



Since 2011

Case Study: Azure Virtual Desktop (AVD) Load testing

Client **Focused**. Results **Driven**.

The **Client**



Education

The **Project**

EBS Citrix to Azure Virtual Desktop (AVD) Migration

The Project Background

The purpose of the project is to migrate Citrix-based applications to Azure Virtual Desktop-based technology. The project involves complete architecture, and it requires extensive Performance Engineering and testing support to successfully deploy the application.

The Key Challenges

The complexity began with scripting itself. We utilized the LoadRunner tool and explored various protocols such as PCoIP, RDP, and TruClient. However, we discovered that no direct protocol supports the AVD platform. A key challenge was that AVD renders applications as images, which made it impossible to identify and interact with application objects, thereby preventing the use of protocols like HTTP/HTML, RDP, and PCoIP. During the Proof of Concept (PoC) phase, Micro Focus was involved and also acknowledged this issue. They recognized the gap and took it as a requirement to develop a new protocol to address the challenges associated with AVD.

We explored multiple protocol combinations, such as Web+RDP and Web+PCoIP, but none of these combinations were successful. This was because AVD does not expose application objects; instead, it renders the application solely as an image. This limitation prevented us from interacting with or identifying application objects, rendering these protocol combinations ineffective.

Tritusa Approach

After extensive testing with RDP and a thorough Proof of Concept (PoC), Tritusa proposed a two-step approach to address the challenges and measure both host allocation and application performance.

A thorough investigation of the AVD and application layers revealed that the implementation of AVD does not necessitate any code changes in the application layer. This finding was critical as it confirmed that the application could operate within the AVD environment without modifications, ensuring that the focus could remain on optimizing performance and addressing other migration challenges rather than modifying application code.

Performance Measurement with RDP and TruClient

AVD Host Allocation Performance

To evaluate AVD's host allocation performance, we used the TruClient protocol. This allowed us to simulate user interactions and capture metrics related to how hosts are allocated under various load conditions, providing insights into the efficiency and reliability of AVD's host assignment mechanism.

Application Performance

For assessing application performance, we connected to the assigned hosts using the RDP protocol. This enabled us to measure the application's responsiveness, load times, and user experience, despite the image-based rendering limitations of AVD.

Business Value

The migration to the AVD platform was successfully completed on time, allowing customers to decommission their Citrix environment and achieve significant cost savings. Based on the performance insights gathered during testing, we recommended optimal cloud scaling configurations and appropriate host numbers. This guidance led to a cost-effective utilization of resources while ensuring efficient performance. Additionally, the migration was executed with minimal disruption, ensuring business continuity throughout the transition to the new platform.

Tools Used

- OpenText LoadRunner
- OpenText ALM

Achieved Outcome

Successful deployment of the AVD platform





Contact Us

Sydney

Level 35, Tower One, 100
Barangaroo Avenue,
Sydney NSW 2000.



(P) +61 2 7233 1533

(M) +61 413 170 171

Melbourne

Level 40,
140 William Street,
Melbourne VIC 3000



contactus@tritusa.com.au

Canberra

Level 1, The Realm,
18 National Circuit,
Barton ACT 2600



www.tritusa.com.au

Brisbane

Level 19,
10 Eagle Street,
Brisbane QLD 4000

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