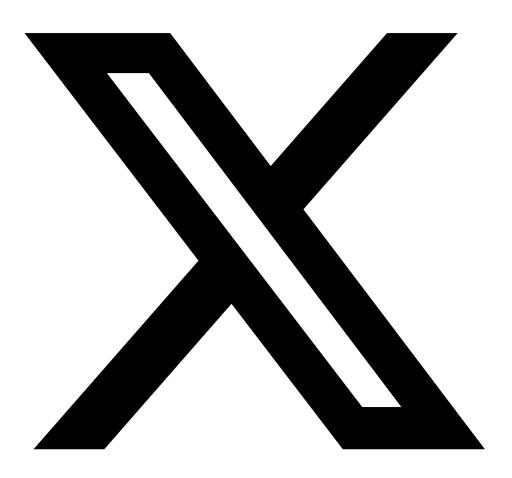
AI-Powered Network Packet Analysis for Enhanced Insights

Posted on September 7, 2025 by meetkaneriya011@gmail.com $\boxed{\mathbf{x}}$

Case Study



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AI-Powered Network Packet Analysis for Enhanced Insights

Client

A telecom provider managing VoIP and 5G core traffic sought to modernize packet analysis across their operations and engineering teams.



Challenges

Conventional network analysis tools face significant limitations in handling the volume and complexity of modern network packet capture (PCAP) files.



Lack of Native

AI Capabilities: Traditional tools lack built-in AI for direct analysis of PCAP files, relying on manual inspection or rule-based systems. This makes identifying subtle patterns or anomalies time-consuming and prone to error.



Complexity and Decoding: Raw packet data is complex and requires extensive decoding prior to analysis. This adds time and complexity, hindering real-time insights or rapid incident response.



Difficulty in

Deriving Actionable Insights: Merely viewing packet data is insufficient; the real value lies in actionable insights like identifying threats or diagnosing performance issues. Traditional methods struggle to automatically glean these insights, demanding significant manual effort and domain expertise, leading to delayed responses.



Scalability and

Time Consumption: With increasing network traffic, PCAP files become enormous, and conventional methods often struggle to scale efficiently. Manually sifting through vast amounts of data is inefficient, increasing Mean Time To Respond (MTTR).

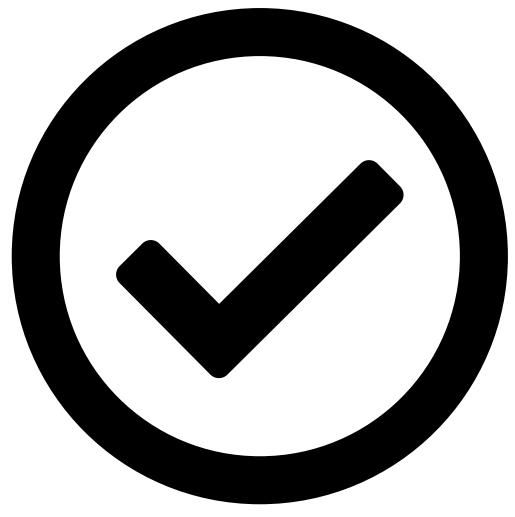


Limited

Querying Capabilities: Existing tools offer rigid filtering, restricting nuanced, context-aware investigations. Complex queries like "Show all SIP 401 Unauthorized responses with nonce values" are difficult to perform.

Our Solution:

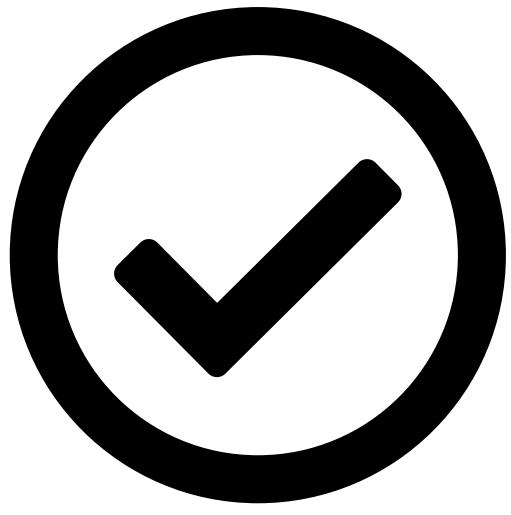
TechTez addressed these pain points by developing an advanced, AI-powered packet analysis platform, placing automated intelligence and flexible query power directly into usKey Features:



Intelligent Packet Decoding: Fully automated decoding transforms raw packet data into clean, structured records—removing manual complexity and speeding up analysis.



Natural Language AI Query Engine: Users simply ask questions in plain English ("Which packets contain Call-ID 12345?" "Show me all RTP streams with payload type 96"), and the platform delivers actionable results instantly.



Actionable Insights via LLMs: Leveraging leading Large Language Models (ChatGPT, Ollama, Mistral, Gemini), the system identifies patterns, detects anomalies, and generates insights beyond traditional tool capabilities.



Comprehensive Protocol Support: Deep analysis across all major protocols (SIP, RTP, DIAMETER, HTTP, GTP, TCP, UDP, IPv4/6, TLS/SSL, SCTP, NGAP, PFCP, and more).



Scalable & User-Friendly: Optimized for performance with large datasets, the interface empowers both experts and non-specialists—democratizing access to critical network intelligence.



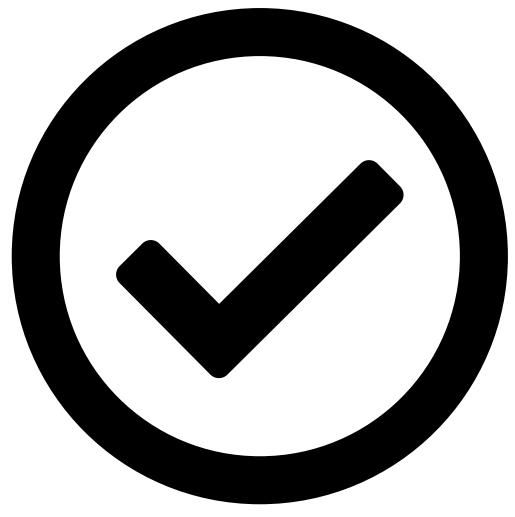
Results & Impact



Faster, More Accurate Diagnostics: Automated decoding and AI insights cut incident response time and reduced manual effort, freeing teams to focus on high-value tasks.



Actionable Intelligence: Proactive threat detection, performance monitoring, and troubleshooting—made possible in seconds, not hours.



Empowered Teams: Anyone can perform complex packet analysis via natural language, eliminating the steep learning curve for new users.



Scale Without Limits: The platform processes the largest PCAPs effortlessly, ensuring continuous effectiveness as network traffic grows.



Deeper, Granular Insights: Rich protocol and field support enable precise, context-aware investigations, unlocking a complete view of network events.

Outcomes

Reduction in incident response time 70%

Lower operational costs 30%

Less unplanned downtime 45%

jump in customer satisfaction

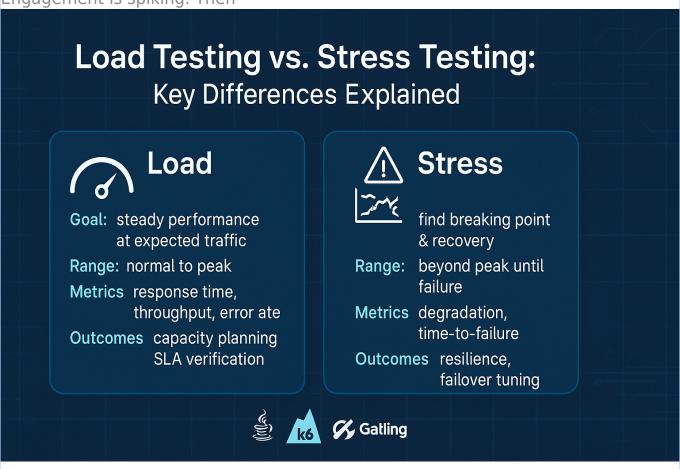
25% improvement in bandwidth utilization Up to 15%

Our Thought Leadership Guides

• Case Study

Load Testing vs. Stress Testing: Key Differences Explained

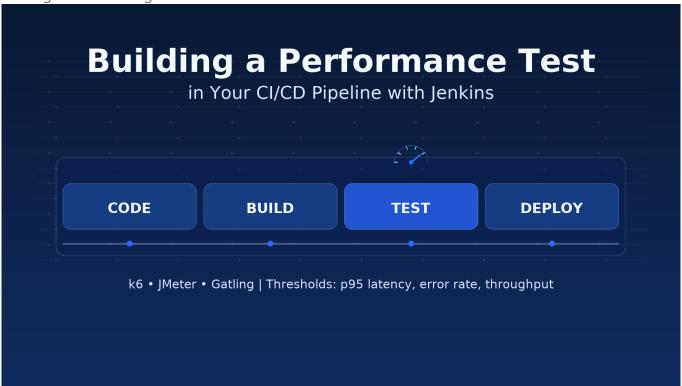
It's launch day. Thousands of users flood your app. Cart values are up. Engagement is spiking. Then



Case Study

Building a Performance Test in Your CI/CD Pipeline with <u>**Jenkins**</u>

In the world of rapid software delivery, releasing fast is no longer enough—releasing fast...



• Case Study

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A mid-sized SaaS company specializing in HR and payroll management faced a growing barrier:

