
Article

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[Open Exchange](#)

Using Ompare to compare CPF configuration and Scheduled Tasks between IRIS instances

Some Usage cases

1. A deployment may consist of two high availability instances and two disaster recovery instances in a different data center.

The corresponding UAT environment could replicate this giving a total of 8 instances. How do you confirm CPF and Scheduled task alignment across ALL instances.

2. Another team (possibly in another organization) makes changes to an IRIS instance to correct a problem, improve security, or modify shared system task configuration. Capture the CPF before and after to see what was done across instances. Was the modification also consistently applied to Backup or DR node?

3. An upgrade was applied. Did this modify or introduce new defaults to CPF or Task configuration

Install

```
USER>ZPM
ZPM>install alwo-ompare

ZPM>quit

USER>
```

Example - Profile, Change something, Profile again, See Report

Step 1 - Profile the system with manual schedule

Demonstrates the process can be scripted for automation

Note:

DiscardProfileData=0 means for the example we retain the local generated data for reporting.

Normally it would be exported to file and then re-imported to a central reporting instance.

```
set tBASE=##class(ompare.Schedule).%New()
set tBASE.Environment="LIVE_DC1_N1"
set tBASE.Namespaces="%SYS"
set tBASE.RunSourceHandlers=1
set tBASE.ExportToFile=0
set tBASE.ExportDirectory="C:\tmp\Export\"
set tBASE.ExportCompression=0
```

```
set tBASE.RetainExportDays=100
set tBASE.IncludeSourceCode=1
set tBASE.EnableLogging=0
set tBASE.RetainSigSrcHistoricVersions=-1
set tBASE.Debug=0
set tBASE.DiscardProfileData=0
set tSC1=tBASE.OnTask()
```

Step 2 - Change some things

For SQL modifying some settings

System > Configuration > SQL - (configuration settings)*

SQL Save Cancel

SQL SQL Shell

Retain cached query source ☒

Default time precision for GETDATE(), CURRENT_TIME, and CURRENT_TIMESTAMP 0

Lock escalation threshold 1000

TO_DATE default format DD MON YYYY

Default length for VARCHAR 4096

Settings that will trigger all cached queries to be purged in all namespaces:

Default schema SQLUser

Execute queries in a single process ☒

Define primary key as ID key for tables created via DDL ☐

Ignore redundant DDL statements ☐

GROUP BY and DISTINCT queries must produce original values ☐

Settings that will take effect only on new processes after changes are saved:

Lock timeout (seconds) 12

TCP keepalive for client connections (seconds) 300

Step 3 -Scheduled Tasks - Created new on demand Task

Demonstrates automated profiling.

Notes:

- Pick a filepath useful for your system.
- The Environment name is different from earlier to give an example of comparing systems.

Task name: *

Ompare CPF Scheduled Tas

Description:

Ompare CPF Scheduled Tasks

Namespace to run task in:

USER

Task type: *

ompare.Schedule

BackupSourceCode

☐

Debug

☐

DeleteImportedFiles

☐

DiscardProfileData

☐

EnableLogging *

☐

Environment *

LIVE_DC1_N2

ExportCompression

☒

ExportDirectory

C:\tmp\Export\

ExportToFile

☐

ImportDirectory

ImportFromFile

☐

IncludeSourceCode *

☐

Namespaces *

%SYS

OverwriteSourceOnReLoad

☐

ReImportUpdatedFiles

☐

RetainExportDays

100

RetainSigSrcHistoricVersions

-1

RunSourceHandlers

☒

SrcVersionParameter

SrcVer

SrcVersionTokenEnd

\$

SrcVersionTokenStart

\$Id

Task priority:

Priority Normal

Run task as this user:

superuser

< Back

Next >

Finish

Cancel

Task Scheduler Wizard

How often do you want the Task Manager to execute this task? On demand

Make a change to an existing task of choice to explore reporting.

Step 4 - Run the new Schedule

TestTask1	User	HSCUSTOM	TestTask1	1000				History Run
Test Task 2	User	USER	Test Task 2	1001				History Run
Ompare CPF Scheduled Tasks	User	USER	Ompare CPF Scheduled Tasks	1002		2023-01-27 23:08		History Run

Run Task

Run Task - Ompare CPF Scheduled Tasks (ID=1002)?

Date to run task: (yyyy-mm-dd)

Time to run task: (hh:mm:ss)

Run Task

Task has been queued to be run once at 2023-01-27, 23:00:39.

Create Report View for CPF and Scheduled Tasks

Step 1 - Launch Main page

[http://localhost:\[webport\]/csp/user/ompare.Report.Main.cls](http://localhost:[webport]/csp/user/ompare.Report.Main.cls)

Step 2 - Create CPF Report

Dynamic New Report List Reports New Excel Workbook List Excel Workbooks Import Summary

Report Name: CPF Report Save

Example CPF Report

Config Description:

From Environment: LIVE_DC1_N1

Filter on Report Organisation: [No Filter] v

Filter on Report System: [No Filter] v

HistoricView: ☐

Display Difference Detail: ☒

Display Comments: ☐

List Category:

Excel WorkSheet Name: CPF

Environment LIVE_DC1_N1

%SYS: ☒

Environment LIVE_DC1_N2

%SYS: ☒

Save

After saving. Some new report configurations appear.

Scroll to the bottom of the page and enable viewing of CPF collected information.

SQL TABLE Configuration

Show Same Table ☐

Show Different Table ☒

Show Missing Table ☒

Show Extra Table ☒

*

Exclude pattern

Config.*

Include pattern

Save

Notes:

Exclude: "*" means exclude everything

Include: "Config.*" means but then include back in any SQL profiled data from Table or alias prefixed with "Config."

Step 3 - Create a Scheduled Task report

Dynamic New Report List Reports New Excel Workboo

Report Name: Save

Config Description:
From Environment:
Filter on Report Organisation: ▼
Filter on Report System: ▼
Historic View: ☐
Display Difference Detail: ☒
Display Comments: ☐
List Category:
Excel WorkSheet Name:

Environment LIVE_DC1_N1
☒ %SYS: ☒
Environment LIVE_DC1_N2
☒ %SYS: ☒

Save

SQL TABLE Configuration

Show Same Table ☐

Show Different Table ☒

Show Missing Table ☒

Show Extra Table ☒

*

Exclude pattern

%SYS.Task

Include pattern

Save

View the HTML Report version

Step 1- View CPF Report Summary

Note: Though there are only 2 "instances" included for this example, the reporting can happily show 10 or 15 instances for side-by-side comparison.

Dynamic

New Report

List Reports

New Excel Workbook

List Excel Workbooks

Import Summary

In-page quick links: [Classes](#) | [Routines](#) | [INC](#) | [HL7](#) | [Lookups](#) | [Maps](#) | [SQL-Tables](#) |

View Report name: CPF Report

Edit Report Definition

Section: SQL Tables [\[Back to Top\]](#)

Item	SQL Table	LIVE_DC1_N1	LIVE_DC1_N2 2023-01-27
1	Config.SQL	-	same row=1 different row=1 Differences
2	Config.config	-	same row=1 different row=1 Differences

(Time taken:0.00 seconds)

Step 2 - Drilldown detail

Click on the "differences" link for Config.SQL

Expand the browser window to full-screen.

By default only the columns that are different are displayed.

Page 7 of 11

Compare Source SQL Config.SQL

☐ Show same Cols ☐ Show same Rows

LIVE_DC1_N1					LIVE_DC1_N2				
NAME	SECTIONHEADER	AUTOPARALLEL	LOCKTIMEOUT	SAVEMAC	NAME	SECTIONHEADER	AUTOPARALLEL	LOCKTIMEOUT	SAVEMAC
SQL	SQL	1	10	0	SQL	SQL	0	12	1

Step 3 - Show Columns with same content

Click on the "Show same Cols" checkbox to display all columns.

When one panel scrolls it synchronizes the other panel to scoll the same amount.

Compare Source SQL Config.SQL

☒ Show same Cols ☐ Show same Rows

LIVE_DC1_N1							LIVE_DC1_N2						
EDURES	REFERENTIALCHECKS	RTPC	SAVEMAC	TCPKEEPAIVE	TIMEPRECISION	TODATEDEFAULTFORMAT	EDURES	REFERENTIALCHECKS	RTPC	SAVEMAC	TCPKEEPAIVE	TIMEPRECISION	TODATEDEFAULTFORMAT
1		1	0	300	0	DD MON YYYY	1		1	1	300	0	DD MON YYYY

Step 4 - View the Task Report

View newly created "Task Report" summary from earlier

Dynamic

New Report

List Reports

New Excel Workbook

List Excel Workbooks

Import Summary

In-page quick links: [Classes](#) | [Routines](#) | [INC](#) | [HL7](#) | [Lookups](#) | [Maps](#) | [SQL-Tables](#) |

View Report name: Task Report

Edit Report Definition

Section: SQL Tables [\[Back to Top\]](#)

Item	SQL Table	LIVE_DC1_N1	LIVE_DC1_N2 2023-01-27
1	%SYS.Task	-	same row=16 extra row=1 different row=1 Differences

(Time taken:0.00 seconds)

Step 5 - Drilldown detail

Notes:

There is a placeholder row to indicate a gap where a task was missing in the first profile.

Compare Source SQL %SYS.Task

☐ Show same Cols ☐ Show same Rows

LIVE_DC1_N1							LIVE_DC1_N2						
NAME	DAILYENDTIME	DAILYFREQUENCY	DAILYFREQUENCYTIME	DAILYINCREMENT	DAILYSTARTTIME	DE	NAME	DAILYENDTIME	DAILYFREQUENCY	DAILYFREQUENCYTIME	DAILYINCREMENT	DAILYSTARTTIME	DE
TEST TASK 2	0	0	0		0	Test	OMPARE CPF SCHEDULED TASKS	0	0	0		0	
							TEST TASK 2	0	0	0		0	

Step 6 - Show Rows with same content

Enable "Show same Rows"

Compare Source SQL %SYS.Task

☐ Show same Cols ☒ Show same Rows

LIVE_DC1_N1							LIVE_DC1_N2						
NAME	DAILYENDTIME	DAILYFREQUENCY	DAILYFREQUENCYTIME	DAILYINCREMENT	DAILYSTARTTIME	DE	NAME	DAILYENDTIME	DAILYFREQUENCY	DAILYFREQUENCYTIME	DAILYINCREMENT	DAILYSTARTTIME	DE
CHECK LOGGING ACTIVITY	0	0			3600		CHECK LOGGING ACTIVITY	0	0			3600	
CLEANUP SOURCE JOURNAL	0	0			3600		CLEANUP SOURCE JOURNAL	0	0			3600	
DIAGNOSTIC REPORT	0	0			8235		DIAGNOSTIC REPORT	0	0			8235	
FEATURE TRACKER	0	0			0		FEATURE TRACKER	0	0			0	
INTEGRITY CHECK	0	0			7200		INTEGRITY CHECK	0	0			7200	
INVENTORY SCAN	0	0			0		INVENTORY SCAN	0	0			0	

Make a portable Excel Report to share findings

Step 1 - Create a new Excel Report configuration

Dynamic

New Report

List Reports

New Excel Workbook

List Excel Workbooks

Import Summary

Workbook Name:

CPF and Task

Save

Example Excel report to demonstrate equivalence across IRIS High Availability and Disaster Recovery

Description:

Vendor:

DoltBetter

Product:

InfoHub

Customer Site:

MainEvent

Add report items as worksheets

Move UP	Sequence	Report Name
-	1	CPF Report
▲	2	Task Report

Step 2 - Download the Excel report

Dynamic

New Report

List Reports

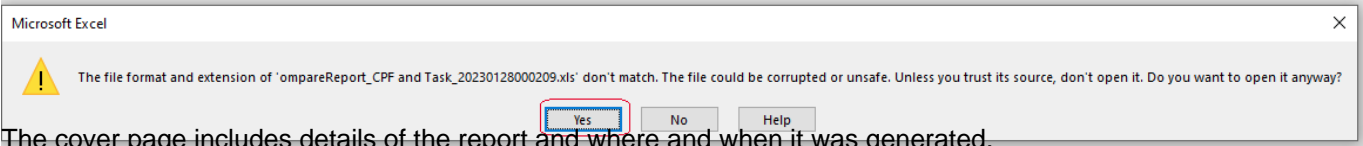
New Excel Workbook

List Excel Workbooks

Import Summary

Workbook Name	Edit	View	
CPF and Task	<div>Edit</div>	<div>Excel Export</div>	

Step 3 - Open the Excel Report



The cover page includes details of the report and where and when it was generated.

Each subsequent tab represents an included report summary.

	A	B	C
1			
2			DoltBetter
3			INFOHUB
4			MainEvent
5			
6		Report System	
7		Creation Date Time	2023-01-28 00:02:09
8			
9			
10			Example Excel report to demonstrate equivalence across IRIS High Availability and Disaster Recovery
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			© DoltBetter. All Rights Reserved.
21			
22			
23			
24			

Overview

CPF

Task

+

Generated cell heights have been pre-expanded for easy viewing of information.

The information for Classes and Routines provides more detail (Properties, Methods etc.)

The SQL Table is a generic mechanism for reporting any differences in SQL viewable data across instances.

Possibly an enhancement can be made either generically or as an "Opt-In" at report level to give break down of difference count against "Column" name.

	A	B	B	C	D
1					
2				LIVE_DC1_N1	LIVE_DC1_N2
3	Item	SQL Table Name	SQL Table Name	2023-01-27 23:14:38	
4	1	Config.SQL	Config.SQL	-	* same record=1 * missing record=0 * extra record=0 * different record=1
5	2	Config.config	Config.config	-	* same record=1 * missing record=0 * extra record=0 * different record=1
6					

	A	B	B	C	D
1					
2				LIVE_DC1_N1	LIVE_DC1_N2
3	Item	SQL Table Name	SQL Table Name	2023-01-27 23:14:38	
4	1	%SYS.Task	%SYS.Task	-	* same record=16 * missing record=0 * extra record=1 * different record=1
5					

Conclusion

Hope this gave a useful taster into the abilities of ompare, and stimulated some ideas on how it might be useful for your deployment and support of products leveraging IRIS.

For more information please head over to the Open Exchange at
<https://openexchange.intersystems.com/package/ompare>

[#Change Management](#) [#Continuous Delivery](#) [#Deployment](#) [#DevOps](#) [#High Availability](#) [#Monitoring](#) [#System Administration](#) [#Open Exchange](#)
[Check the related application on InterSystems Open Exchange](#)

Source

URL:<https://community.intersystems.com/post/using-ompare-compare-cpf-configuration-and-scheduled-tasks-between-iris-instances>