Date   : 18th February 2014

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Author : H.Buckley

Iaaue : Warwickshire County Council – CIM Data Loading


Warwickshire have recently undergone a 4400 – 4500 upgrade and then a 4500 – 4510 TMA upgrade.

Warwickshire have tested ALL of the areas of the system where they normally perform their day to day work when live and have come up with a series of issues.

Most of the issues have been dealt with, some were configuration issues ,. some software issues and some were addressed with patches etc.

There are 2 issues that have been difficult to resolve but both issues are similar.

The first issue is with the **Upload/Download File** options where a user can copy file to/from an Oracle directory, this is done using a web interface and this in turn makes use of a **Database Access Descriptor** or **DAD**.
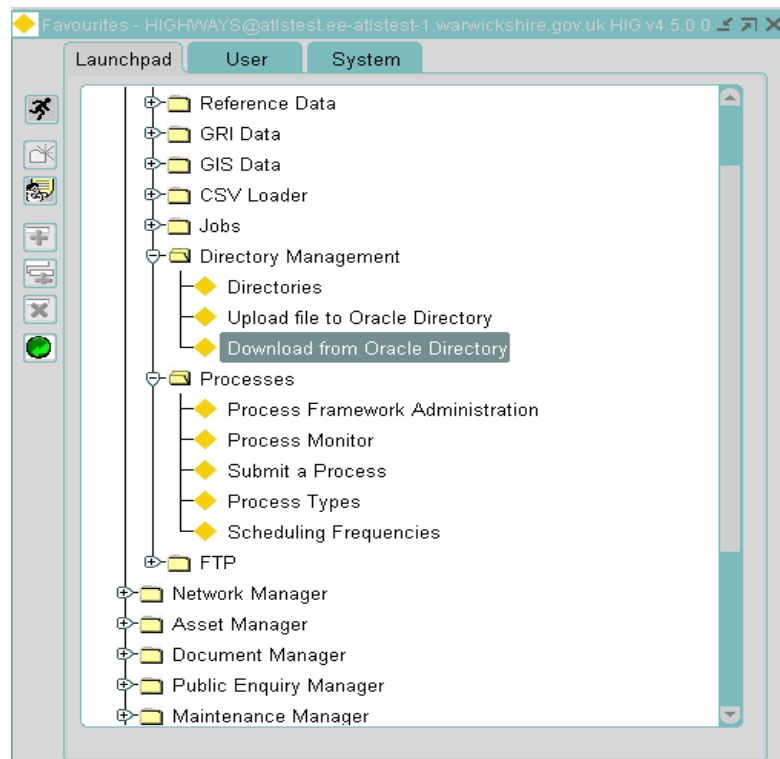
When the user selects the 'Download from Oracle Directory' then the standard download page is displayed as follows :

and when the user selects the directory from where a file is to be downloaded from then again there is no issue and the files are displayed within a list :

Download from Oracle
Directory /apps/mmgrfiles/Accepted_in_to_MMGR

Select file to download

WI8612.BBW

| WI8612.BBW |
| WI8617.BBW |
| WI8621.BBW |
| WI52913.BBW |
| WC181.BBW |
| WI8616.BBW |
| WC4.BBW |
| WI8618.BBW |
| WI52909.BBW |
| WI40127.CAR |
| WI8619.BBW |
| WI40120.CAR |
| WI8615.BBW |
| FC200.DAT |
| WI52889.BBW |
| WC001.BBW |

Download

So again there is no problem and normal operation is available to the user.

Upon selection of a file and the subsequent selection of the 'Download' button then the following is dsplayed :

```
Tue, 18 Feb 2014 12:44:11 GMT


Failed to execute target procedure ORA-20001: file location or name was invalid
ORA-06512: at "HIGHWAYS.NM3FILE", line 245
ORA-06512: at "HIGHWAYS.NM3FILE", line 397
ORA-06512: at "HIGHWAYS.NM3FILE", line 1325
ORA-06512: at line 33

  DAD name: atlstest_nm3web
  PROCEDURE  : nm3file.web_dump_file
  URL        : http://WVTXOR1.wcc-corp.ad:8888/atlstest_nm3web/nm3file.web_dump_file
  PARAMETERS :
  ==========
  pi_oracle_dir:
   /apps/mmgrfiles/Accepted_in_to_MMGR/
  pi_file_name:
   WI8612.BBW

  ENVIRONMENT:
  ============
    PLSQL_GATEWAY=WebDb
    GATEWAY_IVERSION=2
    SERVER_SOFTWARE=Oracle-Application-Server-11g
    GATEWAY_INTERFACE=CGI/1.1
    SERVER_PORT=8888
    SERVER_NAME=WVTXOR1.wcc-corp.ad
    REQUEST_METHOD=POST
    QUERY_STRING=
    PATH_INFO=/nm3file.web_dump_file
    SCRIPT_NAME=/atlstest_nm3web
    REMOTE_HOST=
    REMOTE_ADDR=10.76.14.198
    SERVER_PROTOCOL=HTTP/1.1
    REQUEST_PROTOCOL=HTTP
    REMOTE_USER=highways
```

```
    REMOTE_HOST=
    REMOTE_ADDR=10.76.14.198
    SERVER_PROTOCOL=HTTP/1.1
    REQUEST_PROTOCOL=HTTP
    REMOTE_USER=highways
    ORACLE_SSO_USER=
    OSSO_IDLE_TIMEOUT_EXCEEDED=
    OSSO_USER_GUID=
    HTTP_CONTENT_LENGTH=82
    HTTP_CONTENT_TYPE=application/x-www-form-urlencoded
    HTTP_USER_AGENT=Mozilla/4.0 (compatible; MSIE 7.0; Windows NT 6.1; WOW64; Trident/4.0; SLCC2; .NET CLR 2.0.50727
    HTTP_HOST=wvtxor1.wcc-corp.ad:8888
    HTTP_ACCEPT=image/jpeg, image/gif, image/pjpeg, application/x-ms-application, application/xaml+xml, application/
    HTTP_ACCEPT_ENCODING=gzip, deflate
    HTTP_ACCEPT_LANGUAGE=en-GB
    HTTP_ACCEPT_CHARSET=
    HTTP_COOKIE=
    HTTP_IF_MODIFIED_SINCE=
    HTTP_REFERER=http://wvtxor1.wcc-corp.ad:8888/atlstest_nm3web/nm3file.web_download_from_dir
    HTTP_SOAPACTION=
    HTTP_ORACLE_ECID=
    HTTP_ORACLE_CACHE_VERSION=
    HTTP_AUTHORIZATION=
    WEB_AUTHENT_PREFIX=
    DAD_NAME=atlstest_nm3web
    DOC_ACCESS_PATH=docs
    DOCUMENT_TABLE=nm_upload_files
    PATH_ALIAS=
    REQUEST_CHARSET=WE8MSWIN1252
    REQUEST_IANA_CHARSET=WINDOWS-1252
    SCRIPT_PREFIX=
    HTTP_IF_MATCH=
    HTTP_CACHE_CONTROL=
    SOAP_BODY=
    HTTP_X_ORACLE_DEVICE_CLASS=
    HTTP_X_ORACLE_DEVICE_ORIENTATION=
    HTTP_X_ORACLE_DEVICE_MAXDOCSIZE=
```
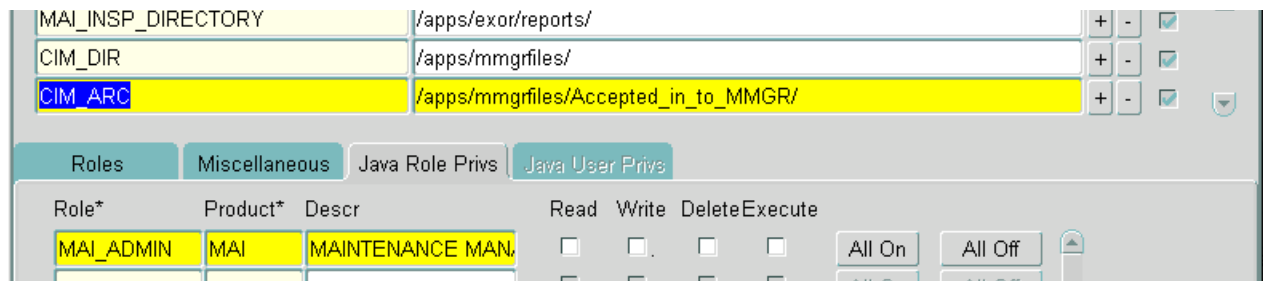
Now the issue seems to be with the DIRECTORY and the message **ORA 200001 : File location or name was invalid**

Now the Oracle Directory selected here is called CIM_ARC :

The directory points to the location /apps/mmgrfiles/Accepted_in_to_MMGR/ and this directory does exist on the database server (which is a Red Hat Linux) server.

 I have checked all of the permissions on the directory and its parent directories and they are fine.

Code

If we examine the code where this procedure is executed from then this is within the NM3FILE package (NM3FILE.PKB – version 2.15). The procedure executed is
WEB_DOWNLOAD_FROM_DIR

```
procedure web_download_from_dir
  ( pi_directory_name varchar2 default null
  ) is
l_ret_files file_list;
begin
  nm_debug.proc_start(g_package_name,'web_download_from_dir');
  web_top('Download from Oracle Directory');
  if pi_directory_name is null
  then
    htp.p('<form action="./nm3file.web_download_from_dir" method="post">');
    htp.p('  <table>');
    htp.p('    <tr>');
    htp.p('      <td colspan="2">');
    htp.p('        <h1>Download from Oracle Directory</h1>');
    htp.p('      </td>');
    htp.p('    </tr>');
    htp.p('    <tr>');
    htp.p('      <td>');
    htp.p('        Directory to browse');
    htp.p('      </td>');
    htp.p('      <td>');
    htp.p('        <select name="pi_directory_name">');
    for dirs in (select * from all_directories order by directory_name)
    loop
      htp.p('          <option value="'|| dirs.directory_path || '">' ||
dirs.directory_name || '</option>');
    end loop;
    htp.p('        </select>');
    htp.p('      </td>');
    htp.p('    </tr>');
    htp.p('    <tr>');
    htp.p('      <td colspan="2">');
    htp.p('        <input type="submit" value="View Files" />');
    htp.p('      </td>');
    htp.p('    </tr>');
    htp.p('  </table>');
    htp.p('</form>');
  else
    htp.p('<form action="./nm3file.web_dump_file" method="post">');
    htp.p('  <input type="hidden" name="pi_oracle_dir" value="' ||
pi_directory_name || '" />' ) ;
    htp.p('  <table>');
    htp.p('    <tr>');
    htp.p('      <td colspan="2">');
    htp.p('        <h1>Download from Oracle Directory ' ||
pi_directory_name || '</h1>');
```

```
      htp.p('        </td>');
      htp.p('      </tr>');
      htp.p('      <tr>');
      htp.p('         <td>');
      htp.p('            Select file to download');
      htp.p('         </td>');
      htp.p('         <td>');
      htp.p('            <select name="pi_file_name">');
      l_ret_files := get_files_in_directory( pi_directory_name, null ) ;
      if l_ret_files.count > 0
      then
        for fi in 1..l_ret_files.count
        loop
          htp.p('             <option value="'|| l_ret_files(fi) || '">' ||
l_ret_files(fi) || '</option>');
        end loop;
      end if;
      htp.p('            </select>');
      htp.p('         </td>');
      htp.p('      </tr>');
      htp.p('      <tr>');
      htp.p('         <td colspan="2">');
      htp.p('            <input type="submit" value="Download" />');
      htp.p('         </td>');
      htp.p('      </tr>');
      htp.p('  </table>');
      htp.p('</form>');
  end if;
  nm_debug.proc_end (g_package_name,'web_download_from_dir');
end web_download_from_dir;
```

The first highlighted section is where the routine defines the list of directories to choose from and the second is the package that is executed. Here , the value of pi_directory_name is NOT an Oracle directory name but a physical path, and this piece of code :

```
  htp.p('         <h1>Download from Oracle Directory ' || pi_directory_name
|| '</h1>');
```

displays the narrative 'Download from Oracle Directory ' together with the directory name parameter , thus :

Download from Oracle
Directory /apps/mmgrfiles/Accepted_in_to_MMGR/

Select file to download   WI8612.BBW

Download

```
so the parameter that is passed to nm3file.web_dump_file is a directory and
not an Oracle directory name.
```

Code

Now if we examine the code of Web_dump_file we see the following :

```
procedure web_dump_file
   ( pi_file_name in varchar2
   , pi_oracle_dir in varchar2
   )
is
l_lines nm3type.tab_varchar32767 ;
begin
  nm_debug.proc_start(g_package_name,'web_dump_file');
  -- This tells the browser that the file type isn't html and to save
  -- it somewhere
  htp.p( 'Content-type: application/octet-stream' );
  htp.p( 'Content-Disposition: attachment; filename="' || pi_file_name ||
'"' ) ;
  htp.p( '' ) ;
  get_file
     ( LOCATION     => pi_oracle_dir
     , filename     => pi_file_name
     , max_linesize => 32767
     , all_lines    => l_lines
     ) ;

  for i in  1..l_lines.count
  loop
    htp.p(l_lines(i)) ;
  end loop;

  nm_debug.proc_end (g_package_name,'web_dump_file');

end web_dump_file;
```

and it is with the **get_file** function that we have a problem, here is where an exception is being raised.

Now the get_file function also exists within the nm3file package and it is coded as follows:

```
PROCEDURE get_file (LOCATION      IN     VARCHAR2       DEFAULT
c_default_location
                   ,filename      IN     VARCHAR2
                   ,max_linesize  IN     BINARY_INTEGER DEFAULT
c_default_linesize
                   ,all_lines        OUT nm3type.tab_varchar32767
                   ,add_cr    IN BOOLEAN DEFAULT FALSE
                   ) IS
--
   l_file   UTL_FILE.FILE_TYPE;
   l_eof    BOOLEAN;
   l_buffer VARCHAR2(32767);
--
BEGIN
```

```
--
   nm_debug.proc_start(g_package_name,'get_file');
--
   l_file := fopen (LOCATION,filename,c_read_mode,max_linesize);
--
   get_line(l_file,l_buffer,l_eof, add_cr);
   WHILE NOT l_eof
    LOOP
      all_lines(all_lines.COUNT+1) := l_buffer;
      get_line(l_file,l_buffer,l_eof, add_cr);
   END LOOP;
--
   fclose(l_file);
--
   nm_debug.proc_end(g_package_name,'get_file');
--
END get_file;
```

Now the **fopen** function actually attempts to open the file and it passes the
LOCATION as the first parameter and this is a physical directory and not a
directory name and here is where I believe the issue occurs. The
documentation (see appendix) states that the location should be a
Directory Object Name and not a PATH.

Now the **nm3file.pkb** was released at **2.15** with versions 4400 and 4500 and
the LIVE system at Warwickshire is currently operational and working fine
at 4400. I have been informed that the LIVE and the TEST system directory
structures have been set up in the same manner and I have asked many
questions about the environment and the answers that I have received tell
me that the systems have been set up to be the same.

Oracle Documentation References

Fopen

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FOPEN Function

This function opens a file. You can specify the maximum line size and have a maximum of 50 files open simultaneously. See also FOPEN_NCHAR Function.

Syntax

```
UTL_FILE.FOPEN (
   location      IN VARCHAR2,
   filename      IN VARCHAR2,
   open_mode     IN VARCHAR2,
   max_linesize IN BINARY_INTEGER DEFAULT 1024)
  RETURN FILE_TYPE;
```

Parameters

Table 224-9 FOPEN Function Parameters

Parameter	Description
location	Directory location of file. This string is a directory object name and must be specified in upper case. Read privileges must be granted on this directory object for the UTL_FILE user to run FOPEN.

Fremove

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FREMOVE Procedure

This procedure deletes a disk file, assuming that you have sufficient privileges.

Syntax

```
UTL_FILE.FREMOVE (
   location IN VARCHAR2,
   filename IN VARCHAR2);
```

Parameters

Table 224-13 FREMOVE Procedure Parameters

Parameters	Description
location	Directory location of the file, a DIRECTORY_NAME from ALL_DIRECTORIES (case sensitive)
filename	Name of the file to be deleted