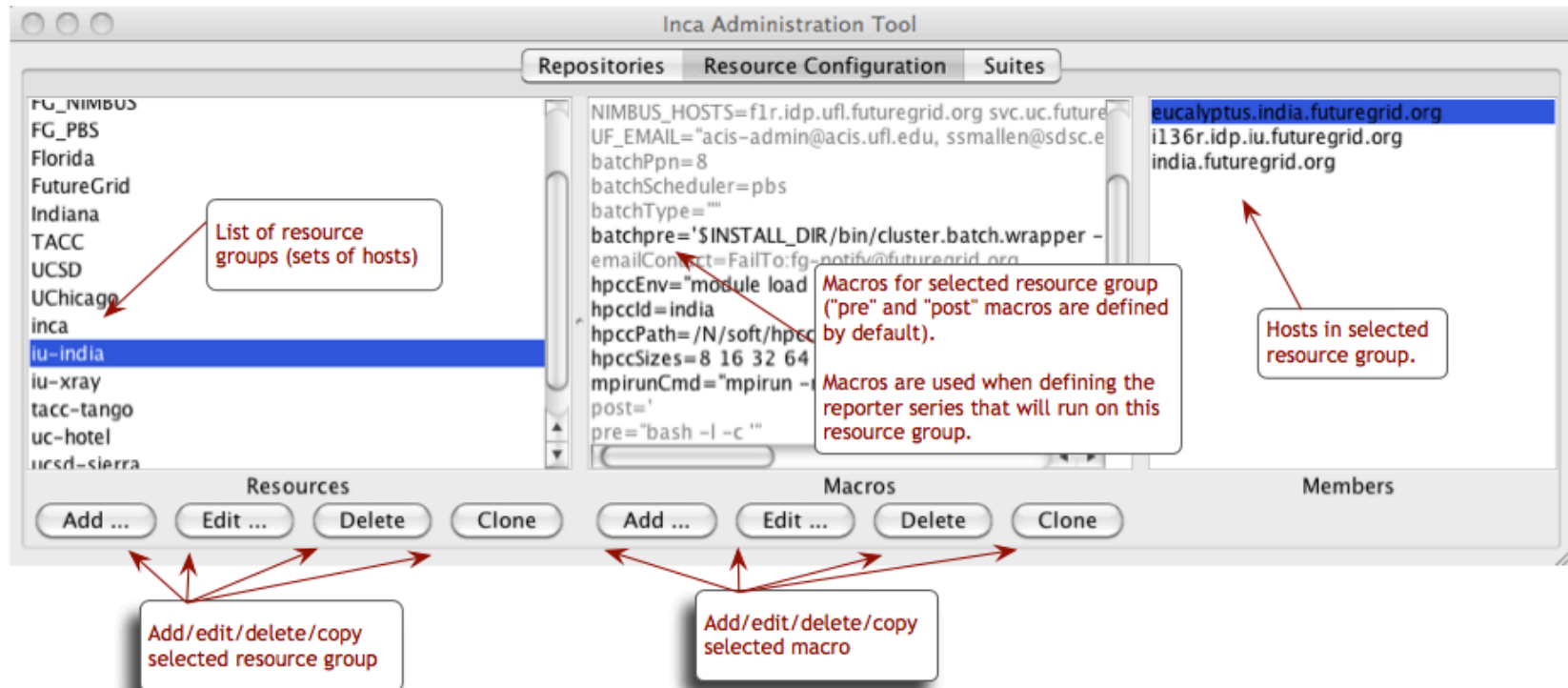
- Resource name, associated macros, member hosts
- Inherited macros shown in gray
- Hosts with no IP address shown in red
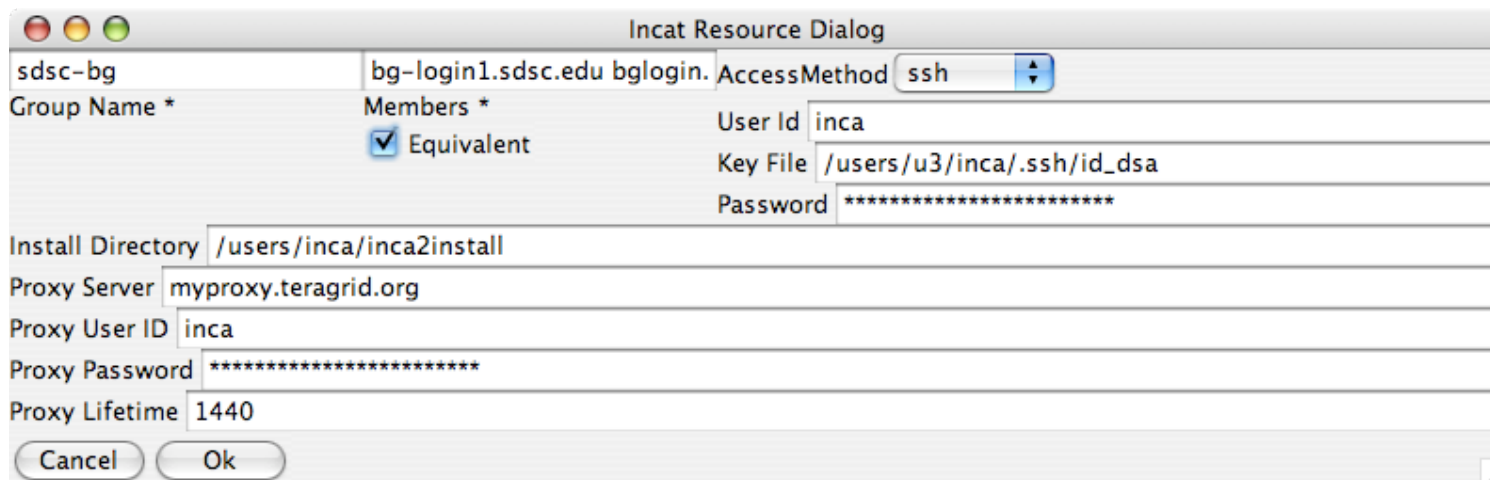- Resource "Add …", "Edit …" open resource edit dialog

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Resource Edit Dialog

Arbitrary nickname for the resource group.

Hostnames or other resource groups that are in this resource group.

Method the Agent uses to contact the Reporter Manager(s) in this group.

Local, Globus2, Globus4, SSH, Manual

Incat Resource Dialog

localResource

client64-52.sdsc.edu

AccessMethod local

Group Name *

Members *

☑ Equivalent

If checked, Inca will treat the hosts in this group as a single host, only running the reporters on one of them.

Install Directory

Approval Email

Proxy Server

Proxy User ID

Proxy Password

Proxy Lifetime

Cancel   Ok

Resource administrator approves all changes

Directory where the Reporter Manager is installed. If blank, the Reporter Manager will be installed in ~/incaReporterManager

Proxy information for Agent access to Globus resoures and for reporters that require a proxy

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Specifying Ssh Resources

- Accessed by Agent using j2ssh classes
- Reporter Manager staging via sftp
- Passwords stored/transmitted encrypted

Specifying Globus Resources

- Accessed by Agent via Globus CoG Java classes
- Globus2 uses pre-WS APIs and Globus4 uses WS APIs
- Reporter Manager staged via GridFtp

Specifying Manual Resources

- Agent cannot use provided automated methods
- Resource administrator installs reporter manager manually and connects it to the agent

Grouping Resources

- Convenience for specifying series to run on multiple resources
- Directory, proxy info, etc. are like macros--most specific value is used for each host

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Suites Tab

- Grouping of series into suites allows clearer Consumer display
- Report series named after reporter or given "nickname"

Series Edit Dialog

Series Edit Dialog (Upper)

- Select reporter and resource; specify command-line arg values
- Argument list determined by reporter
- Use latest version automates Reporter updates
- Reporter description appears below reporter

Series Edit Dialog (Lower)

- Run frequency uses extended cron syntax
- Nickname useful in later report display--should be unique
- Context allows specialized execution
- Reporter killed and error report stored if limits exceeded
- Comparison allows more precise definition of reporter success/failure
- Notification script run when state changes

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Comparisons Refine Success and Failure

```
<body>
    <package>
        <ID>openssh</ID>
        <version>3.6.1p1</version>
    </package>
</body>
```

ID/Value pair

Comparison openssh >= 3.6
Notification Script EmailNotifier
Script Arguments inca@sdsc.edu
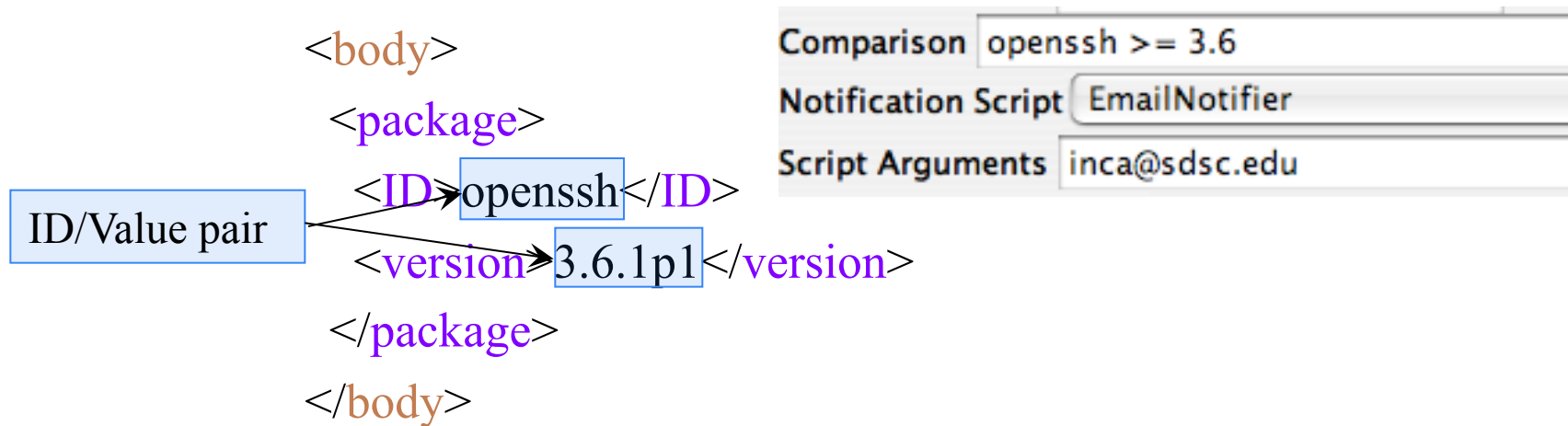
- Comparison can test body, errorMessage, ID values from report body

- Supports comparison operators and pattern matching

- EmailNotifier, LogNotifier provided; custom notifiers supported

- EmailNotifier reports success, failure, or both

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Using Macros in Report Series

- Separate series for each macro value

- Series with undefined macros references shown in red

Executing series in batch mode

Define **batchPre** macro specifying batch wrapper, scheduler type, and special submit params

batchPre=$INSTALL_DIR/bin/cluster.batch.wrapper -scheduler="@batchScheduler@"

Specify **batchPre** macro in context with extra batch wrapper arguments

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Executing all2all series
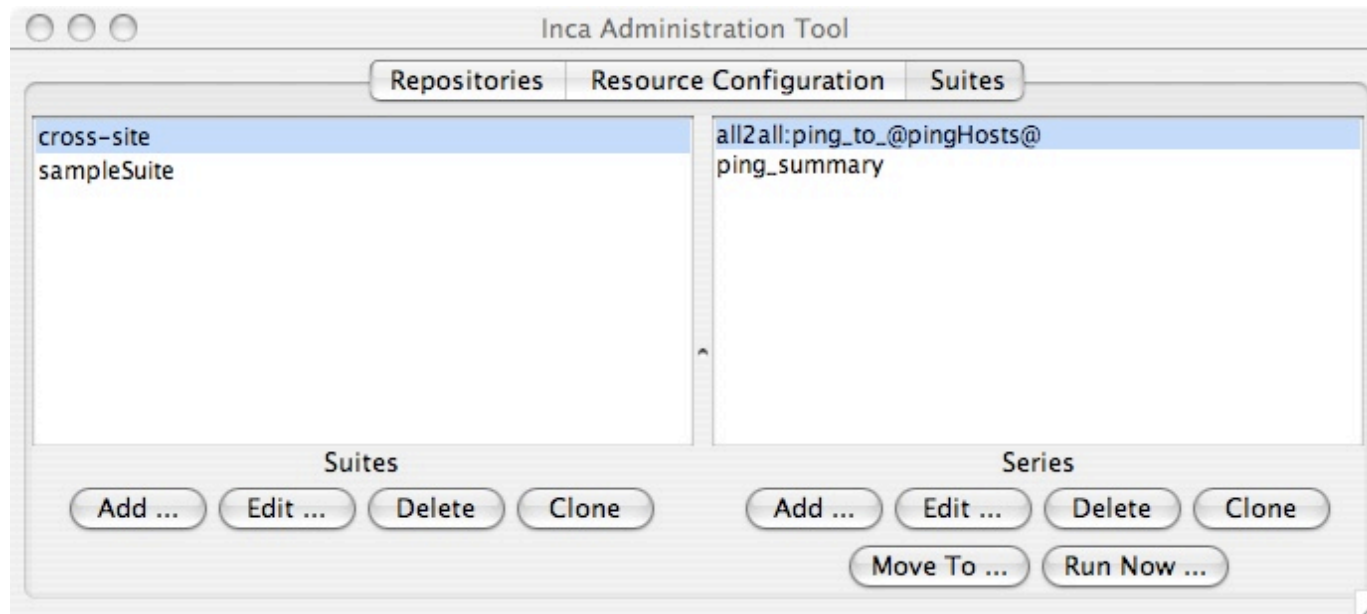
1. Specify an all2all series

2. Specify a summary reporter series using summary.successpct.performance

3. Add All2All filter in depot

Agenda -- Day 1

9:00 - 10:00	Inca overview
10:00 - 11:00	Working with Inca Reporters
11:15 - 12:00	Hands-on: Reporter API and Repository
1:00 - 2:00	Inca Control Infrastructure
2:00 - 3:00	Administering Inca with incat
3:15 - 4:00	Hands-on: Inca deployment