
Miscellaneous Projects Overview

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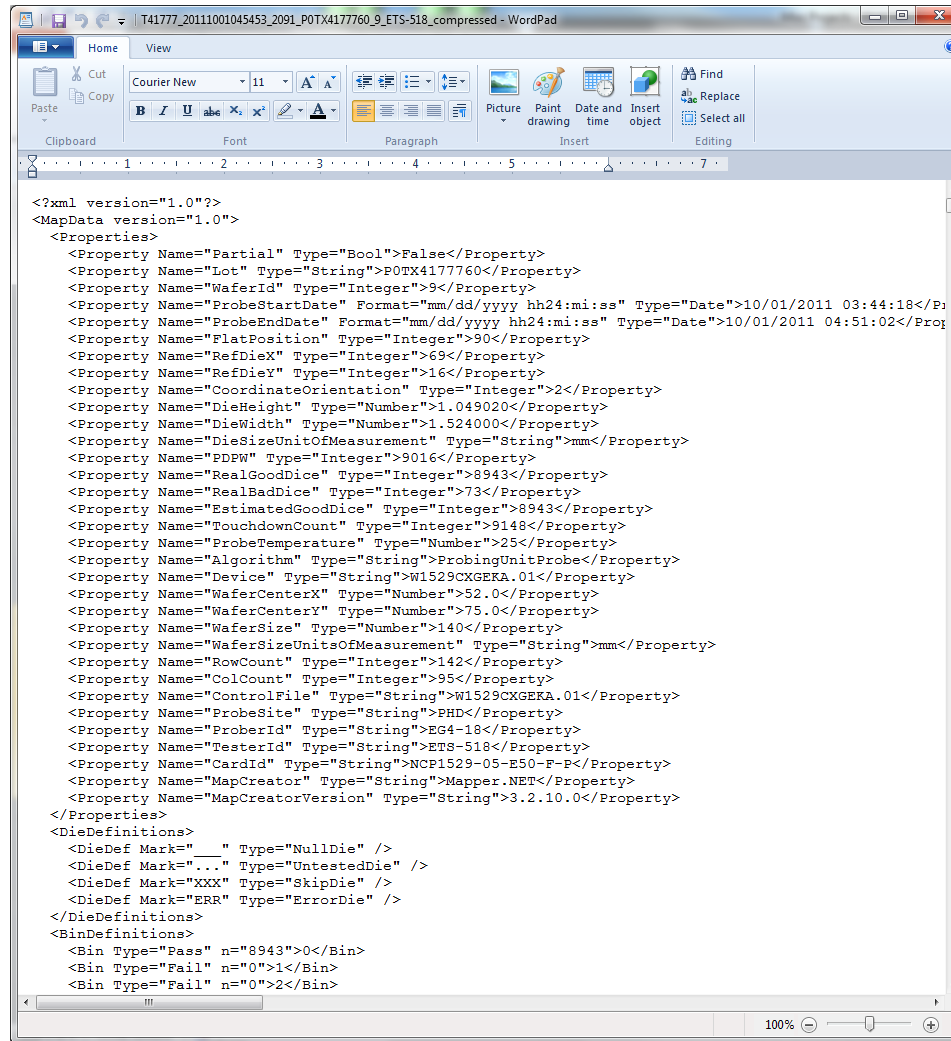
Project 1 : OnSemi Automatic Wafermap Conversion

- Purpose: Convert OnSemi Wafermaps from XML to X-Fab binary format
- Background: OnSemi sends us wafermaps, showing wafer defects, in a XML format, every morning. Our systems all process a binary format.

Requirements:

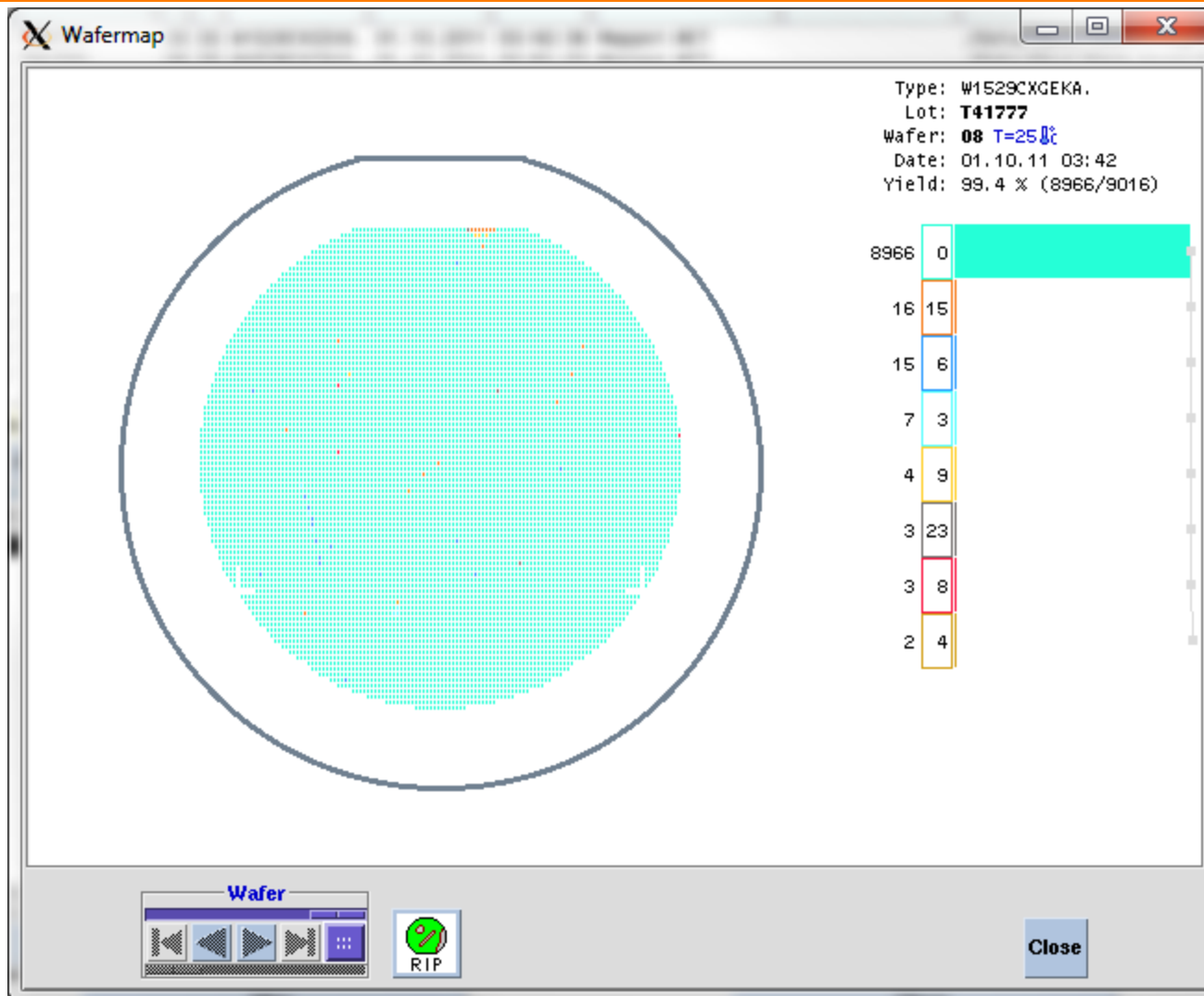
- Convert XML to TH01 binary format
- Upload wafermaps into wafermap system
- Entire process should be automated and hands off

Example of XML Format

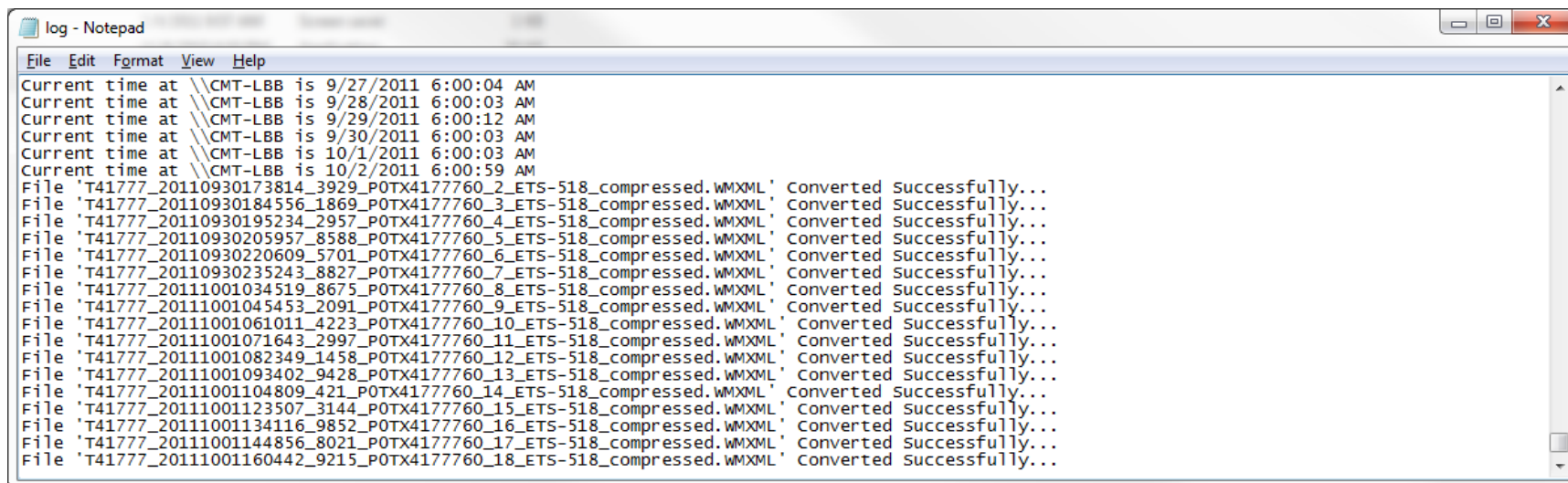


```
<?xml version="1.0"?>
<MapData version="1.0">
  <Properties>
    <Property Name="Partial" Type="Bool">False</Property>
    <Property Name="Lot" Type="String">P0TX4177760</Property>
    <Property Name="WaferId" Type="Integer">9</Property>
    <Property Name="ProbeStartDate" Format="mm/dd/yyyy hh24:mi:ss" Type="Date">10/01/2011 03:44:18</Property>
    <Property Name="ProbeEndDate" Format="mm/dd/yyyy hh24:mi:ss" Type="Date">10/01/2011 04:51:02</Property>
    <Property Name="FlatPosition" Type="Integer">90</Property>
    <Property Name="RefDieX" Type="Integer">69</Property>
    <Property Name="RefDieY" Type="Integer">16</Property>
    <Property Name="CoordinateOrientation" Type="Integer">2</Property>
    <Property Name="DieHeight" Type="Number">1.049020</Property>
    <Property Name="DieWidth" Type="Number">1.524000</Property>
    <Property Name="DieSizeUnitOfMeasurement" Type="String">mm</Property>
    <Property Name="PDFW" Type="Integer">9016</Property>
    <Property Name="RealGoodDice" Type="Integer">8943</Property>
    <Property Name="RealBadDice" Type="Integer">73</Property>
    <Property Name="EstimatedGoodDice" Type="Integer">8943</Property>
    <Property Name="TouchdownCount" Type="Integer">9148</Property>
    <Property Name="ProbeTemperature" Type="Number">25</Property>
    <Property Name="Algorithm" Type="String">ProbingUnitProbe</Property>
    <Property Name="Device" Type="String">W1529CXGERA.01</Property>
    <Property Name="WaferCenterX" Type="Number">52.0</Property>
    <Property Name="WaferCenterY" Type="Number">75.0</Property>
    <Property Name="WaferSize" Type="Number">140</Property>
    <Property Name="WaferSizeUnitsOfMeasurement" Type="String">mm</Property>
    <Property Name="RowCount" Type="Integer">142</Property>
    <Property Name="ColCount" Type="Integer">95</Property>
    <Property Name="ControlFile" Type="String">W1529CXGERA.01</Property>
    <Property Name="ProbeSite" Type="String">PHD</Property>
    <Property Name="ProberId" Type="String">EG4-18</Property>
    <Property Name="TesterId" Type="String">ETS-518</Property>
    <Property Name="CardId" Type="String">NCP1529-05-E50-F-P</Property>
    <Property Name="MapCreator" Type="String">Mapper.NET</Property>
    <Property Name="MapCreatorVersion" Type="String">3.2.10.0</Property>
  </Properties>
  <DieDefinitions>
    <DieDef Mark="___" Type="NullDie" />
    <DieDef Mark="..." Type="UntestedDie" />
    <DieDef Mark="XXX" Type="SkipDie" />
    <DieDef Mark="ERR" Type="ErrorDie" />
  </DieDefinitions>
  <BinDefinitions>
    <Bin Type="Pass" n="8943">0</Bin>
    <Bin Type="Fail" n="0">1</Bin>
    <Bin Type="Fail" n="0">2</Bin>
  </BinDefinitions>
</MapData>
```

Converted Wafer loaded into System

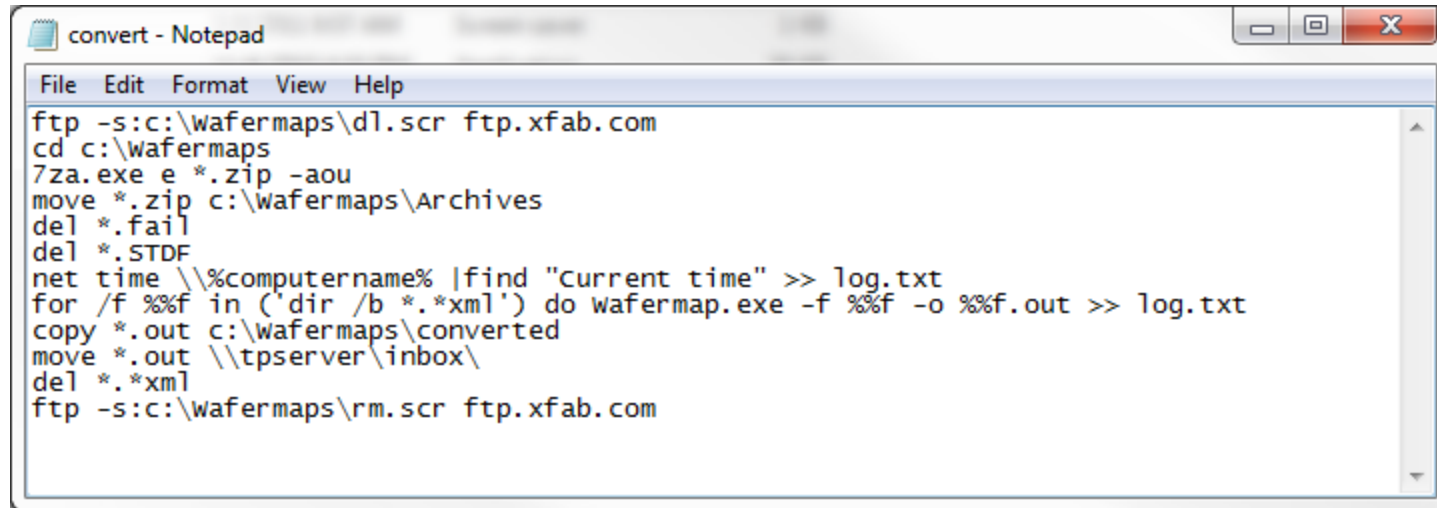


Conversion Log



```
log - Notepad
File Edit Format View Help
Current time at \\CMT-LBB is 9/27/2011 6:00:04 AM
Current time at \\CMT-LBB is 9/28/2011 6:00:03 AM
Current time at \\CMT-LBB is 9/29/2011 6:00:12 AM
Current time at \\CMT-LBB is 9/30/2011 6:00:03 AM
Current time at \\CMT-LBB is 10/1/2011 6:00:03 AM
Current time at \\CMT-LBB is 10/2/2011 6:00:59 AM
File 'T41777_20110930173814_3929_P0TX4177760_2_ET5-518_compressed.WMXML' Converted Successfully...
File 'T41777_20110930184556_1869_P0TX4177760_3_ET5-518_compressed.WMXML' Converted Successfully...
File 'T41777_20110930195234_2957_P0TX4177760_4_ET5-518_compressed.WMXML' Converted Successfully...
File 'T41777_20110930205957_8588_P0TX4177760_5_ET5-518_compressed.WMXML' Converted Successfully...
File 'T41777_20110930220609_5701_P0TX4177760_6_ET5-518_compressed.WMXML' Converted Successfully...
File 'T41777_20110930235243_8827_P0TX4177760_7_ET5-518_compressed.WMXML' Converted Successfully...
File 'T41777_20111001034519_8675_P0TX4177760_8_ET5-518_compressed.WMXML' Converted Successfully...
File 'T41777_20111001045453_2091_P0TX4177760_9_ET5-518_compressed.WMXML' Converted Successfully...
File 'T41777_20111001061011_4223_P0TX4177760_10_ET5-518_compressed.WMXML' Converted Successfully...
File 'T41777_20111001071643_2997_P0TX4177760_11_ET5-518_compressed.WMXML' Converted Successfully...
File 'T41777_20111001082349_1458_P0TX4177760_12_ET5-518_compressed.WMXML' Converted Successfully...
File 'T41777_20111001093402_9428_P0TX4177760_13_ET5-518_compressed.WMXML' Converted Successfully...
File 'T41777_20111001104809_421_P0TX4177760_14_ET5-518_compressed.WMXML' Converted Successfully...
File 'T41777_20111001123507_3144_P0TX4177760_15_ET5-518_compressed.WMXML' Converted Successfully...
File 'T41777_20111001134116_9852_P0TX4177760_16_ET5-518_compressed.WMXML' Converted Successfully...
File 'T41777_20111001144856_8021_P0TX4177760_17_ET5-518_compressed.WMXML' Converted Successfully...
File 'T41777_20111001160442_9215_P0TX4177760_18_ET5-518_compressed.WMXML' Converted Successfully...
```

Conversion .bat Script



```
convert - Notepad
File Edit Format View Help
ftp -s:c:\wafermaps\dl.scr ftp.xfab.com
cd c:\wafermaps
7za.exe e *.zip -aou
move *.zip c:\wafermaps\Archives
del *.fail
del *.STDF
net time \\%computername% |find "Current time" >> log.txt
for /f %%f in ('dir /b *.*xml') do wafermap.exe -f %%f -o %%f.out >> log.txt
copy *.out c:\wafermaps\converted
move *.out \\tpserver\inbox\
del *.*xml
ftp -s:c:\wafermaps\rm.scr ftp.xfab.com
```

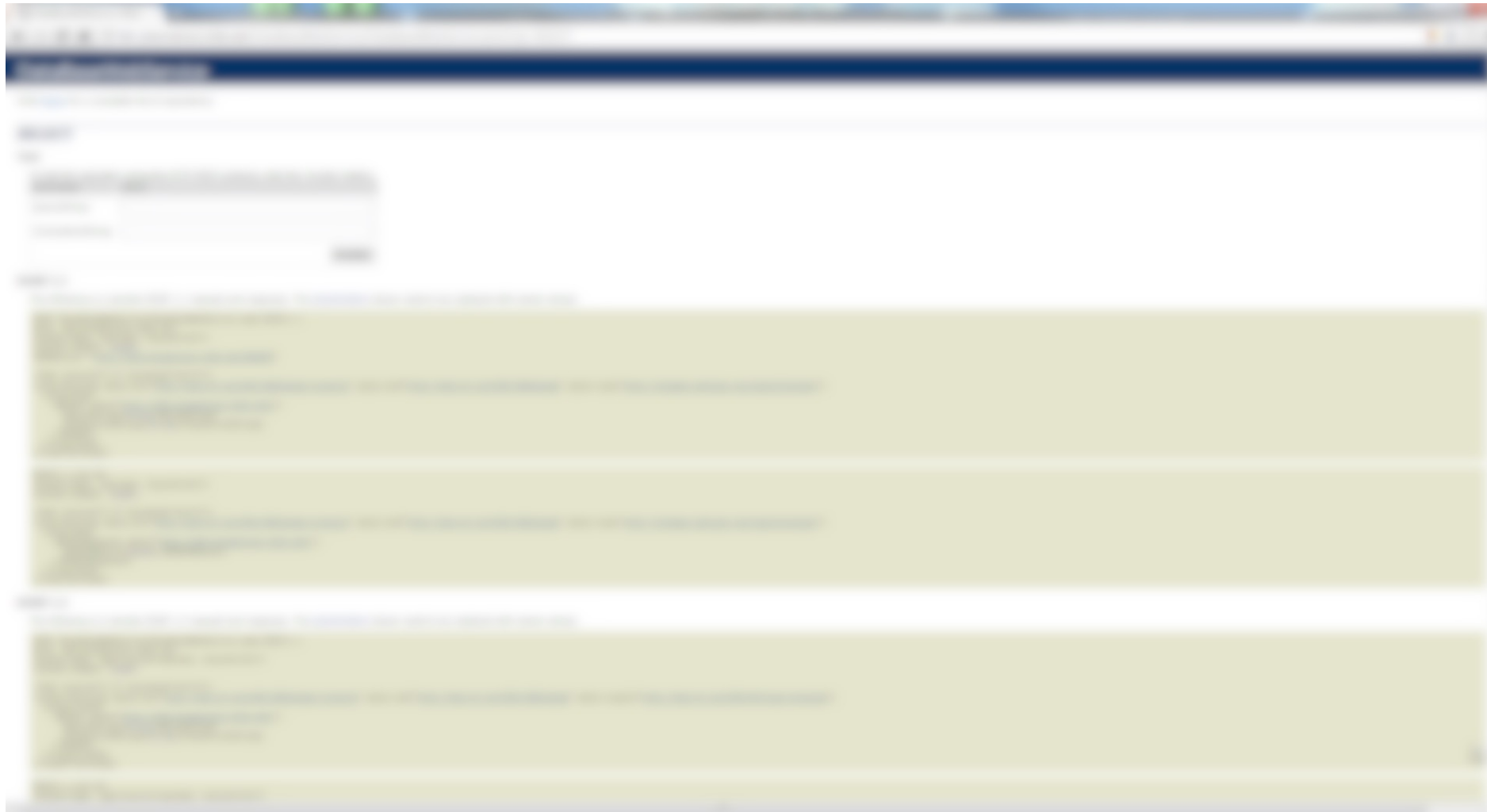
Project Summary

- > Successful
- > Wafermaps are automatically converted and loaded into system
- > Entire process is invisible to end user
- > System has been stable for over a year
- > Conversion process implemented dynamic header reading due to constantly changing XML header format

Project 2 : Database Web Service

- Purpose: Provide a web service interface to databases.
- Background: We are starting to introduce Android tablets into usage. We needed a standard way to access data across devices. A web service is the best method of accomplishing this.

Webservice



Results

- > Simple .NET web service created to wrap database connection methods.
- > Query strings are sanitized to only allow SELECT and EXECUTE statements.
- > Coworker simultaneously developed Android interface method to communicate with web service.
- > This was a minor side project but has helped our Android developers greatly
- > If in the future, iOS devices are introduced, we can use the same interface for them.