This document describes

* what OPBM is
* how to navigate the OPBM windows
* what actions are available on each window
* how to use the 3 interfaces: simplified run interface, developer interface, command line interface.

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**Introducing OPBM**

OPBM (Office Productivity Benchmark) is a comprehensive, verifiable office application benchmark. OPBM makes it possible for an end-user as well as an experienced analyst to produce verifiable, real-world performance workloads utilizing popular office productivity software.

OPBM introduces new terminology to capture the ideas of office productivity….(atoms, molecules, suites)

OPBM provides this diversified tool set through 3 user interfaces

[**Simplified Run Interface**](#Simplified_Run_Interface) – an end-user interface which allows users to run preset benchmarks under closed, controlled conditions.

[**Developer Interface**](#Developer_Interface) – a developer interface to design, customize and capture office productivity tasks in such a way as to simulate “real-world” workloads for benchmark performance analysis.

[**Command Line Interface**](#Command_Line_Interface) - an end-user interface that allows the user to launch and execute OPBM scripts from a command prompt. The user can terminate the workload immediately from the command line or input files in a self-contained, controlled manner, utilizing the features of the GUI interface.

**Advantages of OPBM**

|  |  |
| --- | --- |
| **Customizable** | sdlfkjsalfkj |
| **Flexible** | afjalsfklfkjasf |
| **Terminology** | OPBM’s unique design leads it to be extremely flexible for scripting purposes.  Atoms –  Molecules –  Scenarios –  Suites –  HUD (Heads-Up-Display) |
| **Scoring Methodology** | see the command line overview doc |

**Minimum requirements to run OPBM**

* Oracle HotSpot Java Version 1.7.0 or newer
* Virtual Machine installed (JDK or JRE version 1.7.0 32-bit or 64-bit, preferred 64-bit)
* Internet Explorer 9 (will not work with IE8 or older)
* Microsoft Office 2010
* 24-bit video resolution of at least 1280x1024

**How to set-up and install OPBM**

To install OPBM you will

1. Create a git hub account (See Git Hub Tutorial)
2. Download the OPBM software from git hub to a local repository
3. Run the opbm.jar file to start OPBM

Disable Login Screen

Set Windows to automatically log you in when booting:

1. Log into Windows 7 using an administrator account.
2. Click "Start" and type "netplwiz" in the search field. Click "netplwiz" in the list above to run the program.
3. Click the user name to be logged in automatically.
4. Uncheck "Users must enter a user name and password to use this computer".
5. Click "Apply" and enter your password in both empty fields if you are asked for it. Click "OK" to accept changes.

OPBM will install

* 7-zip
* Adobe Acrobat Reader X (version 10)
* Chrome
* Firefox
* Opera
* Safari

OPBM Files

|  |  |
| --- | --- |
| **.xml files which drive OPBM** | edits.xmls - defines the way OPBM edits data on-screen  panels.xml - defines menu navigation options  scripts.xml - defines the scripts OPBM will execute  ! These must be setup correctly or OPBM will not even launch properly, but will enter an error-correcting edit mode whereby the raw XML files are loaded for editing. |

Output Files and Processing….

**Output Files and Processing**

As of the first June 27, 2011 release, continued through the August 22, 2011 release, OPBM internally recognizes four types of line items written to stdout or stderr. These are reported by the scripts executing, and are used to update the heads-up-display, and to capture some timing data f

or debugging:

**timing** Conveys timing information to OPBM. Must have the form “Workload description,timing,percentage”. Example: “Launch Microsoft Word,1.5733983892,89.8329821602”. Appears in blue.

**debug** Conveys debug information (shows up in the debug portion of the heads-up-display, which are the bottom 4 lines).

**status** Conveys status information (shows up in the status portion of the heads-up-display, which are the two lines above the middle gray portion).

**error** Conveys error information, which is usually terminal. In future versions, if the keyword “terminate” is found on the error string, OPBM will automatically terminate the current benchmark test and continue with any more that are scheduled. Appears in red.

**overhead** Conveys timing information related to overhead processing, such as the time required to launch an application, or type in keystrokes to access a file path or URL.

**filter** Conveys filter tags for the executing atom. These are used in the post-processor and Results Viewer to aggregate scores in manifest.xml’s <aggregate> section in a <byFilter> division (planned future feature as of 08/31/2011).

**tags** Conveys worklet tags, which are associated only with the immediately-following timing event. These tags allow individual worklets to be aggregated into similar scores in the manifest.xml’s <aggregate> section in a <byTags> division (planned future feature as of 08/31/2011).

When a benchmark run is requested, OPBM generates a manifest.xml file. It records and accumulates everything necessary to complete the run, along with everything generated while executing scripts. This data exists in a single XML file called **manifest.xml**. This file is written out to a relative location based on the current user, such as:

**C:\Users\username\Documents\opbm\running\manifest.xml**

OPBM also auto-generates two output files following the successful completion of a benchmark, which are **results.xml** and **results.csv**, which are located:

**C:\Users\username\Documents\opbm\results\xml\results.xml**

**C:\Users\username\Documents\opbm\results\csv\results.csv**

The scripts themselves may also write content directly to a designated output directory, though this is not required. The script’s output directory is located:

**C:\Users\username\Documents\opbm\scriptOutput\**

OPBM records each timing line as it was generated. If multiple instances of the same test were run, then OPBM automatically computes the min, max, average, geometric mean, and coefficient of variation in the results. OPBM also automatically appends a “Total” line to the reported timing lines as well in the output CSV. Only *timing* timing events are included in the output, and not the *overhead* lines which also include times.

**Note:** Iteration requests present themselves internally as though the single atom were run successively for the iteration count, meaning each execution by iteration produces its own separate set of summation values, which are recorded within the manifest.xml file. OPBM will automatically sum and average these values into the <aggregate> section entitled <byAtom>. These scores are also conveyed into the results.xml file for viewing in the Results Viewer, with a single line included for every iteration.

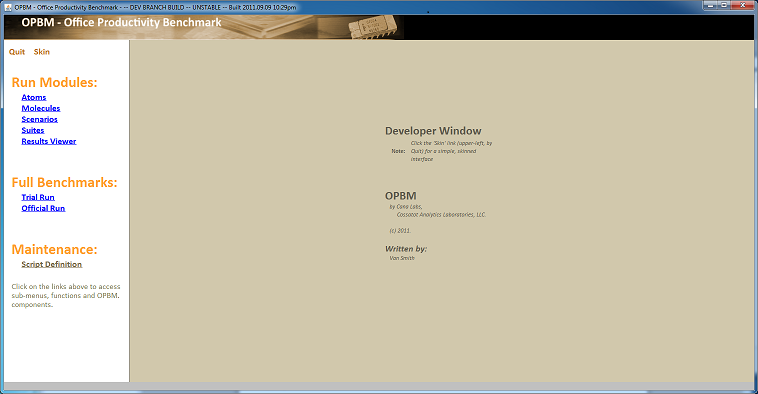
**Getting Help**

|  |  |  |  |
| --- | --- | --- | --- |
| Installation |  |  |  |
| GitHub | Van Smith | [van@canalabs.com](mailto:van@canalabs.com) | (479) 216-3461 |
| Bugs |  |  |  |
| Internal AMD set-up | Jim??? | [jim@amd.com](mailto:jim@amd.com) | (512) 123-1234 |
|  |  |  |  |
|  |  |  |  |

**Starting OPBM**

Double-click on **c:\opbm\java\opbm\opbm.jar** to start OPBM.

The **OPBM – Office Productivity Benchmark** main window appears.



**Parts of the OPBM – Office Productivity Benchmark Main Window**

**Quit** – Closes OPBM

**Skin** – Opens the Simplified Run Interface

**Run Modules:** *(These functions are part of the* [*Developer Interface*](#Developer_Interface)*.)*

Atoms – Opens the **Run Atoms:** window to create, test and customize atoms.

Molecules – Opens the **Run Molecules:** window to create, test and customize molecules.

Scenarios – Opens the **Run Scenarios:** window to create, test and customize scenarios.

Suites – Opens the **Run Suites:** window to create, test and customize suites.

Results Viewer – Opens the **OPBM – Results Viewer** window.

**Full Benchmarks:** *(These functions are part of the* [*Simplified Run Interface*](#Simplified_Run_Interface)*.)*

Trial Run – Opens the **Trial Run** window.

Official Run – Opens the **Official Run** window.

**Maintenance:**

Script Definition – Opens the xxxx window

Panels.xml

Edits.xml

Scripts.xml

**The Simplified Run Interface**

[About the Simplified Run Interface](#About_the_simplified_run_interface)

[The Simplified Run Interface Main Window](#Simplified_run_interface_main_window)

[Using the **Trial Run** button](#Using_the_trial_run_button)

[Using the **Official Run** button](#Using_the_official_run_button)

[Using the **View Previous Results** button](#Using_the_view_previous_results_button)

[Using the **Developer Interface** button](#Using_the_developer_interface_button)

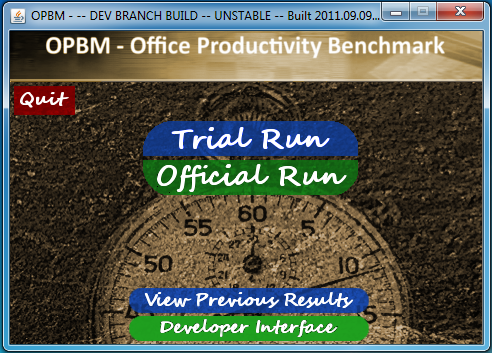
**About the Simplified Run Interface**

This interface will be the default interface upon release. It restricts the user to an official run or a trial run. An official run is 3 full runs of OPBM preceded by reboots before each run. A trial run is 1 full OPBM run with no reboots.

**The Simplified Run Interface Main Window**

Click on **Skin** from the **OPBM- Office Productivity Benchmark** main window.

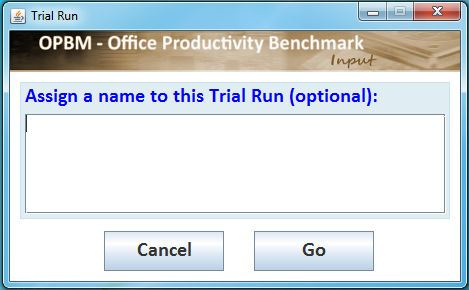
The **OPBM Simplified Run Interface** window appears.



|  |  |
| --- | --- |
| **Button** | **Function** |
| **Quit** | Quits the application. |
| **Trial Run** | Runs the benchmark one time. |
| **Official Run** | Runs the benchmark three times. |
| **View Previous Results** | Displays a file window to select previous results saved as an \*.xml file to be viewed in the Results Viewer. |
| **Developer Interface** | Returns user to the **OPBM – Office Productivity Benchmark** main window. |

**Using the Trial Run Button**

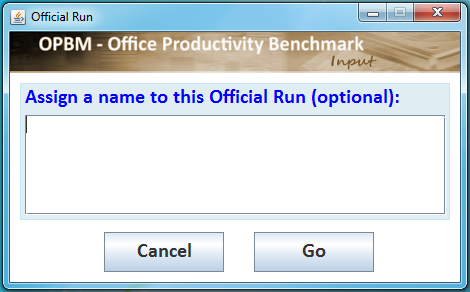
Click on the **Trial Run** button. The **Trial Run** window appears.



|  |  |
| --- | --- |
| **Saving Results** | To a user-named .xml file, type in the name of the file, and click the **Go** button to start the run. (REALLY?) |
|  | To a default results file named xxx file, click on the **Go** button. |
| **Returning to the Simplified Run Interface** | Click on the **Cancel** button. |

**Using the Official Run Button –**

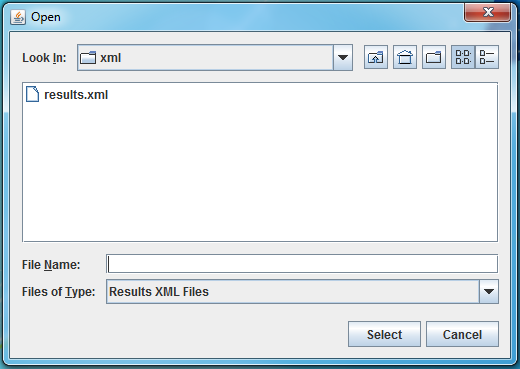
Click on the **Official Run** button. The **Official Run** window appears.



|  |  |
| --- | --- |
| **Saving Results** | To a user-named .xml file, type in the name of the file, and click the **Go** button to start the run. (REALLY?) |
|  | To a default results file named xxx file, click on the **Go** button. |
| **Returning to the Simplified Run Interface** | Click on the **Cancel** button. |

**Using the View Previous Results Button**

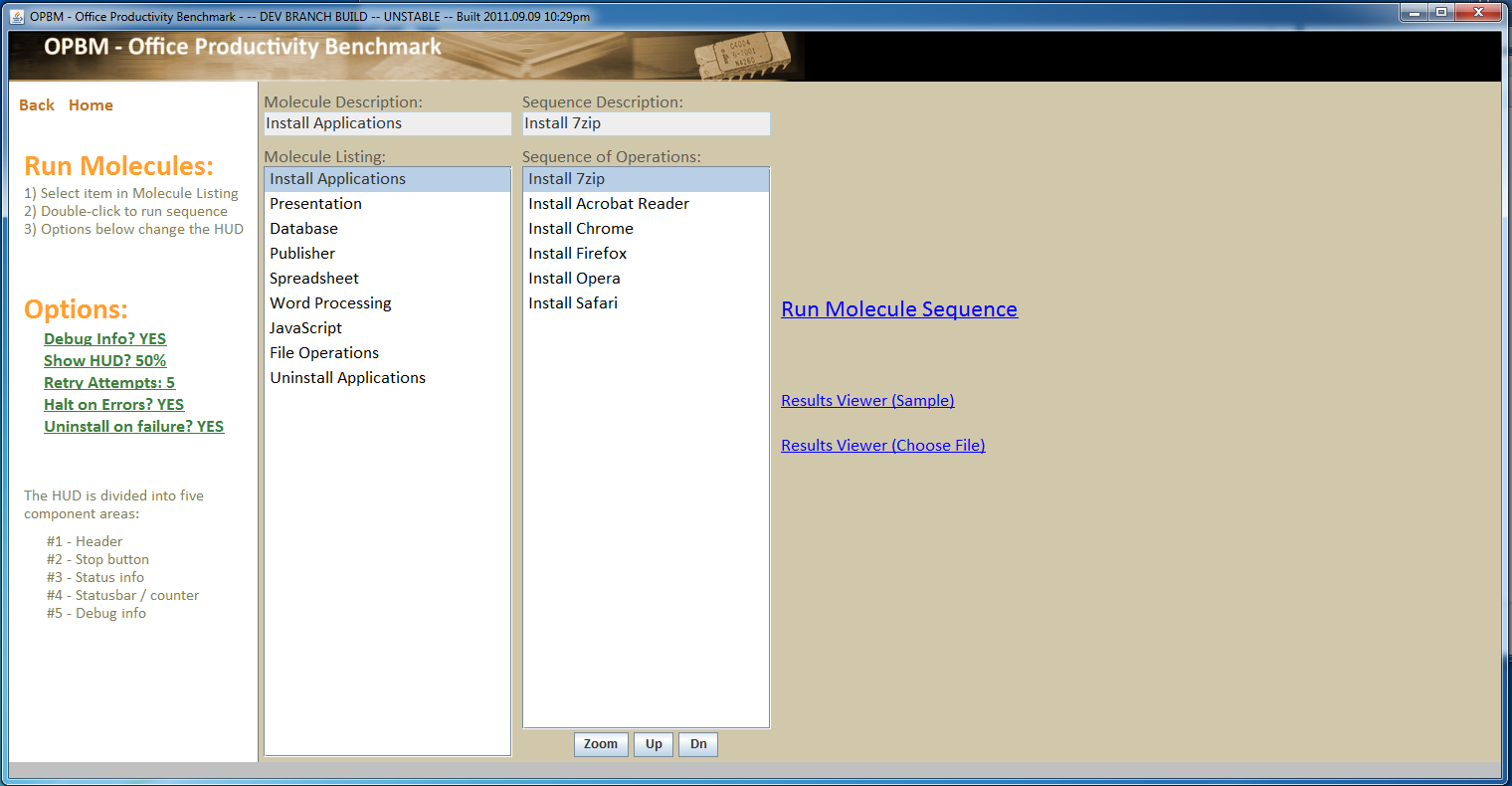
Click on the **View Previous Results** button. The **Open** File window??? appears.



|  |  |
| --- | --- |
| **Viewing the results of a file** | Select the file in the list and click on the **Select** button. The **Results Viewer** window will appear.  Or  Double-click on the name of the file. The **Results Viewer** window will appear. |
| **Returning to the Simplified Run Interface** | Click on the **Cancel** button. |

**Using the Developer Interface Button**

Click on the **Developer Interface** button to return to the **OPBM – Office Productivity Benchmark** main window.



**The Developer Interface**

[About the Developer Interface](#About_the_developer_interface)

The Developer Interface Main Window

[The Run Modules: Atoms](#Run_modules_atoms)

The Run Modules: Molecules

The Run Modules: Scenarios

The Run Modules: Suites

[The Run Modules: Results Viewer](#Run_modules_results_viewer)

**About the Developer Run Interface**

The developer interface allows benchmark developers to customize, design and develop office productivity workloads for benchmarking. Workloads are defined by the number of tasks they include and can be bundled in several configurations to vary the sequencing and load usage>>>>

Atom

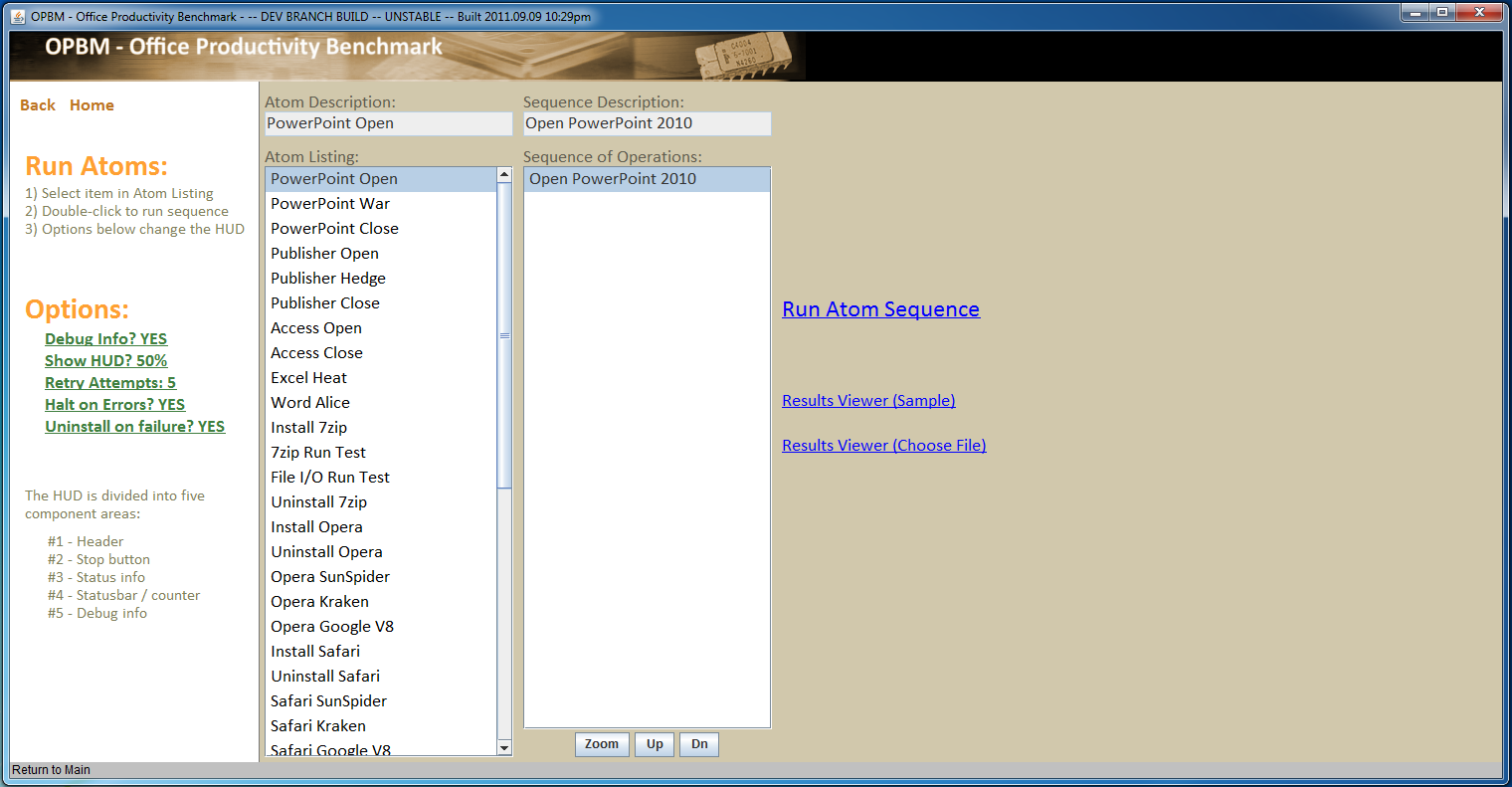
Molecule, etc definitions

Each window allows you to adjust the Heads-Up-Display (HUD) benchmarking window.

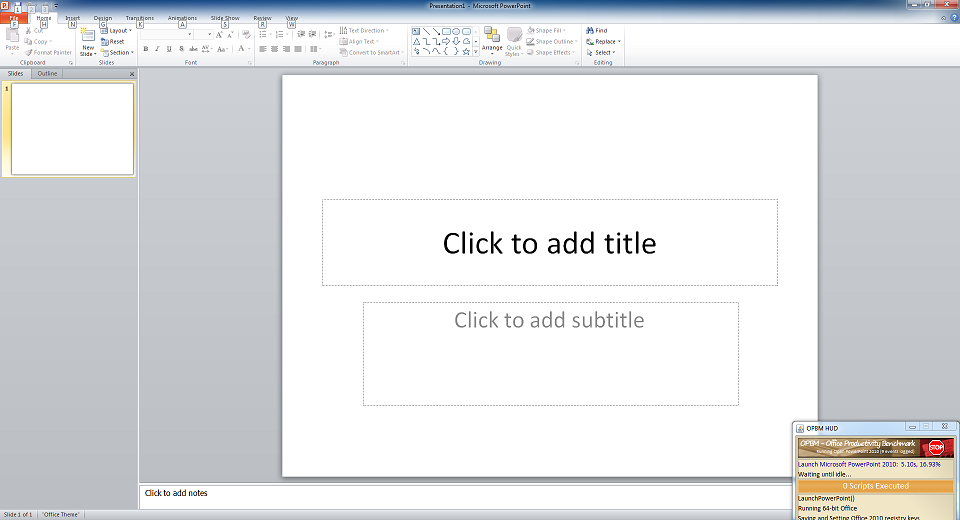
WHAT ABOUT EXECUTABLE SCRIPT DIRECTORY LAYOUT FOR DEVELOPMENT from doc OPBM\_Executable\_Script\_Directory\_Layout.docx

**The Run Modules: Atoms window**

Click on **Atoms** under the **Run Modules** heading. The **Run Atoms** window appears.



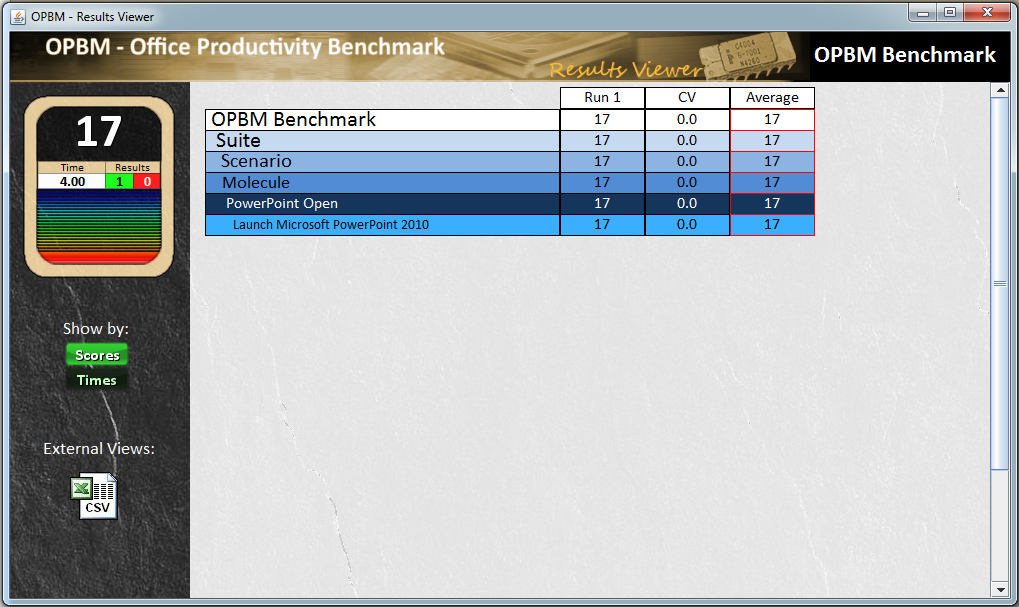
|  |  |
| --- | --- |
| **Running an atom** | Double-click on the atom name in the **Atom Listing:**. OPBM kicks off the run. The office productivity application will appear with the HUD (Head-Up-Display) in the lower right corner of the display.  OR |
|  | Click on the atom in the **Atom Listing:**, then click on **Run Atom Sequence**. OPBM kicks off the run. The office productivity application will appear with the HUD (Head-Up-Display) in the lower right corner of the display. |



The HUD lists the execution order for the script. To terminate the run before completion, click on **STOP**.



When the atom script has successfully completed, the **OPBM – Results Viewer** window appears.



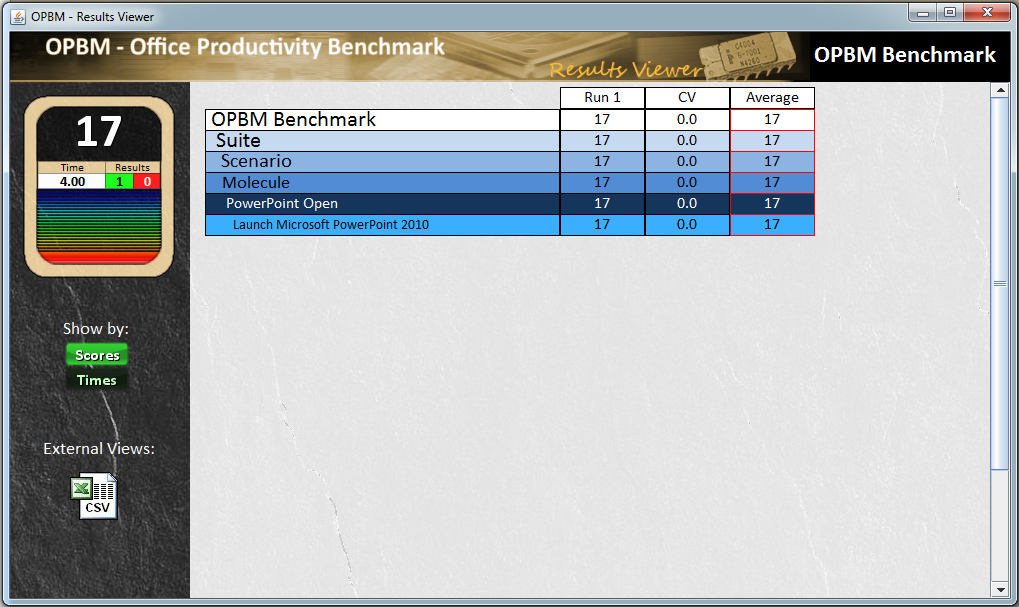
The Run Modules: Molecules

The Run Modules: Scenarios

The Run Modules: Suites

**The Run Modules: Results Viewer**

Click on **Results Viewer** to open the results on the last benchmark run. The **OPBM - Results Viewer** window appears.



**The Command Line Interface**

[About The Command Line Interface](#About_the_command_line_interface)

[Command Line Syntax](#Command_line_syntax)

[Running OPBM from the command line](#Running_OPBM_from_the_command_line)

[Executing scripts from the command line](#Executing_scripts_from_the_command_line)

[Benchmarking across multiple machines](#Benchmarking_across_multiple_machines)

**About The Command Line Interface**

The command line interfaces lets benchmark developers run OPBM from the command line. This flexibility allows the developer to …..

**Command Line Syntax**

[Running OPBM from the command line](#Running_OPBM_from_the_command_line)

[Executing scripts from the command line](#Executing_scripts_from_the_command_line)

[Benchmarking across multiple machines](#Benchmarking_across_multiple_machines)

**Running OPBM from the command line**

| **ACTION** | **Command** | **Good to know** |
| --- | --- | --- |
| **Run OPBM** | cd c: \location\of\jar  or  c:\path\to\\java\exe – jar opbm.jar |  |
| **Create a shortcut** | C:\path\to\opbm.jar |  |
| **Execute a full Trial Run** | java –jar opbm.jar –trial |  |
| **Execute an Official Run** | java –jar opbm.jar –official |  |
| **Run the Simplified Run Interface** | java –jar opbm.jar –simple  or  java –jar opbm.jar –skin |  |
| **Run the Developer Interface** | java –jar opbm.jar –developer |  |
| **Execute OPBM without the program terminating on completion of a script** | java –jar opbm.jar –noexit |  |
| **Assign a name to the results file (?) for the run** | java –jar opbm.jar –name:”*Give the run a name*” |  |
| **Override the default Oracle system property for java.home** | java –jar opbm.jar –home:”c:\full\path\to\jave.exe” |  |
| **Automatically force an OPBM restart** | java –jar opbm.jar -restart | *The option is used internally as part of the reboot-and-continue operations of an Official Run three-pass benchmark. When present OPBN will attempt to continue processing the manifext.sml file in the c:\isers\user\opgm\running directory from where it left off at the reboot. To prevent OPBM from restarting a run automatically, clear out all files in the c:\users\user\opbm\running directory* |

**Executing scripts from the command line**

|  |  |  |
| --- | --- | --- |
| **Action** | **Command** | **Good to know!** |
| **Execute a specific atom script** | **java –jar opbm.jar –atom:***script\_name*  Ex. **java –jar opbm.jar –atom:**wordalice | *Strip the spaces from the script name before adding it to the command line.*  *Ex: Word Alice becomes wordalice* |
| **Execute multiple atoms** | **java –jar opbm.jar –atom:***script\_name*  **–atom:***script\_name*  –**atom:***script\_name* | *There is no limit on the number of atoms you can run* |
| **Execute iterations for a atom script** | **java –jar opbm.jar -atom(***iteration\_count***):***script\_name*  Ex: **java –jar opbm.jar – atom(10):**wordalice | *You can execute multiple atoms with multiple iterations.* |
| **Execute molecule, suite, scenario** | Syntax similar to atom  **java –jar opbm.jar**  **-molecule(***iteration\_count***):***script\_name*  **-scenario(***iteration\_count***):***script\_name*  **-suite(***iteration\_count***):***script\_name* | NOT YET AVAILABLE |
| **Launch the JAR without specifying the java executable** | **opbm.jar –atom:**wordalice  or  **opbm.jar -atom:**wordalice **-atom:**anotheratom  or  **opbm.jar -atom(10):**wordalice **-atom(10):**anotheratom |  |

**Benchmarking across multiple machines**

|  |  |
| --- | --- |
| **What you need to do** | To execute similar benchmarks on multiple machines, create a file which contains the sequence of benchmarks to run in a specified order. . OPBM uses this file at startup to execute identical benchmarks across a host of machines.  1. Create the INPUT FILE  2. Copy the file to the SUTS or network location  3. Access the file through script or network |
| **INPUT FILE syntax** | Each entry must be stored on a separate line in the file. Use the same syntax as the command line syntax, -**atom:***script\_name*  Sample input file  Sample.txt  -atom:wordalice  -atom(100):gpuheavy  -atom(100):opencltests  -atom(100):publisherintensive  -atom(500):wordintensive  -atom(200):excelintensive |
| **Running the INPUT FILE** | java -jar opbm.jar @c:\path\to\sample.txt  OPBM interprets the input from the sample.txt file as though the user repeatedly typed entries on the command line, one after the other. The line entries are added in sequence as they appear on the command line.  Any combination of command-line options and command-line input files can be specified, allowing for a concatenation of both directly specified entries on the command line, as well as input from a file. There are no limits to how many entries can be specified in this way, and the entries will be queued in the order stated on the command line. |
| **Examples** | java -jar opbm.jar -atom:wordalice @sample.txt  java -jar opbm.jar @sample.txt -atom(100):wordalice  java -jar opbm.jar -atom:wordalice @sample.txt -atom(100):wordalice  OR  opbm.jar -atom:wordalice @sample.txt  opbm.jar @sample.txt -atom(100):wordalice  opbm.jar -atom:wordalice @sample.txt -atom(100):wordalice |

END NOTES TO BE DELETED, EVENTUALLY

-----------------------------------------------------------------

**Maintenance: Script Definition #4**

Back – to previous open window? changes panel right now

Home – To Opening Screen

Worklets

**Atoms** (screen definition wrong – can't capture results at this level?) (right side acts weird/displays weird) Worklets atoms #9.PNG

Save/Save and Close/Close

DOCUMEMT Worklet ATOM Screen (several buttons and things)

**Molecules** – (new screen definition) – single test made of atoms Worklets molecules #10.PNG

DOCUMEMT Worklet MOLECULES Screen (several buttons and things)

**Scenarios** – group of tests to analyze workload - Worklets scenarios #11.PNG

DOCUMEMT Worklet SCENARIOS Screen (several buttons and things)

**Suite** – definition? group of tests to test workload or range of workloads - Worklets Suites #12.PNG

DOCUMEMT Worklet SCENARIOS Screen (several buttons and things)

Definitions

**Flow Control** – directives to handle looping, conditional execution, script commands, etc Definitions Flow Control #13.PNG

Some buttons....

**Command Abstracts** – in-between programming layer - Definitions Command Abstracts #14.PNG

Some buttons.... what are the Up and down buttons for?

Maintenance

VIEW MODE

View or Edit raw XML file **(View Raw Files) Maintenance View or Edit raw XML files #15.PNG**

|  |  |
| --- | --- |
| All of these have same layout and one button - close | *View Panels*  *Maintenance View Raw View Panels #16.PNG* |
|  | *View Edits* |
|  | *View Scripts* |

EDIT MODE

**Switch to EDIT mode (RED warning) - Maintenance View or Edit raw Edit raw #17.PNG**

– close and Back to View Mode

|  |  |
| --- | --- |
| All of these have same layout  buttons – save, save and close. close. reload | *Edit Panels*  *Maintenance View or Edit raw Edit raw panel file #18.PNG* |
|  | *Edit Edits* |
|  | *Edit Scripts* |

Compute results averages – **Open** window – Takes a directory of results.xml files and computes averages for every timing point (worklet) Computer results average open #19.PNG

Disable Login Screen

Set Windows to automatically log you in when booting:

1. Log into Windows 7 using an administrator account.

2. Click "Start" and type "netplwiz" in the search field. Click "netplwiz" in the list above to run the program.

3. Click the user name to be logged in automatically.

4. Uncheck "Users must enter a user name and password to use this computer".

5. Click "Apply" and enter your password in both empty fields if you are asked for it. Click "OK" to accept changes.