WOPR’16

Harnessing Test Harnesses

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Challenge

- New release of Hyperion Financial Management (HFM)
  - Extended engine
  - New data retrieval interface
  - New user interface (UI)
- No UI to test new components for a while
  - And performance of the new components is critical, performance degradation is not acceptable

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Architecture

- Browser
- Web Server (ASP) -> Web/App Server (ADF)
- Windows Client
- Application Server (C++/DCOM)
  - New data retrieval API calls
  - Extended engine
- Relational Database (Oracle/SQL Server/DB2)

Long Time Ago

- There was no Web UI for HFM
  - Only Windows client using DCOM
  - DCOM support wasn’t good enough in LoadRunner
- There was a functional test harness (HAT) exercising HFM API in a scripting way

HAT Script

```
SetPOV("Scenario1","2003","January","Periodic","B000001","USD","Top1","[ICP None]","B000010","B000008","B000002","B000010");

DefineGrid("Account","[Hierarchy]","","Period","[Hierarchy]","");

StartTimer("9","Get Grid");

GetGrid("gridXXX.txt","Value","All","100");

StopTimer("9");
```

Using HAT

- No easy way to use HAT for performance testing
- Need to create a way to run scripts in parallel, collect and report information, parameterize values
  - Like a new load testing tool
- Another way to re-compile it as an dll
  - This dll was called from LoadRunner scripts during performance tests

Using External DLL

- To use the external dll in Vuser scripts:
  - Use the lr_load_dll function to load it
  - Define it globally in the vugen.dat file
- Then functions defined in the dll could be used without declaration in the script
- DLL (and environment) should be set on each agent machine

Script Example

- RetValue = lr_load_dll("c:\\temp\\hsvtester.dll");
- Scenario_name = "Budget";
- Entity_name = lr_eval_string("{EntList}");
- …
- RetValue = SetPOV(Scenario_name, Year_name, Period_name, …, Cus4_name);
- RetValue = DefineGrid(Grid_dim1,Row_Mem_list,"",Grid_dim2,Col_Mem_list,"");
- lr_start_transaction(ind_str);
- RetValue = GetGrid("",GG_value,act_dir,act_cell);
- lr_end_transaction(ind_str, LR_AUTO);

Custom Load Generation

- LoadRunner does all test management, data collection, monitoring, data analysis
- Easy to parameterize using LoadRunner parameters
- Use some client components on the agent machine: more resources needed
- Was presented on WOPR’1 in a generic way

Current State

- HAT is still the main tool for API testing
  - And still compiled as dll (hsvtester.dll)
  - No new data retrieval API yet, but should be added anyway
- Looks like we are in a great position
  - However modified old LoadRunner scripts don’t work
  - Found that now all string parameters are Unicode

Unicode Challenge

- Neither

```
RetValue = Initialize(L"c:\\test.log",L"true",L"true", L"true",
   L"true");
```

- Nor

```
wfile=(wchar_t*) L"c:\\test.log";

wflag=(wchar_t*) L"true";

RetValue = Initialize(wfile,wflag, wflag, wflag, wflag);
```

- Works

Unicode Solution

- The following code works
  - rc = lr_convert_string_encoding("c:\\test.log", LR_ENC_SYSTEM_LOCALE, LR_ENC_UNICODE, "thefilename");
  - rc = lr_convert_string_encoding("true", LR_ENC_SYSTEM_LOCALE, LR_ENC_UNICODE, “ptrue");
  - RetValue = Initialize(lr_eval_string("{thefilename}"), lr_eval_string("{ptrue}"), lr_eval_string("{ptrue}"), lr_eval_string("{ptrue}"), lr_eval_string("{ptrue}"));
- Checking with the HP support

Summary

- Creating an external dll from the HAT functional test harness and calling it from LoadRunner looks like a solution in our case
- Looks like LoadRunner has issues with Unicode – needs some extra code
- HAT will be extended for needs of functional testing, so we get all other functions we need for free

Questions ?

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