DW3 – Rest

ASUP REST is a HTTP based web service which is compliant with the REST architecture and support REST like URLs for communication. In order to access REST interface, user needs to get client identifier which may be NetApp User ID's (like apoorva) or application identifiers (like akula).

Rest accesses data from ODS Schema. Outside world queries for data and reports using REST. It’s a webservice based tool. Generally queries are based on an ASUPID or system ID, which receive an xml response.

In order to access(login) Rest, user needs a client ID which is unique for each client/user generated on registration.

Different services provided by REST:

* System Summary
* Section View

All parameters for queries are passed through URL, with each parameter delimited by a ‘/’ character and based on parameter service.

Eg:-

ASUP\_DATA/client\_id/apoorva/asup\_id/2012111100000000/**section\_view/**Startdate/2012-01-01/enddate/2012-31-01

We can specify the startdate and end date as parameters else, the section view returns last 30 days data for an ASUP. Even when we are specifying startdate and end date, we can only give a 30 day time period.

We can specify any parameter like system id etc, by appending the parameter name and the value delimited by ‘/’ in the url.

One of the clients for REST is the NTSTP tool (used by TSE’s) which uses REST to pull data and display on the web. Other tools/clients that use REST are Everest, MyAutoSupport

On logging in to the REST tool, we get 2 tabs ASUP Tab and Case tab. ASUP tab pulls data from ODS and Case tab pulls data from SAP.

**Different technologies used for developing Rest in DW3:**

MVC

AOP

IOC

Rest Controller receives request 🡪 Creates request Parameters map 🡪 Calls the respective service as per request parameters 🡪 Calls DAO🡪 JPA Impl.

Each service has a separate class and corresponding DAO. For each service, based on the request parameters map, the service generates a query dynamically and calls the DAO to execute the query and generate the response as a XML.

AOP is used for performance logs and IOC is injection control.

Each service can have a number of attributes it can take. Eg System summary takes system\_id as one of its attribute. Some of the different other services available are Section List, Object View, Latest ASUP Service etc.

We have a static table in oracle, REST\_RESOURCE\_ATTR\_MAPPING which has the mapping of each service and the attributes it can take.

**DW3 REST Production Environment:**

Production and stage environments are load balanced through apache server.

In Stage , we have 2 blades with 4 tomcat instances on each.

In Prod, we have 4 Blades with 4 tomcat instances running on each blade.

Need for Load Balancing: TSE’s access REST through NTSTP and they have a 1 sec to ms response time SLA. In order to cater to such short span of Response time SLA, Load balancing is done at Stage and Prod.

Production Logs path :

Willows/sac/ASUP/REST/node \*1..16/logs

15 day history for logs is available on the server, older logs are deleted.

Logs contain all the queries that are generated from the URL request parameters, response time for each request at each layer etc.

**DW4 REST**

The functionality is all the same as DW3, except for the technology upgrade to Hadoop framework because of which the entire code is rewritten. 4 services are deprecated in DW4.

DW4 uses the oracle database to load the static data, one time read like the service attribute mapping.

Reads the static data from oracle and stores in memcache for further reference.

In DW4, we execute the dynamically generated queries based on input params on Solr/HBase.

HBase doesn’t support pagination and secondary indexing. Search is possible only on a single key. Hence SolR is used for search based on multiple search criteria.

Config loaders after loading parsed data in to HBase, put data in to Solr\_queue also.