



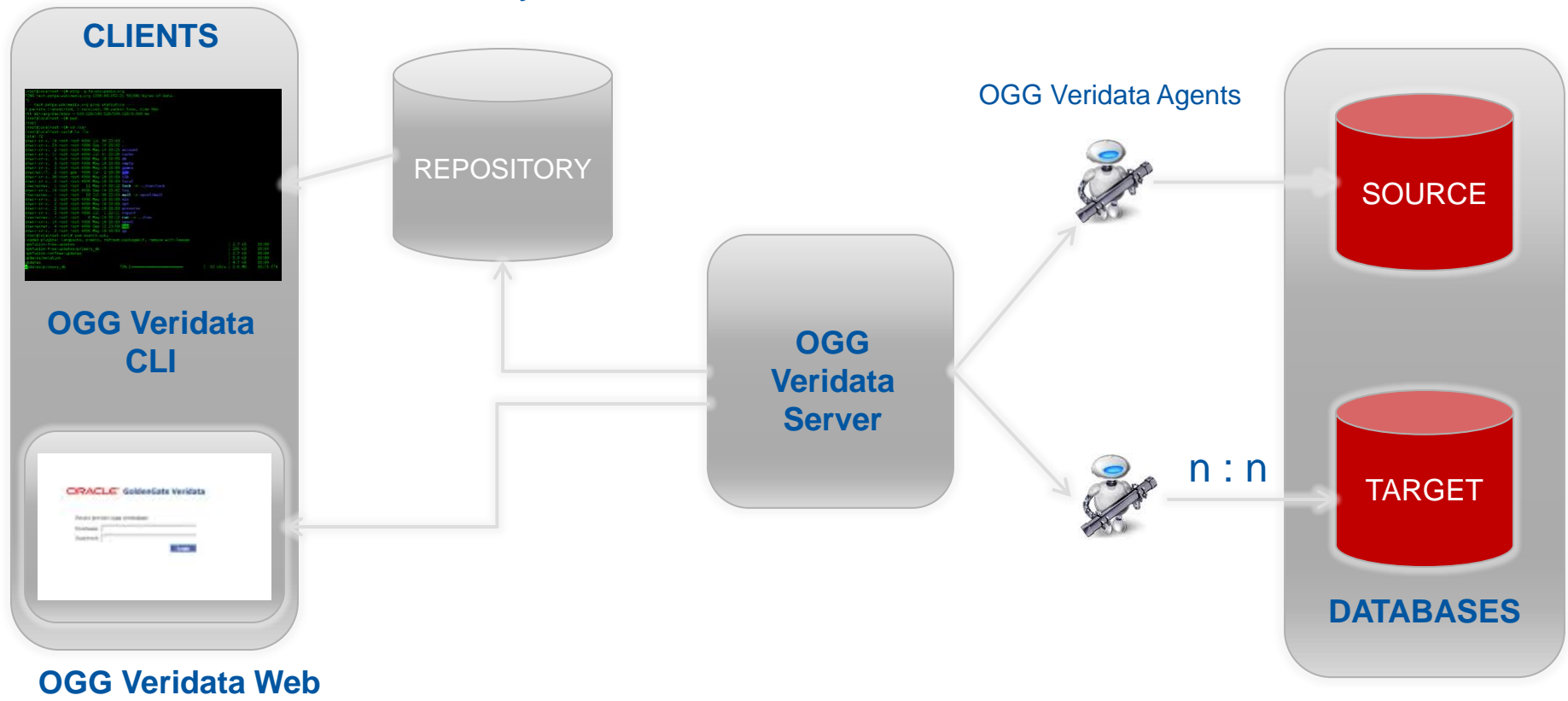
# Data Consistency Verification with Veridata

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# Veridata Overview

- ❑ Is a high-performance cross-platform data comparison tool that supports high-volume compares
- ❑ Allows data consistency validation on “hot” data sets



# Veridata Overview

Oracle GoldenGate Veridata

Home | All Finished Jobs

Time Range Filter

Most Recent Comparison Run  
 View Last  
 From

1 Hours  
 Date: 8/5/13 Time: 00:00:00 To: 8/15/13 Time: 23:59:59

Apply Filter

Chart

Compare Pair Status For All Finished Jobs  
Total Compare Pairs Processed: 17

View All Stabuses

Finished Jobs

Comparison Status	Job Name	Job Start Time	Job Run Duration	Compare Pairs Processed	Compare Pairs Out-Of-Sync	Compare Pairs Failed	Compare Pairs Canceled	Reports
✖	compaire	Aug 14, 2013 5:15:14 PM	00:00:02	4	2	1	0	<a href="#">Report</a>
⊕	compaire	Aug 13, 2013 1:11:03 PM	00:00:01	1	0	0	0	<a href="#">Report</a>
⊕	ogg_compar	Aug 13, 2013 12:56:21 PM	00:00:01	1	0	0	0	<a href="#">Report</a>
⊕	ogg_compar	Aug 13, 2013 12:55:19 PM	00:00:04	1	0	0	0	<a href="#">Report</a>
⊕	ogg_compar	Aug 7, 2013 3:54:42 PM	00:00:01	1	0	0	0	<a href="#">Report</a>
⊕	ogg_compar	Aug 7, 2013 3:53:56 PM	00:00:05	1	0	0	0	<a href="#">Report</a>
⊕	ogg_compar	Aug 7, 2013 9:25:03 AM	00:00:03	1	0	0	0	<a href="#">Report</a>
⊕	ogg_compar	Aug 5, 2013 5:03:58 PM	00:00:03	1	0	0	0	<a href="#">Report</a>
⊕	ogg_compar	Aug 5, 2013 4:32:07 PM	00:00:01	1	0	0	0	<a href="#">Report</a>
⊕	ogg_compar	Aug 5, 2013 4:31:28 PM	00:00:05	1	0	0	0	<a href="#">Report</a>
⊕	ogg_compar	Aug 5, 2013 3:52:27 PM	00:00:01	1	0	0	0	<a href="#">Report</a>
⊕	ogg_compar	Aug 5, 2013 3:48:47 PM	00:00:01	1	0	0	0	<a href="#">Report</a>
⊕	ogg_compar	Aug 5, 2013 3:46:48 PM	00:00:05	1	0	0	0	<a href="#">Report</a>
⊕	ogg_compar	Aug 5, 2013 3:33:21 PM	00:00:01	1	0	0	0	<a href="#">Report</a>

Show 20 Items per page



# System Requirements

- ❑ DYNAMICPORTLIST in each GoldenGateManager process (Might use 20 ports)
- ❑ For Veridata Agent
  - Every VA must be installed for each database instance that contains data that is to be compared
  - Possibility of running multiple agents from a single install
  - 1GB of RAM
  - Java 1.6.0 or later is required for release 11.2.1
  - Ojdbc6.jar
- ❑ For Veridata Server : 200 MB of fixed virtual memory for basic task
- ❑ Privileges: Create a user and password and database role named VERIDATA\_ROLE
  - CREATE SESSION, CREATE TABLE, CREATE VIEW, CREATE PROCEDURE, CREATE SYNONYM
  - Grant VERIDATA\_ROLE to the user
  - Specify QUOTA UNLIMITED on the user's default tablespace

# Setting up the Veridata Compares

1. Create database connections, source and target
2. Create group, a group of comparing pairs
3. Create compare pairs, what tables to compare
4. Create a job, to run one or more groups
5. Run a job
6. Compare results



# Step 1: Connection

Create the connection to the corresponding databases where Veridata Agents are displayed

The screenshot shows the Oracle GoldenGate Veridata web interface. The browser address bar displays the URL: `itrac910:8830/veridata/pages/config/connection/edit.jsf`. The page title is "ORACLE GoldenGate Veridata". The navigation menu on the left includes "Home", "Running Jobs", "Finished Jobs", "Configuration" (highlighted with a red box), "Run / Execute Job", "Reports", and "Options / Settings". The "Configuration" section is expanded to show "Connection Configuration". The main content area is titled "Connection Configuration" and contains three tabs: "Connection Details", "Connection Settings", and "Connection Properties". The "Connection Details" tab is active, showing fields for "Name" (BNL) and "Description". Below this is the "GoldenGate Connection" section with fields for "Host Name or IP Address" (itrac910), "Port" (4004), and "Datasource Type" (Oracle), along with a "Verify" button. The "Datasource Connection" section has fields for "User" (ggadmin) and "Password" (masked with dots), along with a "Test Connection" button. A "Save" button is located at the top right of the main content area.

# Step 2: Groups Creation

itrac910:8830/veridata/pages/config/group/edit.jsf

ORACLE GoldenGate Veridata

Logout | About | Help

Home

Running Jobs

- View By Job
- View By Group
- View By Compare Pair

Finished Jobs

- View By Job
- View By Group
- View By Compare Pair

Configuration

- Connection Configuration
- Group Configuration**
- Job Configuration
- Profile Configuration

Run / Execute Job

Reports

Options / Settings

- User Preferences
- Change Password

Favorites

Jobs

Group Configuration >> Edit Group triumph

Selected Group

Save

Group Details

Name: triumph

Description:

Connection Information

Source Connection: itrac910 Browse

Target Connection: TRIUMF Browse

Existing Compare Pairs

Compare Pairs: 1

Filters

Enabled	Name	Source Table Name	Target Table Name
<input checked="" type="checkbox"/>	REP_TAB=REP_TAB	REP_TAB	REP_TAB

Showing From 1 To 1 Of 1 Compare Pairs

Show 10 Items per page

Go to Compare Pair Configuration ...

Save



# Step 3: Compare pair

itrac910:8830/veridata/pages/config/tableMapping/editTableMapping.jsf

ORACLE GoldenGate Veridata

Logout | About | Help

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Running Jobs

- View By Job
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- View By Compare Pair

Finished Jobs

- View By Job
- View By Group
- View By Compare Pair

Configuration

- Connection Configuration
- Group Configuration
- Job Configuration
- Profile Configuration

Run / Execute Job

Reports

Options / Settings

- User Preferences
- Change Password

Group Configuration >> Edit Group RAL >> Compare Pair Configuration

### Compare Pair Configuration

**Group Information**

Group Name: RAL

Source Connection: itrac910

Target Connection: RAL

Existing Compare Pairs | Pattern Mapping | **Manual Mapping** | Preview

**Datasource Information**

Source

Schema: GGUSER

Target

Schema: GGUSER

**Selected Compare Pair**

**Source Table**

Table Name: REP\_TAB

**Target Table**

Table Name: REP\_TAB

**Compare Pair Details**

Compare Pair Name: REP\_TAB=REP\_TAB

Profile:

Row Partitions: Not Specified

Key Mapping Method: System Generated

Column Mapping Method: System Generated

# Step 4: Job Creation

The screenshot shows the Oracle GoldenGate Veridata web interface. The browser address bar displays `itrac910:8830/veridata/pages/config/job/editJob.jsf`. The page title is "ORACLE GoldenGate Veridata". The left sidebar contains a navigation menu with categories: Home, Running Jobs, Finished Jobs, Configuration (with "Job Configuration" highlighted in a red box), Run / Execute Job, Reports, and Options / Settings. The main content area shows the "Selected Job" configuration for "IN2P3". It includes sections for Job Details, Connection Information (Optional), and Profile Information (Optional). The "Linked Groups" section contains a table with 5 groups, where the "in2p3" group is selected. The table has columns for Link, Name, Source Connection, Target Connection, and Number of Compare Pairs. At the bottom, there are pagination controls and a "Save" button.

Job Configuration >> Edit Job IN2P3 >> Edit Group in2p3

Logout | About | Help

Home

Running Jobs

- View By Job
- View By Group
- View By Compare Pair

Finished Jobs

- View By Job
- View By Group
- View By Compare Pair

Configuration

- Connection Configuration
- Group Configuration
- Job Configuration**
- Profile Configuration

Run / Execute Job

Reports

Options / Settings

- User Preferences
- Change Password

Favorites ?

Jobs Add... Edit...

Shortcuts Add... Edit...

**Selected Job**

Save

**Job Details**

Name: IN2P3

Description:

**Connection Information (Optional)**

Source Connection: itrac910 Browse

Target Connection: IN2P3 Browse

**Profile Information (Optional)**

Name: Browse

**Linked Groups** Groups: 5

Filters

Link	Name	Source Connection	Target Connection	Number of Compare Pairs
<input type="checkbox"/>	BNL	itrac910	BNL	1
<input type="checkbox"/>	GroupTest	itrac910	itrac910	0
<input checked="" type="checkbox"/>	in2p3	itrac910	IN2P3	1
<input type="checkbox"/>	RAL	itrac910	RAL	1
<input type="checkbox"/>	triumf	itrac910	TRIUMF	1

Show 10 Items per page

Showing From 1 To 5 Of 5 Groups

Currently Linked To This Job: 1 Groups

Save

# Step 5: Run / Execute Job

itrac910:8830/veridata/pages/execution/jobs/runCriteriaSelection.jsf

ORACLE GoldenGate Veridata

Logout | About | Help

Home

Running Jobs

- View By Job
- View By Group
- View By Compare Pair

Finished Jobs

- View By Job
- View By Group
- View By Compare Pair

Configuration

- Connection Configuration
- Group Configuration
- Job Configuration
- Profile Configuration

**Run / Execute Job**

Reports

Options / Settings

- User Preferences
- Change Password

Favorites

Jobs

Run / Execute Job

Run Configuration

Job: TRIUMF

Job Profile:

Description:

All

Compare Pairs Compare Pairs: 1

+ Filters

triumf

<input checked="" type="checkbox"/>	Previous Comparison Status	Row Partitions	Previous Run Duration	Compare Pair Name	Previous Number Rows Compared	Previous Number Rows Out-Of-Sync	Previous Comparison Reports
<input checked="" type="checkbox"/>	<input type="checkbox"/> =	<a href="#">Configure...</a>	00:00:11	REP_TAB=REP_TAB	0	0	<a href="#">Report</a>

Show 10 Items per page

Override Run Options:

Command Line To Be Used:

# Step 6: Results

Oracle GoldenGate Veridata interface showing job results for the last 1 day(s).

**ORACLE GoldenGate Veridata**

Home

Running Jobs

- View By Job
- View By Group
- View By Compare Pair

**Finished Jobs**

- View By Job
- View By Group
- View By Compare Pair

Configuration

- Connection Configuration
- Group Configuration
- Job Configuration
- Profile Configuration

Run / Execute Job

Reports

Options / Settings

- User Preferences
- Change Password

Favorites

Jobs [Edit...](#)

Shortcuts [Edit...](#)

Welcome, admin!

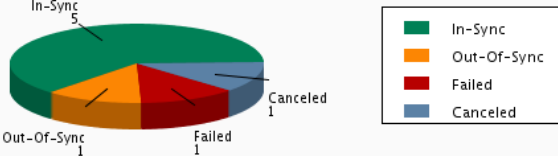
View

Finished Jobs  Running Jobs [Refresh](#)

Chart

Compair Pair status for Finished Jobs for last 1 day(s)

Total Compare Pairs Processed: 8



Status	Count
In-Sync	5
Out-Of-Sync	1
Failed	1
Canceled	1

Finished Jobs for last 1 day(s)

- RAL** - Start Time: May 29, 2014 8:20:46 PM, End Time: May 29, 2014 8:20:50 PM (Compare Pairs - Processed: 1, Out-Of-Sync: 0, Failed: 0)
  - RAL** - Run Duration: 00:00:03 (Compare Pairs - Processed: 1, Out-Of-Sync: 0, Failed: 0)
- TRIUMF** - Start Time: May 29, 2014 8:08:27 PM, End Time: May 29, 2014 8:08:39 PM (Compare Pairs - Processed: 1, Out-Of-Sync: 0, Failed: 0)
  - triumf** - Run Duration: 00:00:11 (Compare Pairs - Processed: 1, Out-Of-Sync: 0, Failed: 0)
- IN2P3** - Start Time: May 29, 2014 7:47:45 PM, End Time: May 29, 2014 7:47:53 PM (Compare Pairs - Processed: 1, Out-Of-Sync: 0, Failed: 0)
  - in2p3** - Run Duration: 00:00:08 (Compare Pairs - Processed: 1, Out-Of-Sync: 0, Failed: 0)
- BNL** - Start Time: May 28, 2014 6:18:42 PM, End Time: May 28, 2014 6:18:56 PM (Compare Pairs - Processed: 1, Out-Of-Sync: 0, Failed: 0)
  - BNL** - Run Duration: 00:00:13 (Compare Pairs - Processed: 1, Out-Of-Sync: 0, Failed: 0)
- RAL** - Start Time: May 28, 2014 3:30:19 PM, End Time: May 28, 2014 3:48:51 PM (Compare Pairs - Processed: 3, Out-Of-Sync: 1, Failed: 1)
  - RAL** - Run Duration: 00:18:32 (Compare Pairs - Processed: 3, Out-Of-Sync: 1, Failed: 1)
    - REP\_TAB=REP\_TAB** - Run Duration: 00:18:32 (Row Comparisons - Processed: 10001, OOS: 29820)
    - HEARTBEAT=HEARTBEAT** - Run Duration: 00:04:33 (Row Comparisons - Processed: 6930, OOS: 6930)
    - REP\_DATA=REP\_DATA** - Run Duration: 00:00:02 (Row Comparisons - Processed: 0, OOS: 0)

[View All Finished Jobs...](#)

# Reports

Out-Of-Svnc Operation Summary

itrac910:8830/veridata/pages/reports/comparison/index.jsf

ORACLE GoldenGate Veridata

Logout | About | Help

- Home
- Running Jobs
  - View By Job
  - View By Group
  - View By Compare Pair
- Finished Jobs
  - View By Job
  - View By Group
  - View By Compare Pair
- Configuration
  - Connection Configuration
  - Group Configuration
  - Job Configuration
  - Profile Configuration
- Run / Execute Job
  - Reports**
  - Options / Settings
    - User Preferences
    - Change Password
- Favorites
  - Jobs [Edit...](#)
- Shortcuts [Edit...](#)

Reports

Report Selection

Report Period

View Most Recent Comparison Run  
 View Last:  Hours  
 View From:   To:   [Apply](#)

Existing Reports

[+ Filter Reports](#) (Filter Applied)

Select	Job Name	Group Name	Compare Pair Name	Start Time	Report Name
<input type="radio"/>	BNL	BNL		5/29/14 8:22 PM	<a href="#">GR_BNL.rpt</a>
<input type="radio"/>	BNL	BNL	REP_TAB=REP_TAB	5/29/14 8:22 PM	<a href="#">CP_REP_TAB=REP_TAB.rpt</a>
<input type="radio"/>	BNL			5/29/14 8:22 PM	<a href="#">BNL.rpt</a>
<input type="radio"/>	RAL	RAL		5/29/14 8:20 PM	<a href="#">GR_RAL.rpt</a>
<input checked="" type="radio"/>	RAL	RAL	REP_TAB=REP_TAB	5/29/14 8:20 PM	<a href="#">CP_REP_TAB=REP_TAB.rpt</a>
<input type="radio"/>	RAL			5/29/14 8:20 PM	<a href="#">RAL.rpt</a>
<input type="radio"/>	TRIUMF	triumf		5/29/14 8:08 PM	<a href="#">GR_triumf.rpt</a>
<input type="radio"/>	TRIUMF	triumf	REP_TAB=REP_TAB	5/29/14 8:08 PM	<a href="#">CP_REP_TAB=REP_TAB.rpt</a>
<input type="radio"/>	TRIUMF			5/29/14 8:08 PM	<a href="#">TRIUMF.rpt</a>
<input type="radio"/>	IN2P3	in2p3		5/29/14 7:47 PM	<a href="#">GR_in2p3.rpt</a>

Show 10 Items per page

View



# Veridata Key Points

- ✓ Powerful tool for the data missing-synchronization identification
- ✓ Along with GoldenGate, allows data real-time integration and continuous availability solutions validated data consistency
- ✓ Stores OOS(Out-of-Sync) reports in binary, XML or both
- ✓ Agents can connect remotely, not needed installation in target databases
- ✓ 200GB production data have been compared in an ATLAS environment with a speed of 16.86 MB/sec
- ✓ Veridata 12.1.3 coming soon
  - It will have the ability to repair/fix out of sync data
  - It will require WLS 12.1.3
- ✓ Summer Student to investigate deeply Veridata



# Live Demo

[itrac910:8830/veridata/](http://itrac910:8830/veridata/)



# THANK YOU!

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[www.cern.ch](http://www.cern.ch)