CA LISA® Service Virtualization for Networks

At a Glance

With the rise in mobile application development and cloud-enabled services, application performance is increasingly becoming a competitive advantage and measure of business success. Ensuring end user experience is challenging; modern applications require modern approaches to testing and validating performance. Today’s developers and testers must consider the impact of network conditions on application performance, particularly as users become more distributed and applications increasingly rely on third-party managed services.

Network conditions such as latency, bandwidth, packet loss and jitter are critical factors that affect user experience, especially when considering the multiple network connections required to support today’s composite applications. These production network conditions, however, are often unavailable in software testing labs, resulting in the inability to test critical application performance.

CA LISA® Service Virtualization for Networks captures and recreates the production network conditions affecting the communication channels that exist between the application, its dependencies and services, and the end user. The CA LISA Service Virtualization for Networks solution enables the test environment to more accurately reflect actual production conditions, making the results more predictive of real-world application behavior.

Key Benefits / Results

- Reduced post-deployment issues. Incorporating production network conditions into testing helps identify poorly performing transactions from a network or location perspective and enables proactive remediation before deployment.
- Accelerated development and test cycles. As demonstrated in a customer environment, performance test results with network virtualization enabled are more accurate, improving test reliability and the ability to quickly validate service levels.
- Improved transaction response times. Network-related performance incidents can be identified and resolved before end users are impacted.

Business Challenges

With the global uptake of mobile devices and the rise of cloud hosting, the effect of the network on user experience is more pronounced than ever before. Dynamic network conditions impact the communication channels between applications, the services and dependencies upon which they rely, and end users, who often have to contend with last-mile network constraints. This makes development and testing complex, as testing without emulated network conditions leads to inaccurate results. Key challenges include:

- Poor performance. Downstream systems and mockups may not provide the functional behavior or performance response needed, network connections in the test lab do not reflect production network conditions, and end-user performance suffers.
- Unavailable or inaccessible networks. The global mobile network and third-party cloud networks are not accessible or manageable by the enterprise, rendering traditional performance enhancement solutions like WAN acceleration ineffective and impractical.
- Network models are imprecise. Mathematical models that simulate the effect of network constraints on application performance are unable to accurately recreate the dynamic (constantly changing) nature of the mobile network and often take weeks or longer to produce, by which time network conditions have likely changed.

Solution Overview

CA LISA Service Virtualization for Networks helps reduce IT costs and increase profits by allowing users to optimize application performance over mobile, cloud and WAN before deployment. The solution enables testers to capture and incorporate production network conditions into their testing, so communication channels between the tested application, virtualized users and virtualized services more accurately reflect the network characteristics that will be experienced once the application is deployed.

As applications become increasingly more distributed, the infrastructure supporting them necessarily becomes more complex and more reliant on distributed services. Application performance directly impacts business including direct revenue, company productivity and brand experience. While network conditions are a critical part of this performance, too often the network layer is not considered in the testing process. Development and testing teams equipped with CA LISA Service Virtualization for Networks can overcome the challenges of accounting for the dynamic network conditions that exist within application infrastructure, identify potential points of failure and remediate those issues before deployment.

Incorporating network virtualization into their enterprise testing strategy can help customers dramatically reduce production issues, increase transaction response times and achieve substantial savings in avoided remediation costs.
Critical Differentiators
Test, validate and optimize application performance before deployment with CA LISA Service Virtualization for Networks:

- **Service virtualization for networks,** which discovers and emulates production network conditions within the test lab, so connections in the test more reliably reflect the real world.

- **Accurate testing, validating and optimizing of application performance** before deployment, ensuring post-deployment service levels.

- **Network and location-aware performance testing,** providing critical insight into application behavior for specific distributed user populations.

- **Automated optimization recommendations,** demonstrated in some cases to improve mobile application performance by 40 percent or more.

- “**Shifting left,**” or moving many parts of the software development process in parallel and sooner in the lifecycle without traditional constraints, such as lab availability, test scenarios and data, or access to dynamic mobile or cloud networks.

CA LISA Service Virtualization for Networks delivers a powerful solution for accelerating application delivery, improving transaction response times and reducing costly in-production performance issues.

Related Products/Solutions
The CA LISA suite of products helps organizations deliver applications faster to market, with superior quality and reduced costs.

**CA LISA Service Virtualization.** Helps customers move application development tasks earlier in the SDLC.

**CA LISA® Data Mining solutions.** Leverages the intelligence harvested from application development, testing and production.

For more information, please visit ca.com/LISA

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