Widget Ltd high level Solution document

The solution will be based around 2 tables DEPARTMENTS, EMPLOYEES and a PL/SQL package. Each table will contain a set of constraints to enforce mandatory rules, primary keys and where applicable data validation.

A foreign key will link DEPARTMENTS to EMPLOYEES where a department can have many employees. EMPLOYEES will also have a self-reference where a manager can manage many employees.

The PL/SQL package named PKG\_EMP\_MAINTENANCE (PKG0001.SQL) will allow the user to carry out each of the business functions required. Each procedure or function can be called from a higher level function/tool independently and return appropriate messages to inform if the operation has succeeded or failed.

A COMMIT or ROLLBACK is expected to be issued by the higher level function. None is performed by the package.

The release scripts will create all the necessary objects and load predefined data required for the implementation of the solution (see ReleaseNotes.txt)

To perform business functions call the following objects to perform required actions (see test scripts for actual calls):

1. PKG\_EMP\_MAINTENANCE.P\_CREATE\_EMPLOYEE

Creates a new employee. If employee identifier is not know it will be created using the next employee number. If employee identifier is known and not in use it can be passed in to be used.

1. PKG\_EMP\_MAINTENANCE.P\_UPDATE\_SALARY

Update an employee salary. It requires the employee identifier and the percentage used to adjust the salary up or down. Percentage must be greater or equal to -100%.

1. PKG\_EMP\_MAINTENANCE.P\_TRANSFER\_EMPLOYEE

Allows the transfer of an employee to a new department. It requires an employee identifier and the new department identifier department.

1. PKG\_EMP\_MAINTENANCE.F\_GET\_EMP\_SALARY

Returns the yearly salary for a given employee.

1. PKG\_EMP\_MAINTENANCE.P\_EMPLOYEE\_REPORT

Allows 2 types of reports to be produced. The reports will be produced in a CSV file in the extract folder on the server (check with administrator for folder destination).

The separator is set to comma (,) but can be changed if required.

To produce a list of employees in a given department call

PKG\_EMP\_MAINTENANCE.P\_EMPLOYEE\_REPORT with option ALL\_EMP\_DEPT\_REPORT

To produce salary of all employees in a given department call

PKG\_EMP\_MAINTENANCE.P\_EMPLOYEE\_REPORT with option EMP\_SAL\_DEPT\_REPORT

File produced is prefixed with report\_type\_<department\_id>\_YYMMDDHH24MISS.CSV for instance

EMP\_SAL\_DEPT\_REPORT\_4\_201101200206.CSV

Alternatively a file name can also be passed in.

Each call will return either a pass (1) or fail (0) status and qualify each return message further as follow:

Message level:

I 🡪 Information

W 🡪 Warning

E 🡪 Error

F 🡪 Fatal

The message number will either be predefined or the actual Oracle error number.

The message narrative will either be predefined or the actual Oracle error message.

Design assumptions/considerations (To be reviewed if necessary)

* Salary is yearly salary and is greater or equal to 0 (Voluntary work)
* Salary is in GBP.
* More than one top level manager is allowed.
* When employee is moved to new department it can be moved to any department irrespective of their manager’s department.
* Employee reports allows salaries to be listed for all employees.