# .ExnTrace File Format Specification

8-bit ASCII text file, CR/LF delimited

Header section consists of XML “ProcessContext” tag. Required portions are highlighted below. Comments are for reference only.

Body section must appear after </ProcessContext> tag. Values are tab-delimited (shown as \t below) and column aligned. The first line consists of sensor names and must be the first non-empty line after the header. The first field on this line should be “Timestamp”, followed by one or more actual sensor names. One or more following data lines are required. Data lines must begin with a timestamp value and must contain the same number of tab delimiters as the first line.

StepID column is optional. If not supplied, data loader will create a virtual StepID column with a value of “1” for the duration of the trace.

<ProcessContext>  
  <!-- Required: Information about where the process took place in the fab (fab topology) -->  
  <Location>  
   <!-- Optional: Name and description of the Fab -->  
   <Factory name="MyFactory" description="My factory description"/>  
   <!-- Optional: Name and description of the production line -->  
   <Line name="Line1" description="Line 1 description"/>  
   <!-- Optional: Name and description of the production area -->  
   <Area name="Area\_1" description="Area 1 description"/>  
   <!-- Optional: Name and description of the production department -->  
   <Department name="Dep\_1" description="Department 1 description"/>  
   <!-- Optional: Name and description of the equipment type -->  
   <EquipmentType name="EqpType\_1" description="Equipment type 1 description"/>  
   <!-- Required: Name and (optional) description of the equipment -->  
   <Equipment name="EqptTest" description="Equipment 1 description"/>  
   <!-- Optional: Info about the type of the equipment process chamber where the process took place -->  
   <ModuleType name="ModuleType\_1" capability="Capability\_1" description="Capability description"/>  
   <!-- Required: Information about the equipment process chamber where the process took place -->  
   <Module description="?" name="?" idleTime="?" runNumber="?"/>  
  
   <!-- Optional: Subsystems of the equipment involved in the process -->  
   <SubSystems>  
    <!-- Subsystems are any component of the equipment involved in the process but  
         that are not process chambers (load ports, robots, etc...).  
         Subsystems for which we need to track their relation with lots/wafers  
         are referenced by their <SubSystemName> in other parts of the  
         document -->  
    <!-- 1 or more repetitions: -->  
    <SubSystem name="Port\_A" type="LoadPort" description="This is an input load port"/>  
    <SubSystem name="Port\_B" type="LoadPort" description="This is an input load port"/>  
    <SubSystem name="Port\_C" type="LoadPort" description="This is an output load port"/>  
    <SubSystem name="Port\_D" type="LoadPort" description="This is an output load port"/>  
   </SubSystems>  
  </Location>  
  
  <!-- Required: Information about what process was performed that is common  
       to all the lots/wafers of a batch process -->  
  <Process>  
   <!-- Optional: Process recipes -->  
   <Recipe logical="LogicalRecipe\_1" equipment="EquipmentRecipe\_1" module="ModuleRecipe\_1"/>  
   <!-- Optional: Process Control Job -->  
   <ControlJobName name="MPECZ2020C900DC"/>  
   <!-- Optional: Process Job -->  
   <ProcessJobName name="MPECZ2020C900DC"/>  
   <!-- Optional: Process times -->  
   <ProcessTime start="2007-03-28T18:57:32.845" stop="2007-03-28T18:57:32.845"/>  
   <!-- Optional: Process tags. Tags that are specific to one process instance  
        and common to all the materials processed -->  
   <ProcessTags>  
    <!-- Tags are Generic/Extensible set of loosly defined pieces of  
         information to put everything that is too specific to one  
         customer/site to be able to clearly identify/modelize it in  
         the product -->  
    <!-- Zero or more repetitions:-->  
    <Tag name="ProcessTagName\_1" value="tagvalue"/>  
    <Tag name="ProcessTagName\_2" value="tagvalue"/>  
   </ProcessTags>  
  </Process>  
  
  <!-- Optional: User name -->  
  <User name="?"/>  
  
  <!-- Required: Information about the materials that where processed.  
       This also include process information that is lot/wafer specific -->  
  <Material batchName="23BLA158MMC2" waferQuantity="4" materialName="23BLA158MMC2">  
   <!-- 1 or more repetitions: -->  
   <Lot name="QL618082"  
     type="Product"  
     sourceLot=""  
     waferQuantity="2"  
     technology="65 nm"  
     productFamily="DRAM"  
     product="CSIM\_PRODUCT!def\_db!CSIM\_PRODUCT!MFG!39600018!2"  
     route="CSIM\_FLOWBLOCK!def\_db!CSIM\_FLOWBLOCK!MFG!FE110!4!5"  
  
     stage="CSIM\_FLOWBLOCK!def\_db!CSIM\_FLOWBLOCK!MFG!FLMDepDTBSG!1!1"  
     subRoute="CSIM\_FLOWBLOCK!def\_db!CSIM\_FLOWBLOCK!MFG!FLMDepDTBSG!1!1"  
     layer="CSIM\_FLOWBLOCK!def\_db!CSIM\_FLOWBLOCK!MFG!FLMDepDTBSG!1!1"  
     operation="CSIM\_FLOWBLOCK!def\_db!CSIM\_FLOWBLOCK!MFG!FLMDepDTBSG!1!1"  
     moveinTime="2007-03-28T18:57:32.845"  
     carrier="OPQ456850"  
     reworkingRank="0"  
     inputLoadPort="Port\_A"  
     outputLoadPort="Port\_C"  
     procFlowTaskName="BOTTOM ARC COAT"  
     procFlowTaskKey="12974935">  
    <!-- The first set of Lot attributes are static information about one  
         lot (this should not change during the life of the lot but  
         we have talked about lots for which Product/Route could change at some point)  
         The second set of attributes is information about what process was performed or how/when it was  
         performed that can be specific to one lot of a batch process  
         but that is common to all the wafers of the lot  
         InputLoadPort and OutputLoadPort are names of subsystems that must be  
         present in the <SubSystems> list-->  
    <!-- ??? Do we need SubRoute or is it the same as Stage ? -->  
    <!-- ??? Do we need Layer or is it the same as Stage or SubRoute ? -->  
  
    <!-- Optional: Set of tags that are specific to one lot and do not  
         change during the life of the lot. -->  
    <LotTags>  
     <!-- 1 or more repetitions: -->  
     <Tag name="LotTag\_1" value="tagvalue"/>  
     <Tag name="LotTag\_2" value="tagvalue"/>  
    </LotTags>  
    <!-- Optional: Lot tags. Set of tags that are specific to one lot during this process. -->  
    <LotProcessTags>  
     <!-- 1 or more repetitions: -->  
     <Tag name="LotProcessTag\_1" value="tagvalue"/>  
     <Tag name="LotProcessTag\_2" value="tagvalue"/>  
    </LotProcessTags>  
     <!-- Required: The wafers of the lot that were processed. -->  
    <Wafers>  
     <!-- 1 to 25 repetitions: -->  
     <Wafer name="QL618082\_1"  
         scribe="00001101-0000-1000-8000-00805F9B34FB"  
         type="Product"  
         carrierSlot="1"  
         batchPosition="1"  
         queueTime="0 00:12:53.986">  
  
      <!-- Optional: Reticle that was used for the process -->  
      <Reticle name="?" patternDensity="?"/>  
  
      <!-- Optional: Set of tags that are specific to one wafer  
           and does not change during the life of the wafer -->  
      <WaferTags>  
       <!-- 1 or more repetitions: -->  
       <Tag name="WafferTag\_1" value="tagvalue"/>  
       <Tag name="WafferTag\_2" value="tagvalue"/>  
      </WaferTags>  
      <!-- Optional: Set of tags that are specific to one wafer  
           during this process -->  
      <WaferProcessTags>  
       <!-- 1 or more repetitions: -->  
       <Tag name="WafferProcessTag\_1" value="tagvalue"/>  
       <Tag name="WafferProcessTag\_2" value="tagvalue"/>  
      </WaferProcessTags>  
     </Wafer>  
    </Wafers>  
   </Lot>      
  </Material>  
</ProcessContext>

Timestamp\tSensor1\tSensor2\tSensor3\tStepID

2014/01/10 16:05:11.918\t1.2\t3.4\t5.6\t1

2014/01/10 16:05:12.718\t1.3\t3.6\t5.4\t2