

HammerDB

HammerDB Metrics

This guide gives you an introduction to monitoring system resources with HammerDB metrics. With HammerDB v2.18 metrics are available for monitoring CPU utilisation.

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Introduction

HammerDB includes the features to monitor system resources beginning with CPU utilisation. This enables the monitoring of resources during database testing to ensure that the system is running at maximum potential. HammerDB metrics have been implemented in an agent and display format with the agent run on the system under test and the display run on a remote system connecting to the agent and enabling the monitoring of resources over the network. HammerDB metrics support both Windows and Linux systems with the operating systems not required to be mutually exclusive and therefore a display running on Windows can connect to an agent on Linux and vice versa.

Installation

If HammerDB is installed both on the system under test (the system running the database to be tested) and a remote system no further HammerDB software is required, the metrics agent software is included in the agent directory. On Linux this takes the form of hdbagent.tcl and on Windows there is an additional batch file to start these programs.

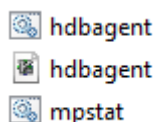


Figure 1 Metrics Installation

On systems under test where HammerDB is not already installed there are [standalone agents](#) available that run in a command line environment. Note that this agent software is identical to that installed with HammerDB and therefore if HammerDB is already installed on the system under test then the additional agent is not required.

On Linux the Mpstat program included with the Sysstat utilities available from <http://sebastien.godard.pagesperso-orange.fr/> must be installed and runnable by the user running the

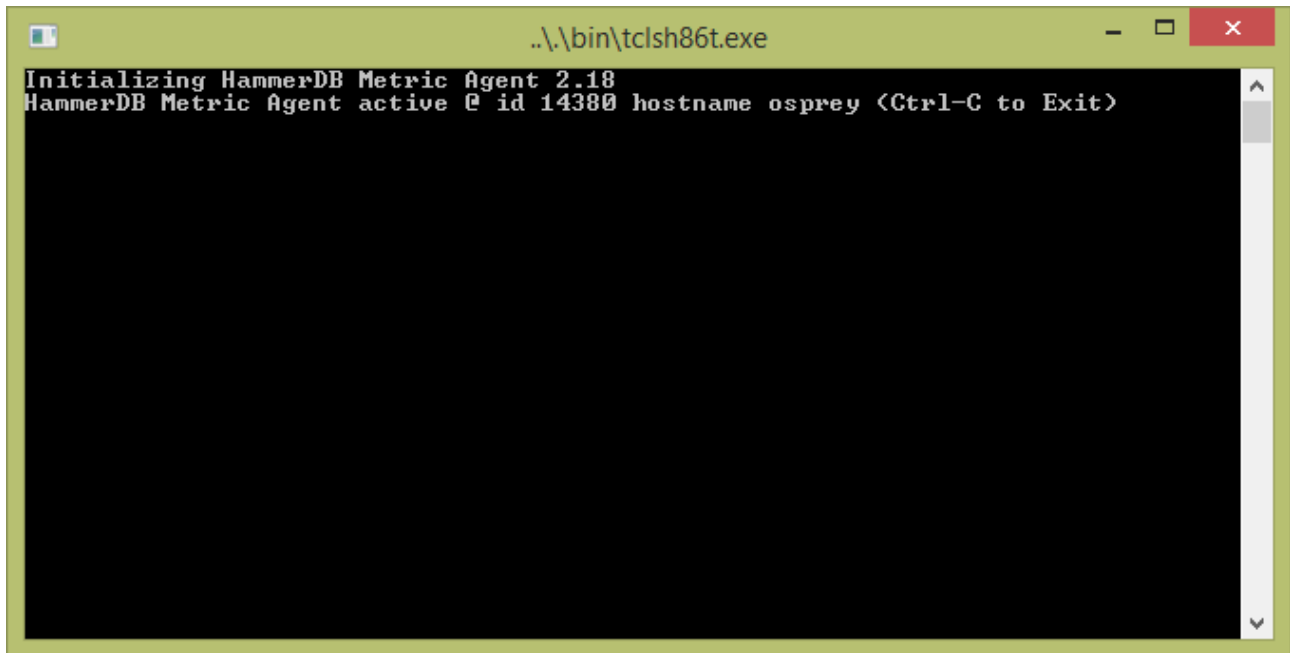
agent. On Windows the mpstat program is included with HammerDB.

Running the Agent

To run the agent on Linux change directory to the agent directory and from this location run:

```
./hdbagent.tcl
```

On Windows double click on the hdbagent Windows Batch File. In both cases if started successfully the agent will report an id and hostname to connect to.



```
..\bin\tclsh86t.exe
Initializing HammerDB Metric Agent 2.18
HammerDB Metric Agent active @ id 14380 hostname osprey <Ctrl-C to Exit>
```

Figure 2 Running the agent

Note that if you receive a message from windows firewall as shown you must permit the application to communicate on the network.

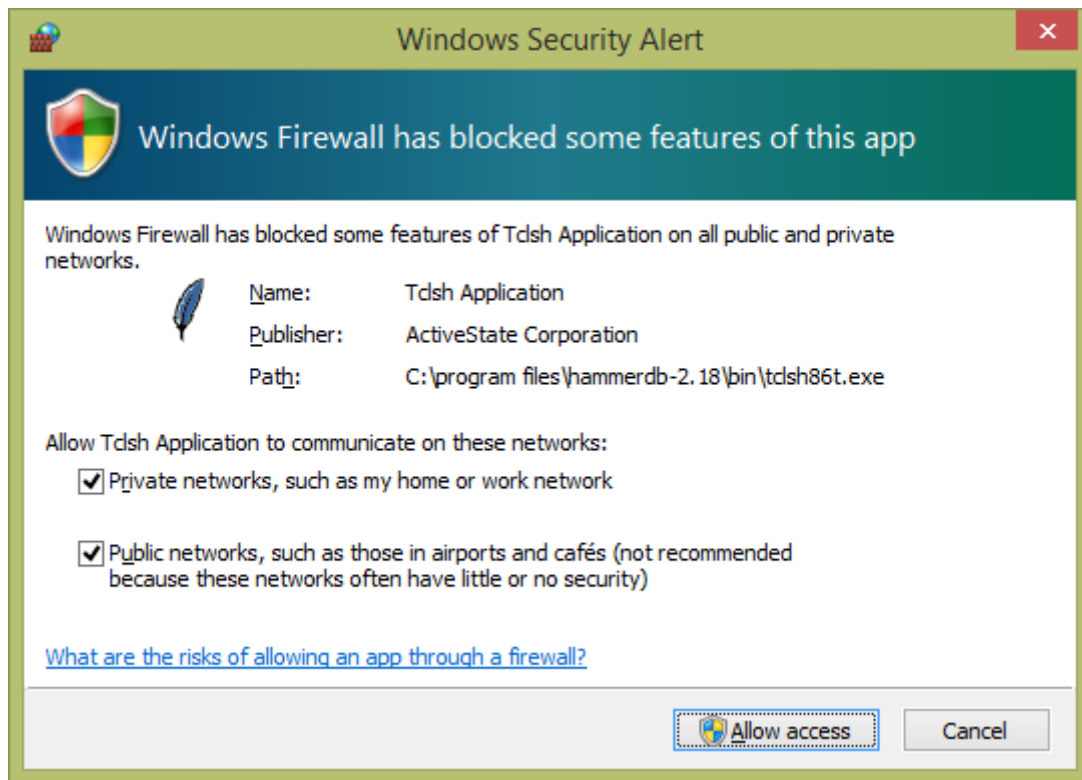


Figure 3 Running the agent

Running the Display within HammerDB

On a system accessible to the agent either locally (ie on the same system) or remote across the network (on the same subnet is recommended) run HammerDB. Within the treeview or options menu select Metrics.

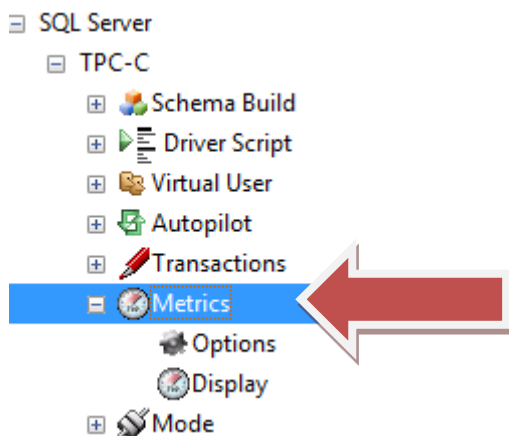


Figure 4 Running the Display

Click on options and enter the ID and hostname reported by the agent.

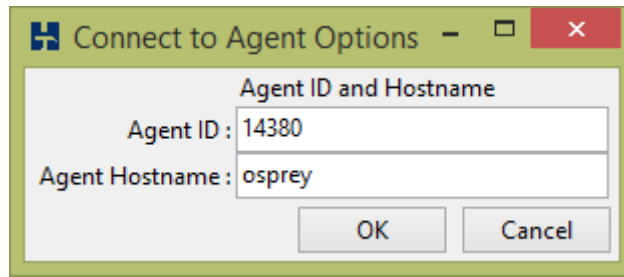


Figure 5 Agent Options

Click on the Display button or treeview to connect to the agent.

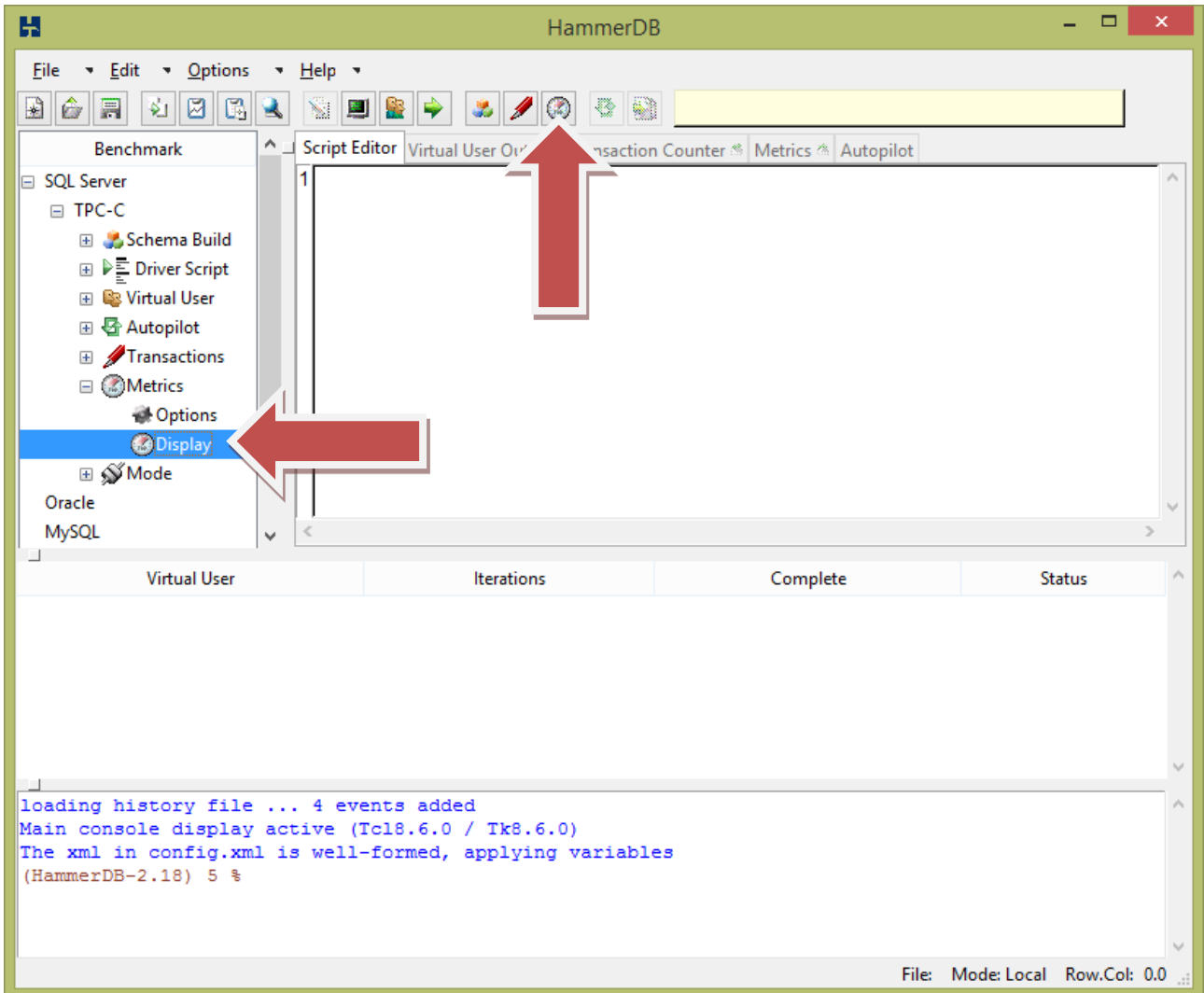


Figure 6 Connect to Agent Options

If the connection is successful, the CPU metrics will be shown within the HammerDB metrics tab.

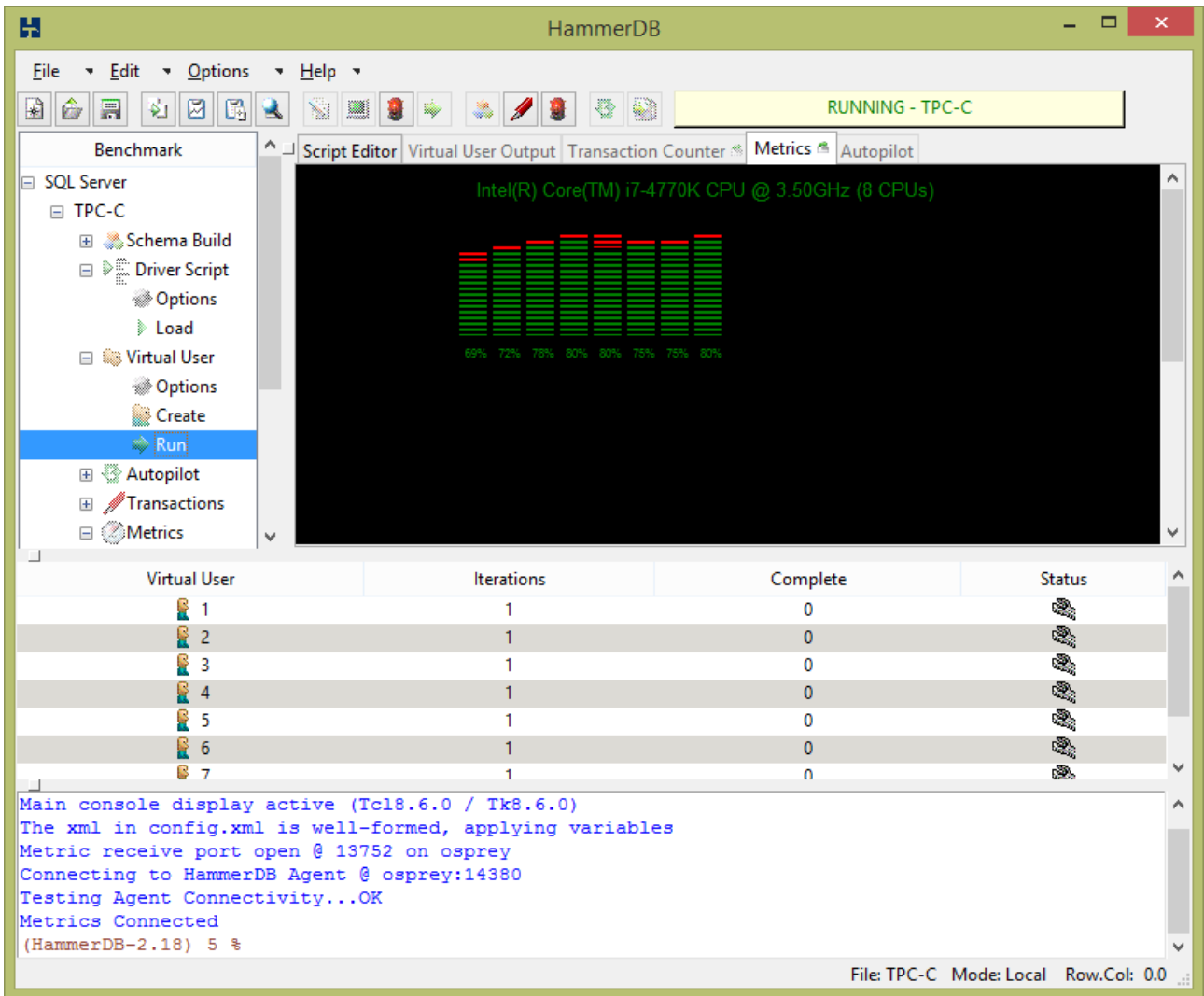


Figure 7 Connect to Agent Confirm

Additionally if the connection is successful the agent will report the acceptance of the display and begin to send metrics.

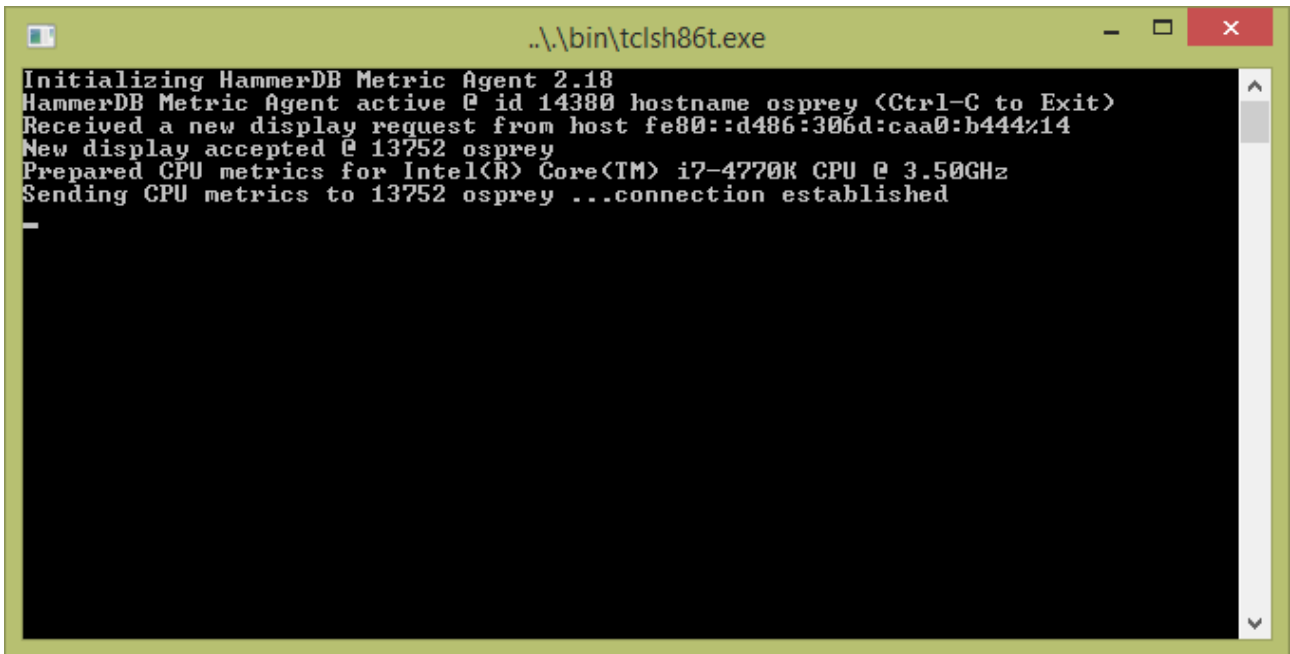


Figure 8 Connect to Agent Connected

You may also need to approve firewall connection on Windows for the HammerDB display.

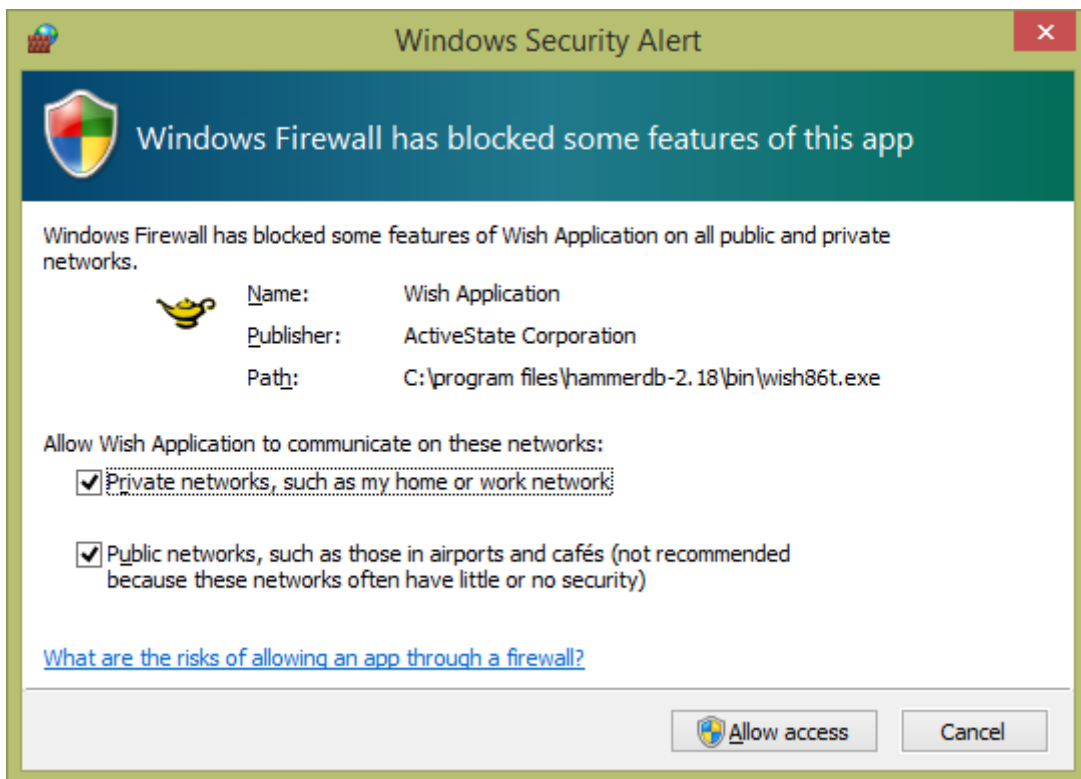


Figure 9 Windows Firewall

The display will show the CPU utilisation with one vertical bar representing each logical CPU. Where a CPU supports Hyper-Threading there will be 2 logical processors displayed for each physical core. On both Linux and Windows user CPU utilisation is displayed in green and system or privileged time is displayed in red. The metrics tab can be dragged away from the HammerDB application to show the CPU performance in a separate window. Closing this window will place the tab back into the main HammerDB display.

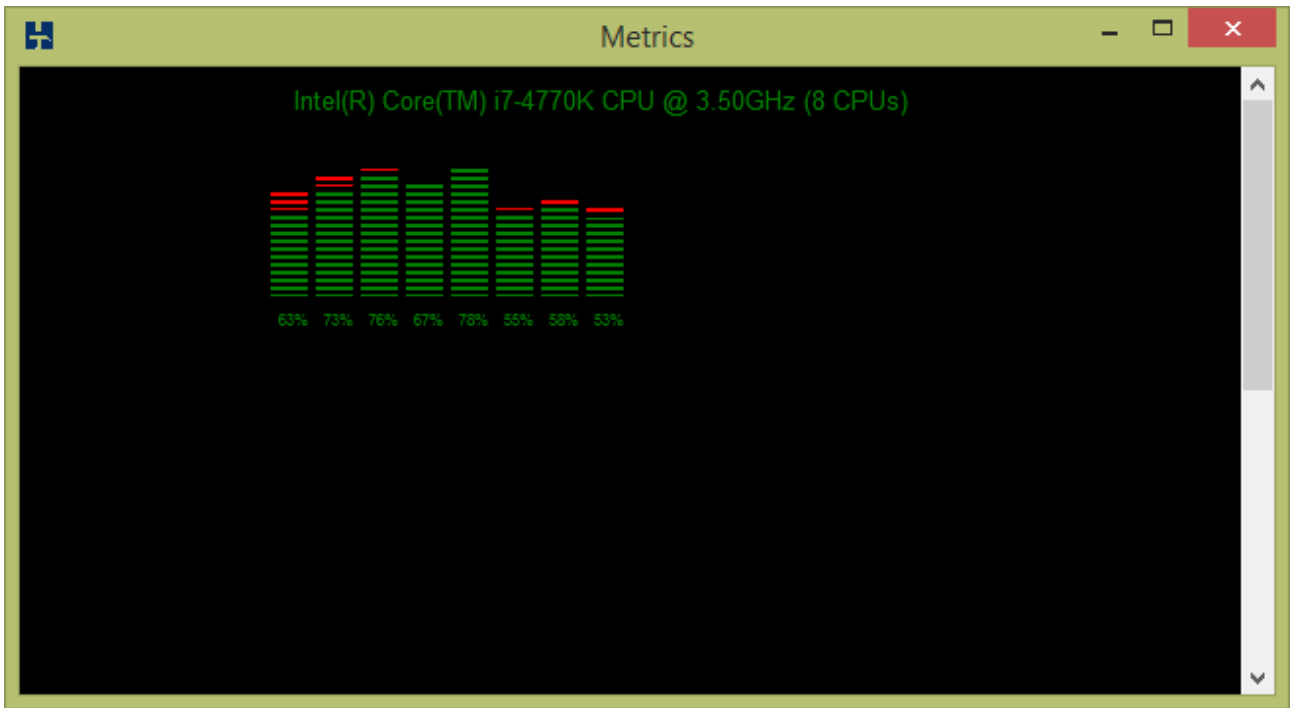


Figure 10 CPU Utilisation displayed

With large CPU counts the CPU metrics can either be scrolled or resized to display the details for all cores and threads. Up to 144 logical CPUs have been tested.

Metrics



Intel(R) Xeon(R) CPU E7-8890 v3 @ 2.50GHz (144 CPUs)

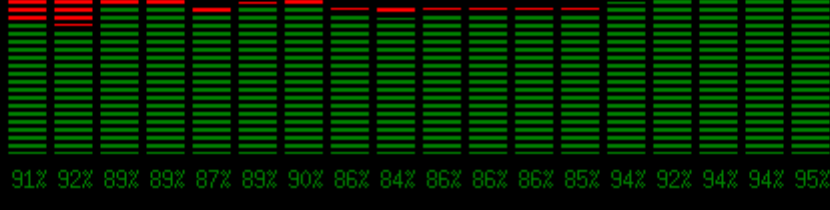
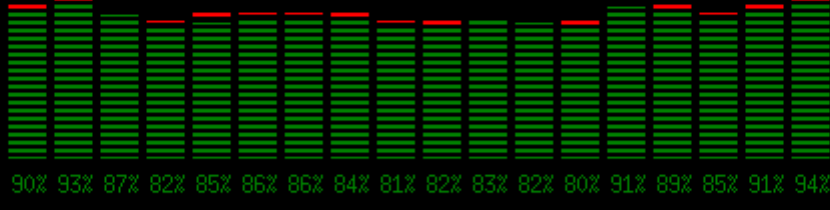
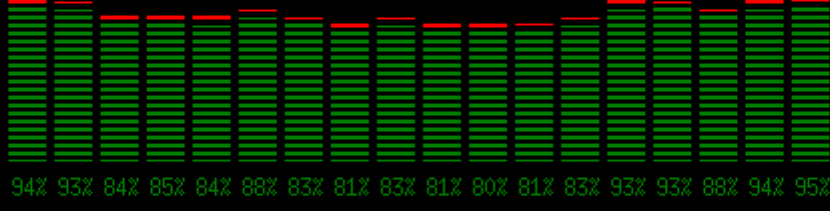
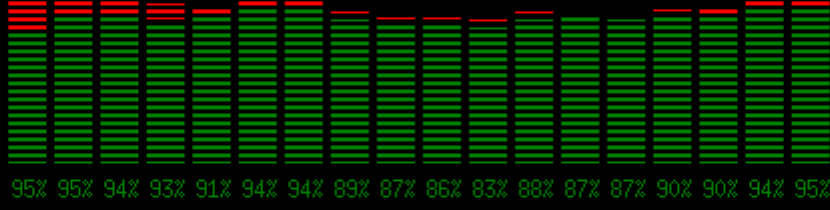
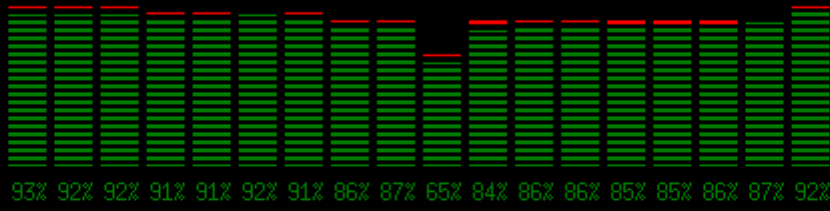
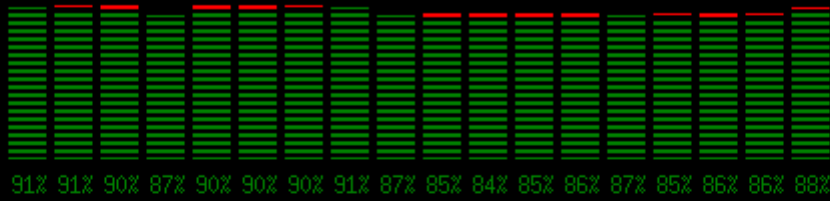
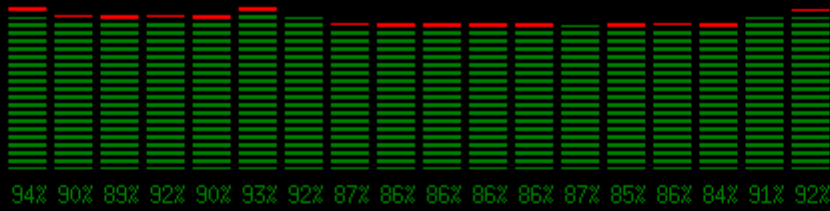


Figure 11 Resized Window

To exit the agent press Ctrl-C or close the window. If a display is currently connected then that will close the metrics tab also. To close the display press the traffic light icon that replaced the metrics icon – if currently connected to an agent then the agent will reinitialize ready to accept another connection.

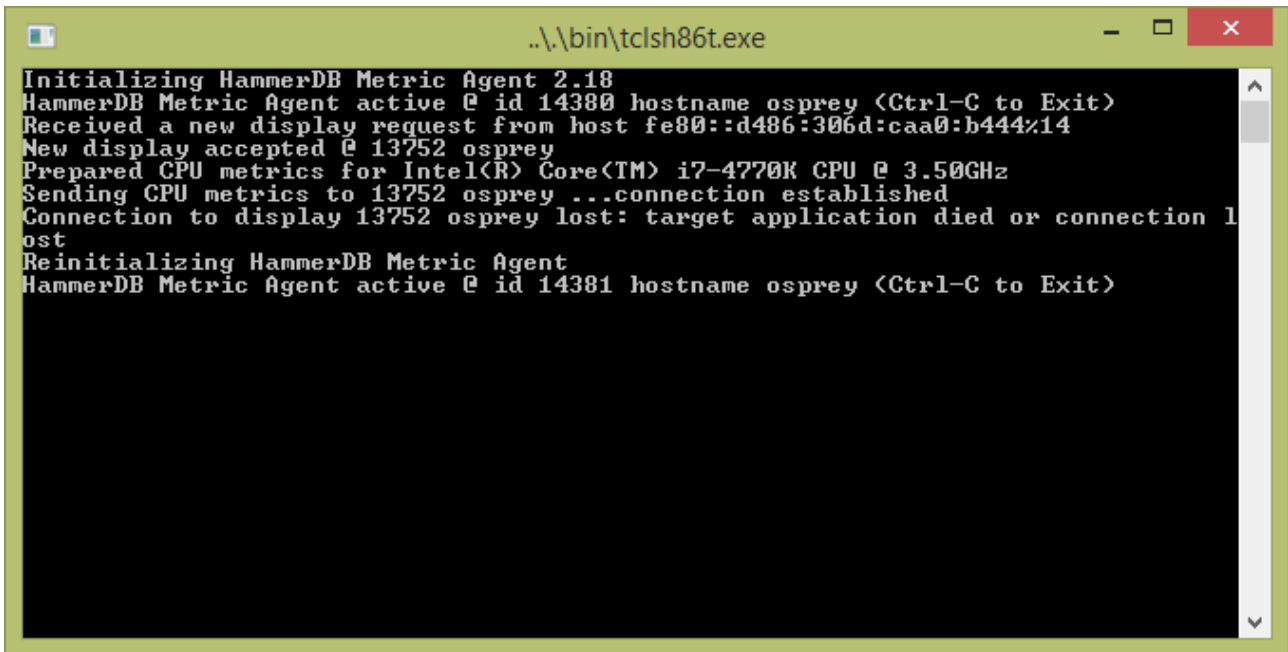


Figure 12 Agent Reinitialized

Windows Processor Groups

On a Windows systems with more than 64 logical processors Windows divides the available processors into [processor groups](#). Under no circumstances can a 32-bit program running on Windows access more than 64 processors and therefore the 32-bit agent will only display the metrics for a single processor group. On 64-bit Windows systems with more than 64 processor the HammerDB agent is processor group aware and will report the details of the configured processor groups before monitoring all of the CPUs in all of the processor groups on the system.

Creating an Agent for UNIX systems

To create an agent for non Windows or Linux systems firstly verify that the mpstat command is available for displaying CPU performance. Then download TCL from here <http://www.tcl.tk/> and compile the software as follows:

```
cd tcl8.6/unix
./configure --enable-threads
make
make install
```

Download and unzip the HammerDB Linux Agent and replace the contents of the agent bin and lib directories with the software compiled for your system and run as shown for Linux previously.

Support and Questions

For help use the HammerDB Sourceforge forum available at the HammerDB sourceforge project.