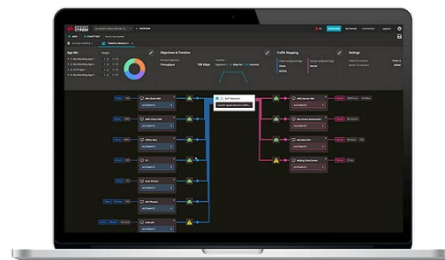


SmartNIC Efficacy and CyPerf

Quantifying SmartNIC's Offload Advantages Through Testing



The SmartNIC market anticipates substantial growth propelled by technologies including cloud computing, security, hyperconverged data centers, and AI/ML. Customers considering adopting SmartNICs must gain a comprehensive understanding of the effectiveness and benefits offered by SmartNIC offloads compared to regular NICs. Keysight's CyPerf, the world's first agent-based test solution to recreate realistic, scalable traffic and workloads helps to accurately quantify the efficacy of SmartNIC offloads. Deploy CyPerf's lightweight agents in various physical, virtual cloud, or container SmartNIC operated environments.

Offload application and security features to SmartNIC

- **Transmission Control Protocol (TCP):** SmartNIC acts as the terminator or initiator of TCP connections and can also offload other features like NAT, TCP Proxy etc.
- **IPsec:** Offloading IPsec tunneling to SmartNIC is a cost-effective way of protecting data in transit while significantly saving host CPUs.
- **Transport Layer Security (TLS):** SmartNIC comprehensively reduces server CPU use by offloading encryption/decryption of TLS connections.
- **Security VNF Offloading:** Offloading application identification and decision making to SmartNIC cleanses application traffic before it reaches the servers, which increases server efficacy.

CyPerf benefits for SmartNIC environments

- **Deployment:** Deploy CyPerf's light weight agents can get in various SmartNIC operated environments.
- **Testing TCP/UDP:** CyPerf can generate high scale TCP/UDP throughput, connections, and concurrency to measure SmartNIC's TCP/UDP offload efficacy.
- **Validating IPsec/VPN Scale:** CyPerf generates site-to-site or remote-access, high scale IPsec tunnel and traffic through the SmartNIC.
- **Ensuring Encryption Efficacy:** CyPerf TLS traffic emulation quantifies SmartNIC TLS proxy performance.
- **Enabling Application Mix(s) exploits and malware:** CyPerf's application and attack generation enables testing sophisticated higher layer offloads.

Keysight enables innovators to push the boundaries of engineering by quickly solving design, emulation, and test challenges to create the best product experiences. Start your innovation journey at www.keysight.com.



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