Hewlett Packard Enterprise

Application Performance Management

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RUM for Citrix - Best Practices

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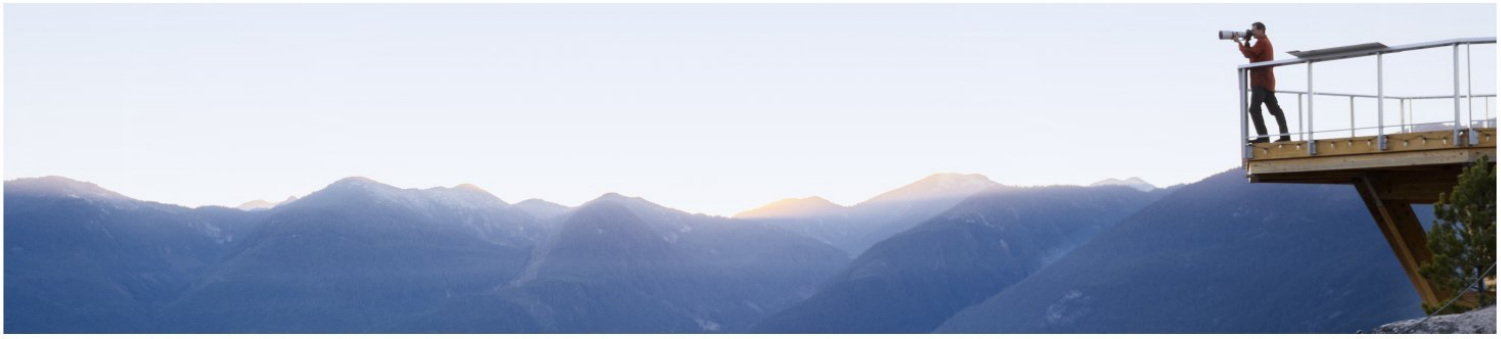

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Chapter 1: Introduction

Scope and Motivation

In Application Performance Management (APM), Real User Monitor (RUM) is increasingly used to monitor Citrix environments. This document shows how to configure APM so that you can maximize the benefit from the data retrieved by RUM regarding your Citrix application.

For more details, refer to the the Real User Monitor Administration Guide.

How is Citrix Unique?

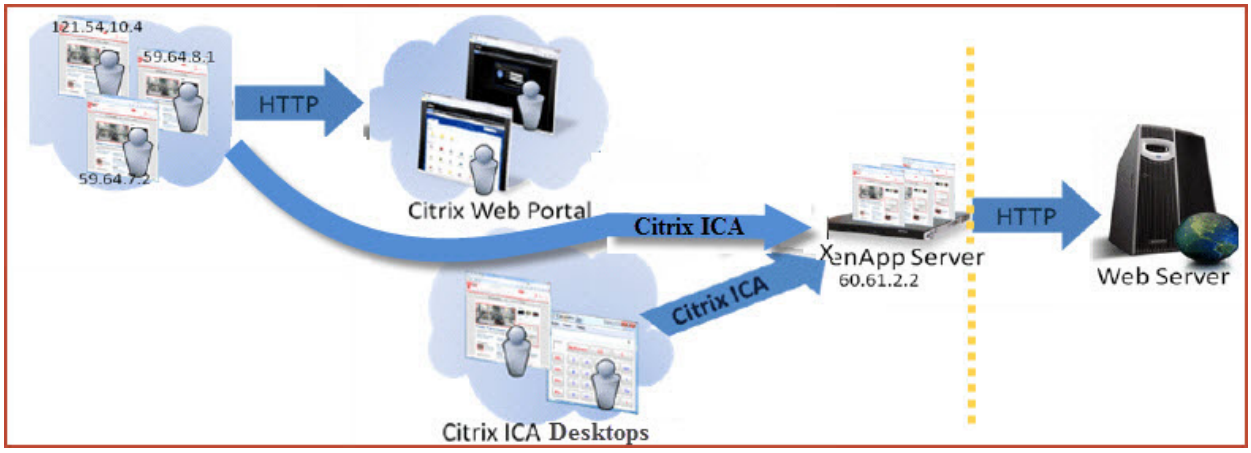
Applications can generally be divided between a front-end tier, to which end users connect directly (or through a load balancer), and one or more back-end tiers. This is configured in APM End User Management as a front-end tier, with back-end tiers connected to it.

Citrix, or Virtual Desktop Infrastructure (VDI), enables end users to run applications (also called published applications) on the Citrix XenApp Server instead of on their desktops, thereby eliminating the need to install each software change on every desktop. All updates are made on the XenApp Server only.

Users can connect directly to the XenApp Server and run applications (such as a browser or a regular application) on it, using a Citrix desktop client that connects to the XenApp Server.

Another way to connect to the XenApp Server is by a Citrix component called the Portal, or Login application. You connect to it via the web, usually after authentication, and receive from it an ICA client for further direct communication with the XenApp Server.

A common use case of the Citrix platform is illustrated in the following diagram:



This platform comprises a regular web application that may include back-end tiers, behind a XenApp Citrix server that acts as a proxy for end users.

This architecture poses a challenge to regular monitoring systems due to the fact that when monitoring the web application, all the traffic coming into it seems to be coming directly from the XenApp server, and the actual clients are screened out.

RUM has two possible solutions to monitor Citrix:

- **Enhanced VDI Support.** This solution is designed for the application owner/application support to understand the impact of the VDI solution on application performance and to isolate problems and understand if the source of the problem is the VDI or the application itself. This solution is for web applications only. For more information, see "Monitoring Citrix with Enhanced VDI Support" on page 7.
- **VDI Support.** This solution is designed for the Citrix team to monitor the Citrix server as an application that provides connection to your applications. For more information, see "Monitoring All Citrix Applications in EUM" on page 1.

There is a possibility to combine both solutions to monitor web applications using the enhanced VDI support solution and monitoring other applications using the regular VDI support solution.

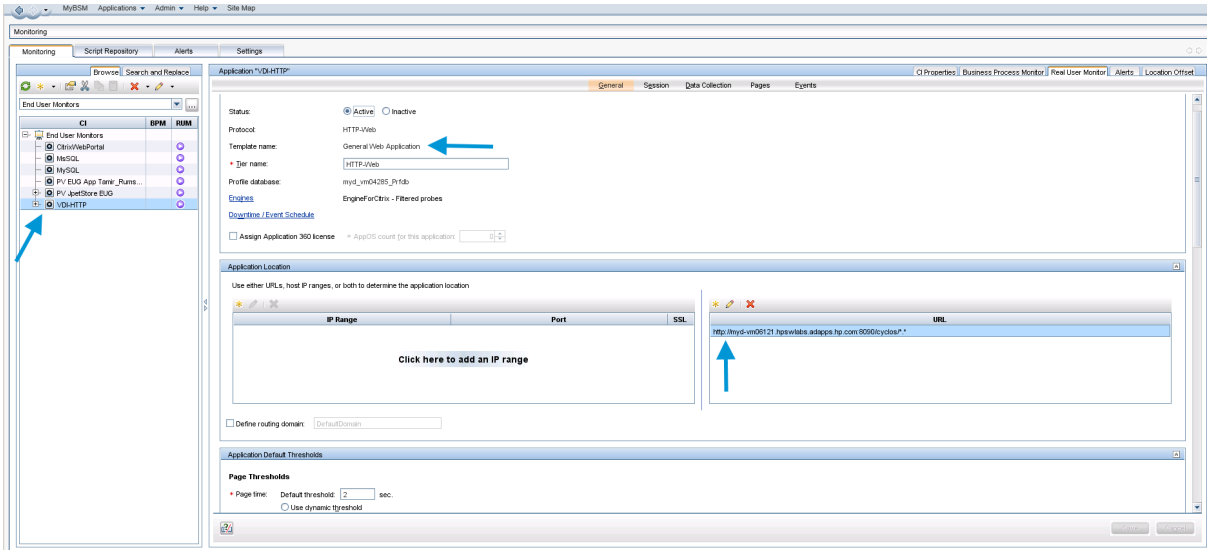
Chapter 2: Monitoring Citrix with Enhanced VDI Support

Application Configuration

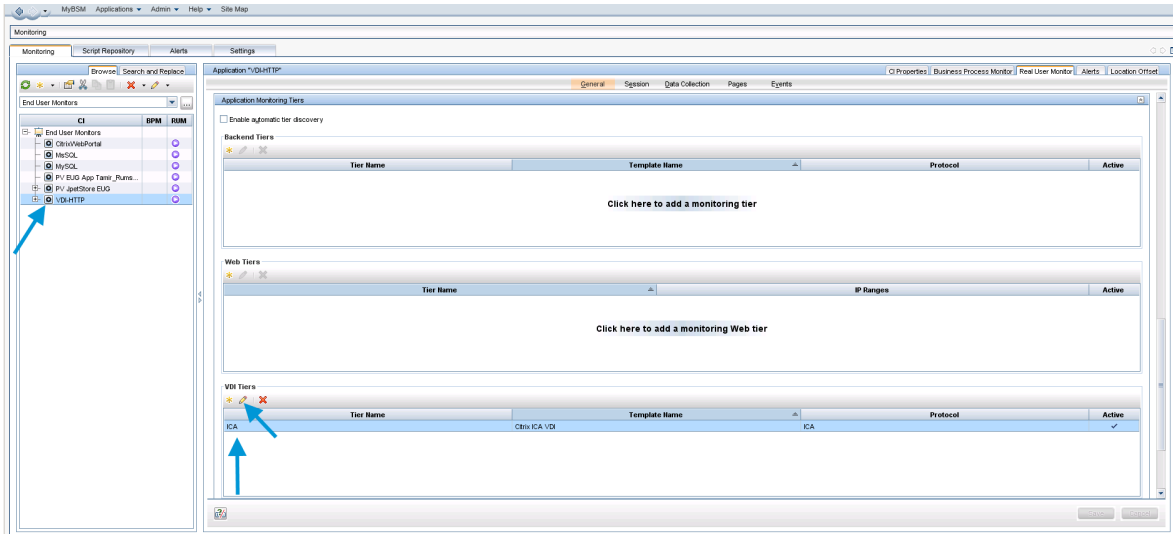
Within EUM, create the following two front-end applications.

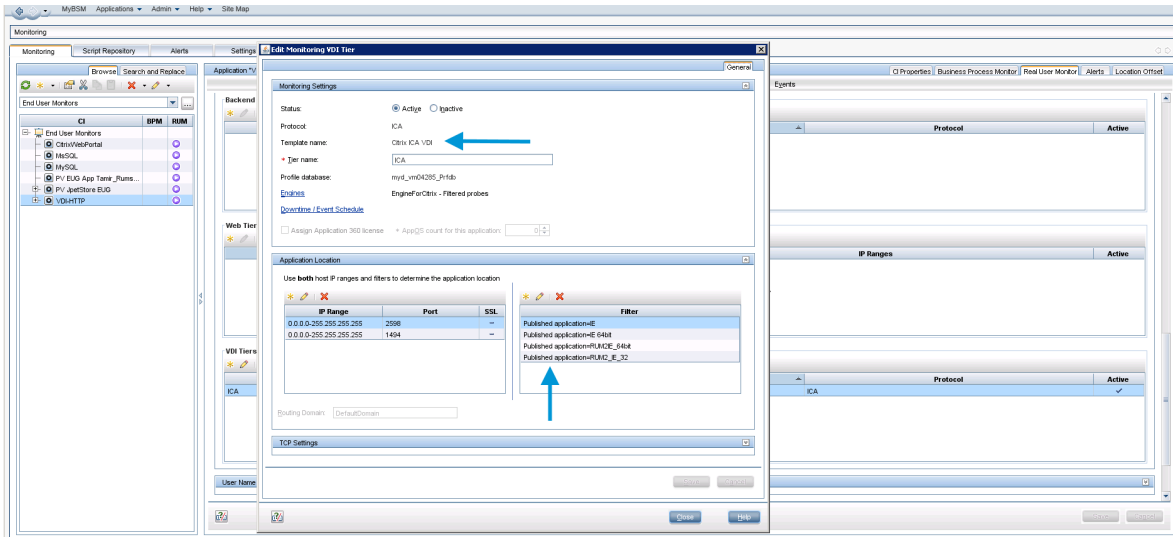
Important: Make sure that you configure the correct template for each application. The XenApp application (as a VDI tier) must use the Citrix ICA VDI template. The Portal (if it exists) must use the Citrix-HTTP template, and the web application (if it exists) should use the General Web Application template.

- **Web Application** (using the General Web Application template).



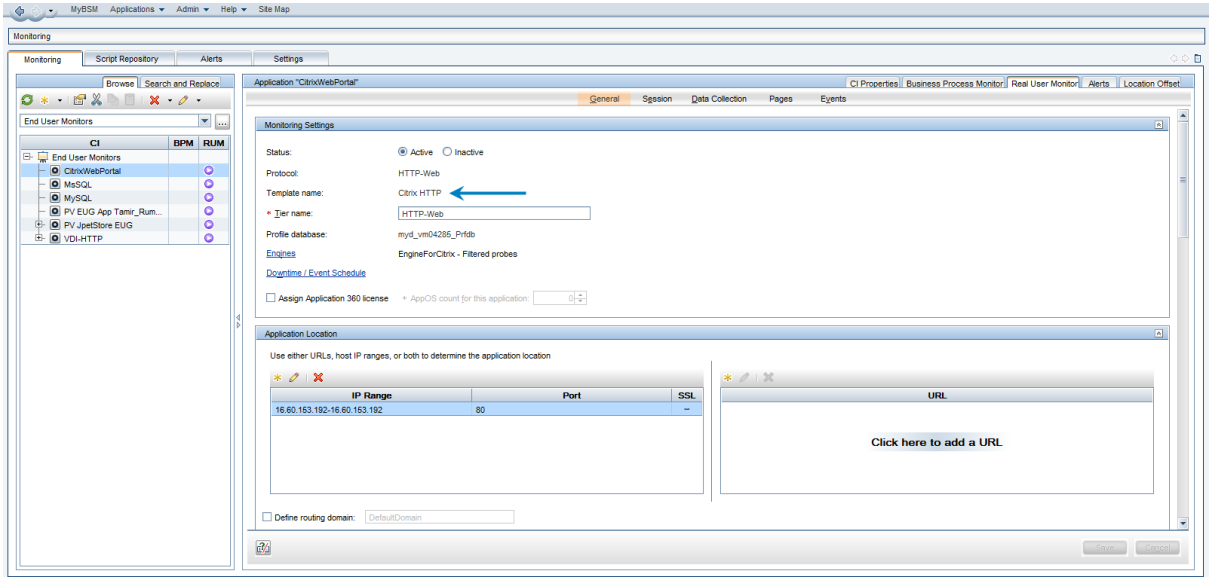
  - **XenApp Application configured as a VDI tier under the main General Web Application** (using the Citrix ICA VDI template).





Note: For VDI tiers, you must configure both the IP range and at least one filter property (Published Application) to match traffic for a specific application.

- **Login Application** (using the Citrix HTTP template).



Note the following:

- The web application should also include BPM transactions, if BPM is part of the customer portfolio.
- Make sure you have installed the RUM VDI Agent on the XenApp Server, so that all the data from the end user is attached to the web application. Without the RUM VDI Agent, the web application sees the XenApp server as the end user which made the last actual hit, but the real end user client IP is needed for correct monitoring.
- The RUM VDI Agent supports XenApp server 4.5 or later installed on Windows 2003 server 2003 or later, and it supports monitoring traffic for the following applications: Internet Explorer 6 and up.

Additional Configuration

To obtain the user name from the Citrix ICA application to the web application, you must add a user name detection definition with the following details: Search in **HTTP Header**. Header name is name is **RUM_USER_NAME**. Extract the full value.

The web application may require users to log in when opening the application in the Web browser. In such cases, you should decide whether you prefer configuring the user name for the web application as the Citrix user name, or as the web application's user name. In either case, you may consider configuring the other user name (Citrix or web application) as a Session Property.

If you also want to see the original Citrix end user (and not the XenApp server IP) as the client IP for the web application in the client IP field:

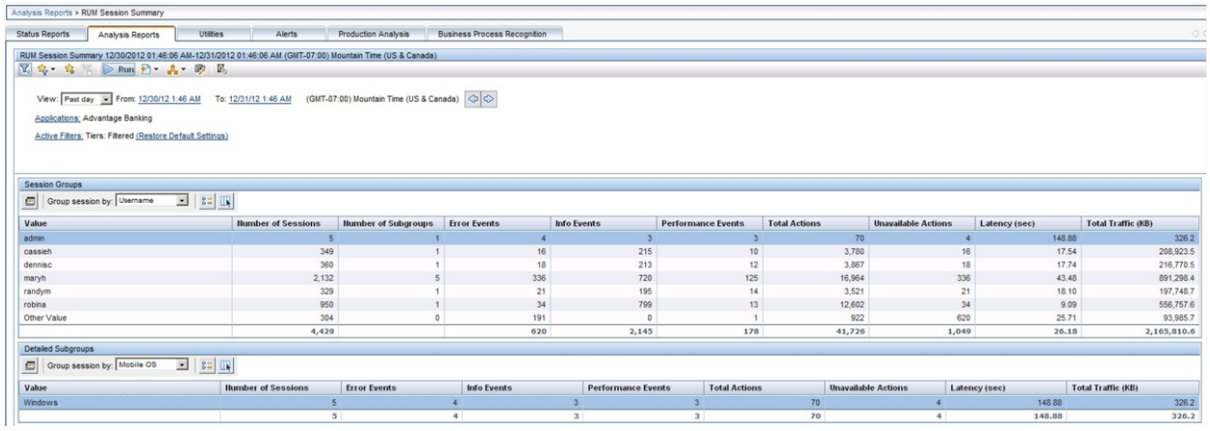
1. Edit the **<HPRUM>\conf\configurationmanager\Beatbox_Default_Const_Configuration.xml** file.
2. Add the following line at the end of the [Global] section: **forwarded_for_header RUM_CLIENT_ADDRESS IPV4*([^;]*).* $1**

Chapter 3: Citrix EUM Reports - Monitoring All Citrix Applications

The following are examples of out-of-the-box EUM reports useful for monitoring Citrix applications:

- **Application Summary**. In this report you can see the overall experience of the Citrix application for all of its tiers (Portal, XenApp and real application), and quickly assess which tier is the most problematic and needs further examination, as shown here:

- **RUM Session Summary**. In this report you can see the actual users, and find the most active users or those experiencing the most errors. You can drill down from this report to the Session Analyzer report to triage the problem. Here is an example of this report grouped by user names:



Chapter 4: RUM VDI Agent – Installation

The setup file for installing the RUM VDI Agent depends on your operating system. The following setup files are available:

- For 64bit systems:**HPERumVDIAgent_<version number>_setup.exe**

  The package contains a zip file with all the relevant files and can be downloaded from:

  https://softwaresupport.hpe.com/group/softwaresupport/search-result/-/facetsearch/document/LID/BACRUMP_00102

The RUM VDI Agent Setup file can be accessed from the RUM installation package.

To install the RUM VDI Agent:

1. Save the relevant setup file to the machine on which you want to install the RUM VDI Agent.
2. Run the setup program by double-clicking the downloaded file.
3. Follow the online instructions. During the installation, you are prompted to select the program location.

Note: The RUM VDI Agent delivers digitally signed DLL files.

Chapter 5: RUM VDI Agent – Advanced Configuration

You configure advanced settings by editing the **<All users Application Data path>\HP\RumVdiAgent\settings\RumHttpAgent.cfg** file on the Citrix XenApp server on which the RUM VDI Agent is installed.

(For example, this might be in C:\Documents and Settings\All Users\Application Data\HP\RumVdiAgent\settings\RumHttpAgent.cfg.)

- **To disable the RUM VDI Agent:**

  In the [common] section of the file, change the **disable** parameter value to **true**.

  The change takes effect for new IE browser instances.

- **To turn on logging:**

  In the [common] section of the file, change the **enableLog** parameter value to **true**.

  Log files are located in the **<COMMONAPPDATA>\HP\RumVdiAgent\logs** directory, where <COMMONAPPDATA> is the file system directory that contains application data for all users.

  This directory differs between operating systems. For example, in Windows 7 it is C:\ProgramData, and in Windows XP it is C:\Documents and Settings\All Users\Application Data.

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