SAI GLOBAL
ASSURANCE SERVICES

Data Reporting Platform

Interim Solution

Technical Documentation

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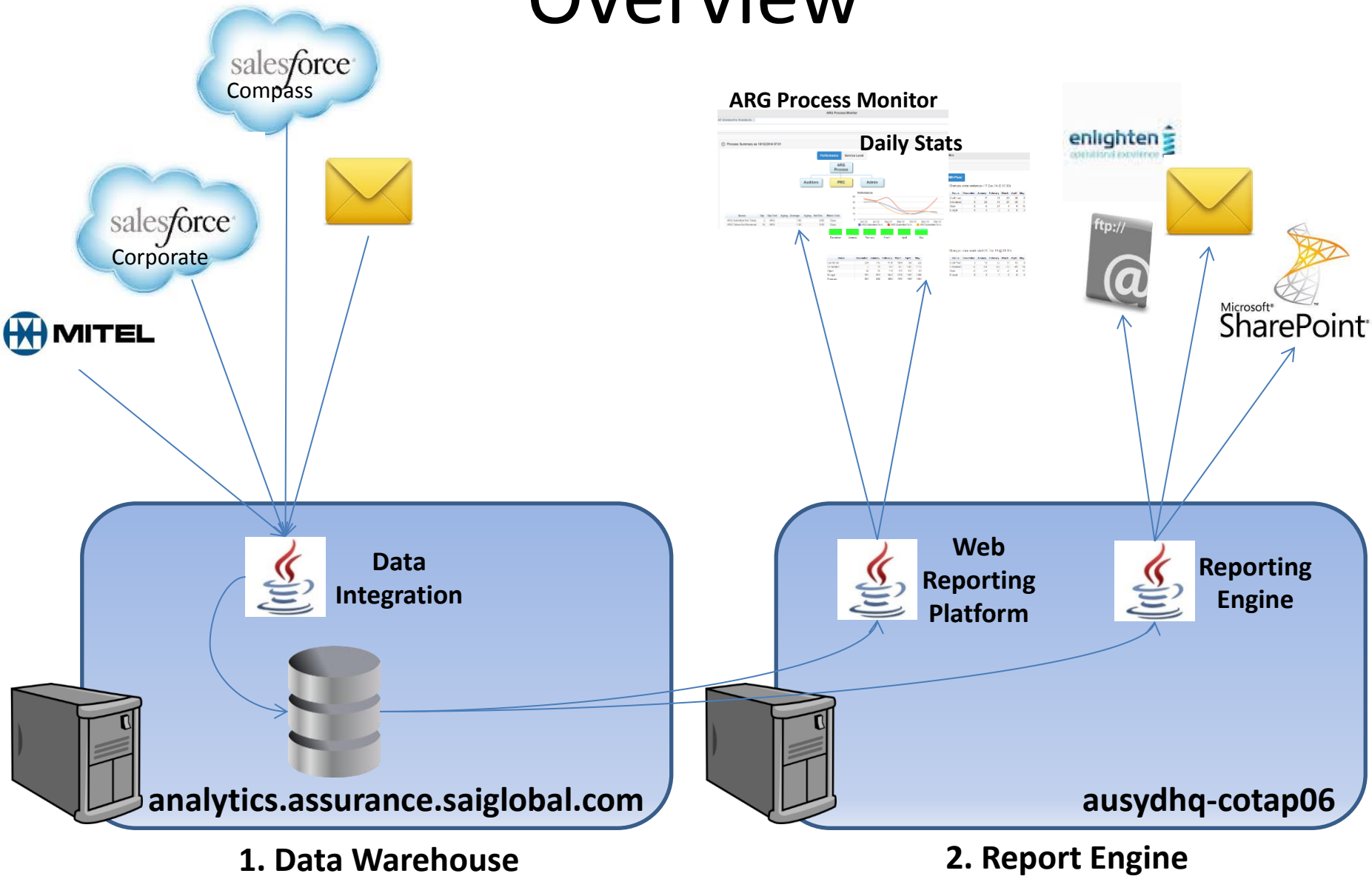
Components

1. Data Warehouse:
    1. Create and Maintain local replica of Salesforce data (Compass and Corporate) for advanced reporting purpose (i.e. anything not achievable with Salesforce reports)
2. Report Engine:
    1. Provide advanced reporting of Salesforce data (Compass and Corporate)
    2. Automate reports to be run at scheduled date/time
    3. Delivery options:
        1. Folder on Global Business Portal (http://ourgateway.assurance.saiglobal.com/reference/australia/).
        2. FTP (Enlighten Integration)
        3. Email (from reporting@saiglobal.com)
        4. Web platform for interactive dashboards

Overview


salesforce
Compass
salesforce
Corporate
MITEL
ARG Process Monitor
Daily Stats
enlighten
ftp://
Microsoft
SharePoint
Data
Integration
Web
Reporting
Platform
Reporting
Engine
analytics.assurance.saiglobal.com
ausydhq-cotap06
1. Data Warehouse
2. Report Engine

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Data Warehouse

Java executable (sf_downloader.jar) performing:

- Replicate salesforce data schema (standard + custom objects) into local database
- One Way Sync of data from Salesforce to local database
- Utilise Salesforce SOAP API to access Salesforce data (http://www.salesforce.com/us/developer/docs/api/index.htm)
- Configuration via .properties file passed as command line parameter. For details see slide: Data Warehouse - Configuration

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Data Warehouse 2

Installation:

- Java RT 1.8
- Files:
  - C:/SAI/
    - cmd/
      - » (contains batch file running sf_downloader.jar scheduled using Windows Task scheduler)
    - lib/
      - » sf_downloader.jar
    - logs/
      - » sf_downloader.log
    - properties/
      - » global.config.properties

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Report Engine

- Java executable (sf_report_engine.jar) performing:
  - Load a class implementing a ReportBuilder interface passed as parameter (-rb).
  - The class is responsible to create a JasperReportBuilder report (for details please refer to Jasper doc: http://jasperreports.sourceforge.net/api/)
  - The report is exported in a format as defined by a command line parameter (-rff). Available formats are xlsx, csv, pdf and jpg
  - The name (including possible sub-path) of the report file is included in the implementation of the interface ReportBuilder
  - The location of the report file is included in a property file passed as parameter
  - Configuration details in slide: Report Engine - Configuration

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Report Engine 2

Installation:

- Java RT 1.8
- Apache Tomcat 7
- Files:
  - C:/SAI/
    - cmd/
      - (contains a batch file for each report to be run; scheduled using Windows Task scheduler)
    - lib/
      - sf_report_engine.jar
      - reporting.war
    - logs/
      - sf_report_engine.log
      - reporting.log
    - Properties/
      - global.config.properties

Current Status

- Data Warehouse – Scheduled to run every 10 min.
- Report Engine. Currently used for the following reports.

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Source Code

Java source code:

Project	Repository
Downloader	• https://github.com/saiglobal/DataAnalysis/tree/prod/SFDownloader
Report Engine	• https://github.com/saiglobal/DataAnalysis/tree/prod/SFReportEngine • https://github.com/saiglobal/DataAnalysis/tree/prod/Reporting
Core (required by all above)	• https://github.com/saiglobal/DataAnalysis/tree/prod/SFCore

Data Warehouse - Configuration

Property file defined by command line parameter: -propertyFile
(default C:/SAI/properties/global.config.properties)

```
# Salesforce credentials
SalesforceUser=reporting.user@assurance.com
SalesforcePassword=
SalesforceToken=
SalesforceEndpoint=https\://na14.salesforce.com/services/Soap/u/32.0
# Local dbs details
datasource.default.name=compass
datasource.compass.DbConnectionURL=jdbc:mysql://<DbHost>/<DbSchema>?jdbcCompliantTruncation=true
datasource.compass.DbDriver=com.mysql.jdbc.Driver
datasource.compass.DbUser=
datasource.compass.DbPassword=
datasource.compass.DbHost=localhost
datasource.compass.DbSchema=salesforce
# Parameters
CreateLocalTables=true #if true salesforce schema is replicated on local db
DropIfTableExists=false #drop table and recreate.  Leave false, please.
PopulateDb=true #if true enabled objects will be sync'd
task.sfdownloader.enable=true #enable/disable execution
task.sfdownloader.error.disable=true #set task.sfdownloader.enable to false if error occurs
task.sfdownloader.error.email=true #email error report
# Email properties
mail.transport.protocol=smtp
mail.smtp.starttls.enable=true
mail.smtp.host=mail00.saig.frd.global
mail.smtp.port=587
mail.smtp.auth=true
mail.smtp.user=reporting@saiglobal.com
mail.smtp.from=Reporting
mail.smtp.password=
mail.smtp.log.error.to=luca.contri@saiglobal.com
```

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Data Warehouse – Configuration 2

Local table sf_tables

This is a local table that determines the objects to be sync'd.

Field	Description
Id	Primary Key
TableName	Salesforce object name
LastSyncDate	Timestamp of last successful download
ToSync	Flag to enable/disable sync for object
MinSecondsBetweenSyncs	Minimum time in seconds between syncs. If LastSyncDate + MinSecondsBetweenSyncs>now() -> the sync won't be performed for this object

To sync a new table execute:

UPDATE sf_tables SET ToSync=1 WHERE TableName='<object-name-here>'

For a list of objects sync'd:

SELECT * FROM sf_tables WHERE ToSync=1

Report Engine - Configuration

Property file

(default C:/SAI/properties/global.config.properties - this is the same file used by downloader)

Besides the properties already described in Downloader - Configuration

ReportFolder=E:\\Reports

task.sfrepoprtengine.enable=true

task.sfrepoprtengine.error.disable=true

task.sfrepoprtengine.error.email=true

Command line parameters:

-rb. Name of the ReportBuilder class to be use. Mandatory. (ex: -rb com.saiglobal.sf.reporting.processor.ContractorDaysActualReport)

-itin. Insert timestamp in file name . Default false. (usage: -itin true/false)

-sdth. Save report data to history table in local database Default false. (usage: -sdth true/false)

-propertyFile. Property file to be used. Default C:/SAI/properties/global.config.properties)

-rff. Report file type. Default Excel (usage: -rff xslx|csv|pdf|jpg|xlsxTemplateWithSql)

-re. Comma separated list of email addresses to deliver the report to

-cp. Custom parameters

Report Engine – Configuration 2

Using Excel Templates:

The report engine can be run passing an Excel template as input parameter using option –rff xlsxTemplateWithSql (e.g. java -jar "C:\SAI\lib\sf_report_engine.jar" -rff xlsxTemplateWithSql -cp xlsxTemplate:\Templates\apac.ops.metrics.v11.xlsx)

The template should contain:

- Worksheet "*details*" containing Report Name, Data Source and SQL to be executed. Also optional init and post sql commands.
- Worksheet "data" where the SQL output should be saved.
- All other worksheets will be copied as is. Usually, these would contain pivot tables, charts, calculations on raw data.

For template examples please refer to \\ausydhq-cotap06\Reports2\Templates

Reports 2016