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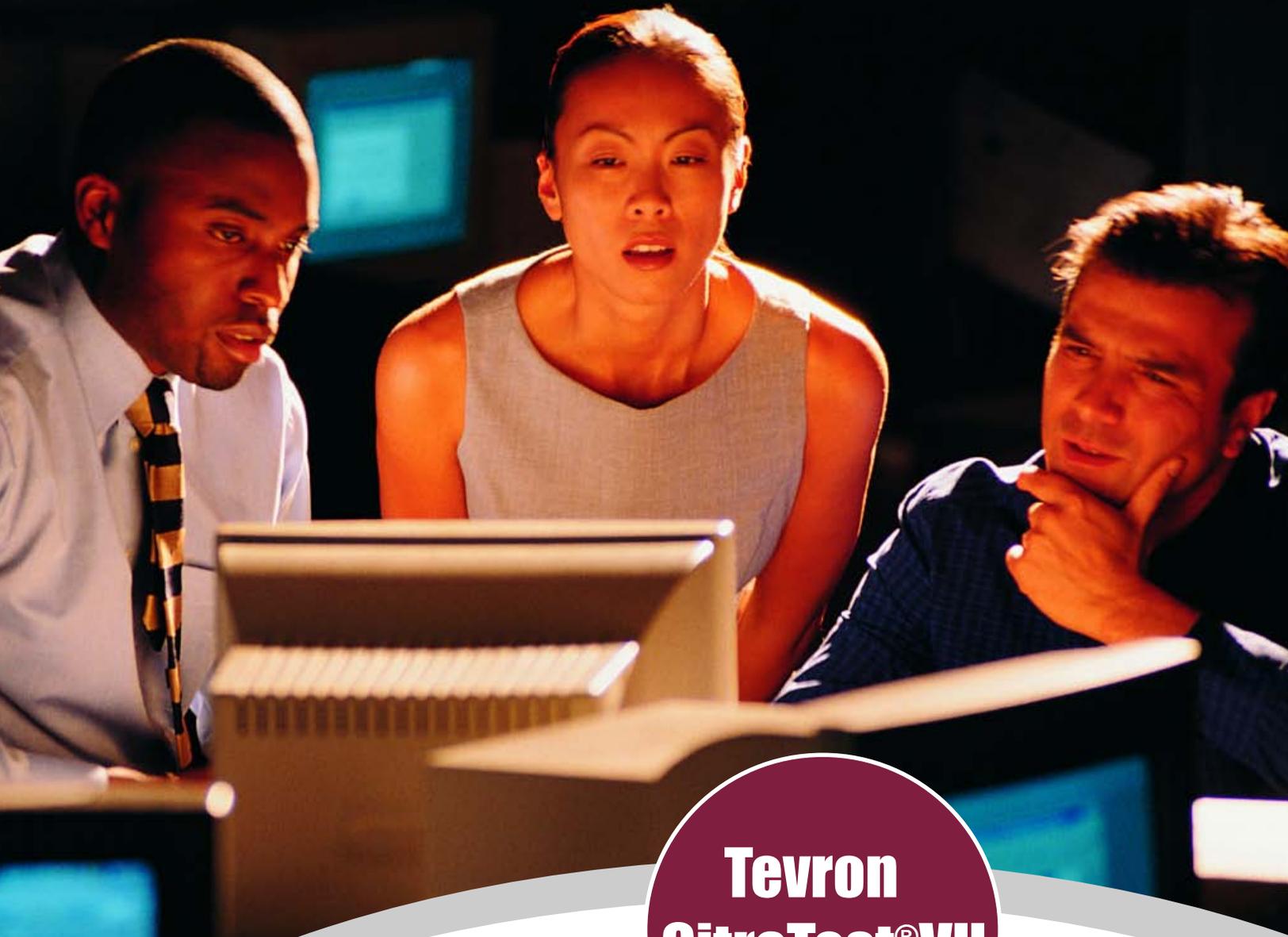
Tevron CitraTest® VU

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CitraTest VU, a single test automation solution for Citrix/Microsoft Terminal Services:

Load Testing and Application Performance Monitoring

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Load Testing for Citrix/Microsoft Terminal Services

Realistic and accurate load modeling in a server-based computing environment requires a unique approach compared to web/client-server load testing. With applications deployed via Citrix MetaFrame/Citrix NFuse/Microsoft Terminal Services, no underlying controls or objects are delivered to the client. Instead, a proprietary protocol delivers only an image of the application from the server out to the client GUI.

CITRATEST VU IS THE IDEAL LOAD MODELING SOLUTION for Citrix/Terminal Services

CitraTest VU, the ideal load modeling solution for applications deployed via Citrix MetaFrame/Citrix NFuse/Microsoft Terminal Services, can…

❖ Generate 100% realistic load modeling scenarios with varying number of "virtual users" by using automated scripts to replicate real user activity in the actual client GUI

❖ Measure End-to-End application response metrics from the real user perspective- the actual client GUI- under different levels of virtual user activity

❖ Observe and record server performance metrics

CitraTest VU's image recognition logic allows intelligent "synchronization" and persistence in your Load Test scripts. Other tools rely on time delays between each step and their scripts quickly fail as the environment is stressed and End-to-End response times increase.

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Key CitraTest VU Advantages

❖ **CitraTest VU uses intelligent image recognition.** Image recognition is automatically built into every CitraTest VU script. This allows the script to intelligently "synchronize" to the application-under-test during playback, allowing realistic and consistent virtual user activity. CitraTest VU uses dynamic image searching and does not require images to be displayed at the same location on the screen.

The first objective in accurate load modeling for Citrix/Terminal Services is generating realistic and consistent Virtual User activity. CitraTest VU's dynamic image recognition allows the scripts to play back repeatedly and successfully resulting in realistic and reliable load modeling scenarios. CitraTest VU scripts are "intelligent" and verify that each application response is complete before continuing to the next step, regardless of the response latency. Other tools rely on time delays between steps and the scripts quickly fail when response times increase and they get "out of sync" with the application-under-test.

CITRATEST VU runs on the client machine and is virtually non-invasive, adding no overhead to the client connection performance.

❖ **CitraTest VU accurately models real world user activity by using the actual client GUI.**

CitraTest VU scripts replicate any real world transaction using the actual client interface.

CitraTest VU measures the "real user experience" by gathering End-to-End response metrics directly from the actual client GUI.

A single CitraTet VU load-modeling scenario can measure End-to-End response metrics under different levels of virtual user activity.

❖ **CitraTest VU uses a simple, intuitive scripting language.** CitraTest VU scripts are created in Visual Basic. The scripting functions are easy to understand and translate into real user actions: ClickOnImage, WaitForImage, Keystroke, StartTimer, etc, and the CitraTest VU scripting interface automatically generates all of the script logic for you.

CitraTest VU's Visual Basic scripting environment is simple, intuitive, and standard. CitraTest VU scripting functions are easy to understand and translate to real user actions, such as Click, Verify, Type, StartTimer, StopTimer, etc.

CITRATEST VU is a value proposition: the same scripts can be used for both Load Testing and ongoing Application Performance Monitoring

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❖ **CitraTest VU supports any terminal server environment.** CitraTest VU scripts support Citrix MetaFrame, Citrix NFuse, Microsoft Terminal Services, as well as any client type: web, NFuse, ICA, Terminal Services, RDP, etc.

❖ **CitraTest VU tests your environment in the "as delivered, as deployed" state.** CitraTest VU requires that nothing be installed on the servers-under-test, preserving the "as delivered, as deployed" test environment and valid server performance metrics

❖ **CitraTest VU offers value by fulfilling multiple enterprise requirements.** After load testing is finished, CitraTest VU scripts can be used for ongoing Service Level Agreement (SLA) testing and Application Performance Monitoring (APM).

CITRATEST VU is a value proposition: the same scripts can be used for both Load Testing and ongoing Application Performance Monitoring

CitraTest VU F.A.Q.

❖ **What terminal server based environments does CitraTest VU support?**

All of them: Citrix MetaFrame, Citrix NFuse, Microsoft Terminal Services, etc. CitraTest VU scripts look at images on the screen, not underlying protocol, so all client types are supported: Citrix ICA, Citrix NFuse web client, Microsoft Terminal Services, RDP, etc.

❖ **What are the system requirements for the CitraTest VU Load Machine?**

A Windows Server 2003 machine or Windows 2000 Server. As a benchmark, a dual CPU machine with 2GB memory will generate 75 CitraTest VU scripts.

❖ **How many CitraTest VU Load Machines will I need?**

Typically 1-3 CitraTest VU Load Machines are used, depending on what size subset of your server farm you want to benchmark. For example, if you use 2 CitraTest VU Load Machines to test 3 servers-under-test, and client side End-to-End response times become unacceptable when approaching 150 virtual users, your servers will support approximately 50 concurrent users each.

You can plan the number of servers you need based on the results of a CitraTest VU Load Modeling Scenario.

❖ **Is CitraTest VU image searching logic position dependent"?**

No, it is dynamic and user configurable. As a global setting, CitraTest VU scripts limit screen searching to a buffer area around each image's original location, which reduces resource consumption on the Load Machine and increases the number of VU scripts you can run. You can globally increase the buffer area, or within individual script functions you can choose to "search" the entire screen for the image. This would be the case when some aspects of your application, such as desktop icons, are not always displayed at the same location each time the VU script plays back.

❖ **Where do I see the Measurement Machine response time results?**

The CitraTest Measurement script records the timer results over the duration of the load test scenario. Response time results are stored in a results database, which is installed with CitraTest in Access, Oracle, MS SQL, and MySQL formats. Predefined Crystal Reports are also installed with CitraTest. These allow you to view Summary and Detail results of all the response timers from the Measurement Machine.

❖ **Can I observe server-under-test metrics while the VU Load Model Scenario plays back?**

Yes. The Tevron Controller displays real-time processor and memory metrics from the server-under-test. Also, the Measurement Machine CitraTest scripts can benchmark server-under-test metrics during playback, from within the script logic.

❖ **How is CitraTest VU licensed?**

The base licensing model includes:

- *CitraTest script development license*
- *CitraTest VU license for X number of VU scripts*
- *Tevron Controller license*

❖ **What is the CitraTest Measurement Machine?**

This machine is a stand-alone workstation, separate from the Load Machine. CitraTest scripts run on this machine and gather accurate (tenth of a second) End-to-End response metrics from the real user perspective while the Load Machine generates stress on the server(s)-under-test.

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About Tevron

Tevron® is a global leader in APM and Automated Testing.

Through our all encompassing customer-centric vision and advanced technology, our APM & Testing Solutions allow the unique flexibility of supporting every application across the enterprise with one methodology delivering the ability to test, monitor, enforce SLA's, and optimize performance with confidence and ease. Founded in 2001, **Tevron®** is a global organization and is privately held.

Our vast and diverse range of customers are global leaders and include companies such as A.G. Edwards, Bank of America, Citigroup, DaimlerChrysler, Hewlett Packard, Siemens, Lucent Technologies, T-Mobile, and numerous others.