**Assignment for Senior Software Developer / Engineer – Java**

**Objective**: To test candidates Design, implementation and testing skills.

**Problem statement**

ABC Health insurance company (fictitious company, for assignment purpose only) provides various health plans to consumers. You have been requested to design and implement claims transaction processing solution for three of its most popular health insurance plans. These plans are detailed in the excel spread-sheet SamplePlanAndTransactionData.

Details of tabs in the spread-sheet are as follows.

PlanDescriptions – Details about the plans.

PlanCoverage – What these plans covers, i.e. how much policyholder would pay and how much plan will pay for various services.

PolicyData – This is sample policy data

SampleTransactions – Your program needs to process these transactions. Your solution needs to be able to process transactions in batch mode as well as in real time mode (getting web service calls from service providers such as hospitals, pharmacies etc.)

SampleTransactionsProcessed – Details out how transactions were processed with details such as how much policy holder needs to pay and how much plan will pay along deductible and error information.

**Solution details**

GUI – Users needs to be able to provide

1. Location of the input transaction file
2. Location of output file (processed file)

For batch processing, users should be able make a call at command line, for example,

<nameOfTheService> <inputTransactionFile> <outputTransactionFile>

inputTransactionFile – Contains transactions in comma delimited (csv) format.

outputTransactionFile – Contains processed transaction in comma delimited (csv) format.

Real time web services calls can be simulated using curl and/or through browser. In the request, you will need to pass “Individual accumulated deductible for this year (2016)” and “Family accumulated deductible for this year (2016)” for correct calculation to happen. For testing, you can assume these values. For example, in the excel spread-sheet SamplePlanAndTransactionData, refer to tab “PolicyData”. Refer to column “Individual accumulated deductible for this year (2016)” and “Family accumulated deductible for this year (2016)”

**Design and implementation considerations and guidelines:**

* Solution needs to be developed using java 1.8
* Use of middleware (application server or servlet container such as tomcat) is optional but preferred.
* Use of database is also optional but preferred. In real world, plan, policy and deductible related data would reside in database. But for this assignment purpose, it is provided in the spread-sheet. There are number of open source databases such as H2, Derby, HSQLDB, MySQL, PostgreSQL etc.

**Submit :**

* VirtualBox VM appliance containing solution. That way just importing of .ova file in VirtualBox is necessary and no build or deployment is necessary.
  + Any linux flavor (Oracle linux, CentOs, Ubuntu) is ok for running this assignment. It is up to you whether to use prebuild VM image or build your own image.
  + VM appliance should contain eclipse project for front-end and back-end along with any Junit test cases which you might have.
* Detailed guidelines to execute the code through GUI and at command line in this VM appliance.
* Additional transactions which you might have used for unit testing.
* Functional test cases which you have used for testing.
* Design document along with list any of your assumptions.
* Treat this solution as a product so provide any other additional documentation which you may provide as part of product delivery.