

Forensic Analysis Report

Neuro-Symbolic Crisis Generator • Comprehensive Evaluation

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Test Configuration

Model: GPT-4o

Temperature: 0.7

Mode: Thesis (Full Validation) vs. Legacy (Skip Validation)

Max Iterations: 20 per Scenario

Execution: Parallel (2 Scenarios simultaneously)

Executive Summary

Note: This report uses **Deep Forensic Analysis** data from refinement loops. The numbers below reflect actual errors caught during validation, not surface-level batch comparison.

18

UNIQUE INJECTS ANALYZED

16

ERRORS PREVENTED (FORENSIC)

2

TOTAL SCENARIOS

20.0%

REJECTION RATE

Statistical Significance Analysis

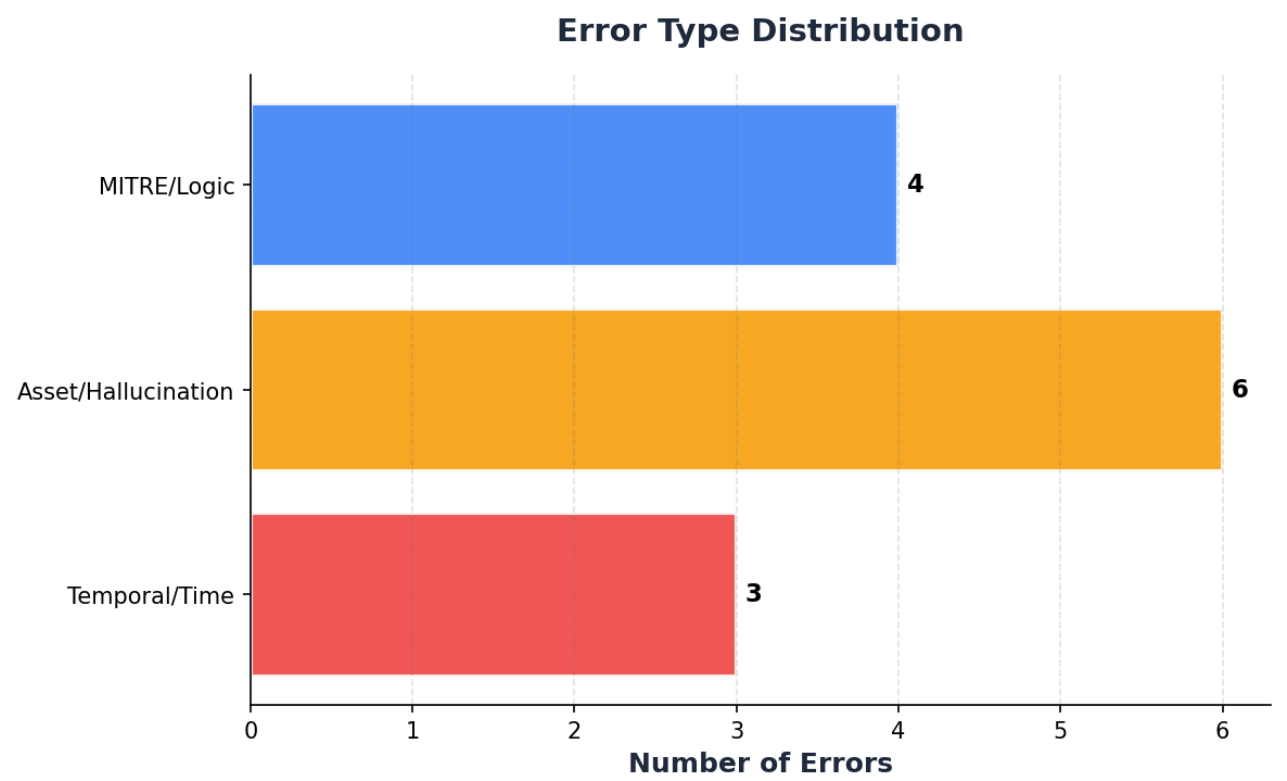
Hypothesis Testing

H0: $\mu_{\text{legacy}} = \mu_{\text{thesis}}$ (No difference)

H1: $\mu_{\text{legacy}} > \mu_{\text{thesis}}$ (Thesis reduces hallucinations)

Metric	Value	Interpretation
Mean Difference	0.000	Legacy - Thesis hallucinations
T-Statistic	nan	Test statistic
P-Value	NAN	Significance level
Cohen's d	0.000	Effect size: Negligible
95% CI	[0.000, 0.000]	Confidence interval
Sample Size	2	Number of scenarios

Qualitative Error Pattern Analysis



CATEGORY	COUNT	THESIS INTERPRETATION
Asset/ Hallucination	6	LLM invents non-existent assets. System enforces reality.
MITRE/Logic	4	LLM violates cybersecurity rules. System enforces domain knowledge.
Temporal/Time	3	LLM creates temporal paradoxes. System enforces causality.

Exemplary Interventions

Hall of Fame: Concrete examples of errors caught by the Critic Agent

Asset/Hallucination:

"Asset 'SRV-CORE-002' wird als betroffenes Asset angegeben, obwohl der Inhalt des Injects nur 'SRV-CORE-004' erwähnt. Dies ist inkonsistent mit der Beschreibung des Vorfalls."

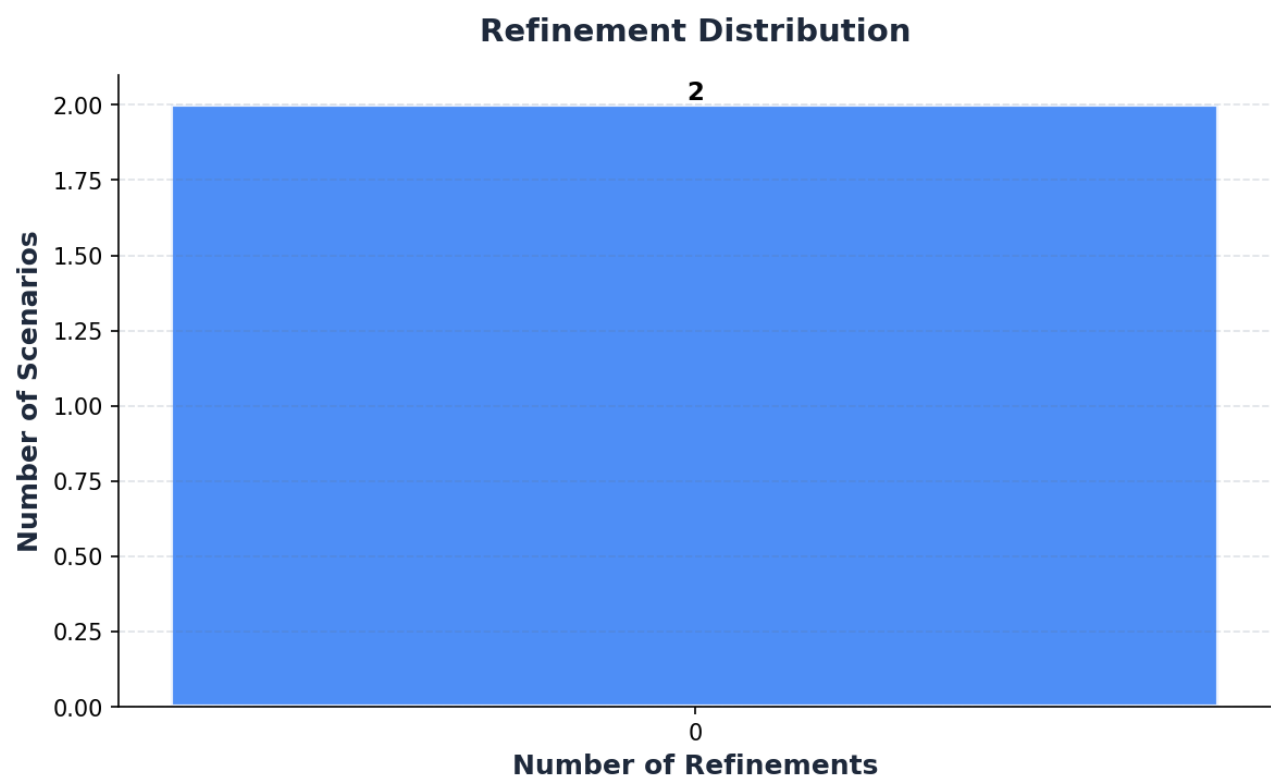
MITRE/Logic:

"MITRE-Technik Fehler: T1595 (Active Scanning) passt nicht zur Phase NORMAL_OPERATION. Scanning-Aktivitäten sollten in SUSPICIOUS_ACTIVITY oder INITIAL_INCIDENT vorkommen."

Temporal/Time:

"Temporale Inkonsistenz: Inject INJ-015 hat Zeitstempel T+00:00:30, aber vorheriger Inject INJ-003 hat T+00:01:30 (später). Zeitstempel müssen chronologisch sein."

Refinement Efficiency Analysis



0.00

AVG REFINES PER SCENARIO

0

MAX REFINES NEEDED

100.0%

FIRST ATTEMPT SUCCESS RATE

Cost-Benefit Analysis

54

AVG LEGACY API CALLS

54

AVG THESIS API CALLS

0.0%

OVERHEAD

0

TOTAL PREVENTED

Forensic Analysis Details

45

TOTAL EVENTS

18

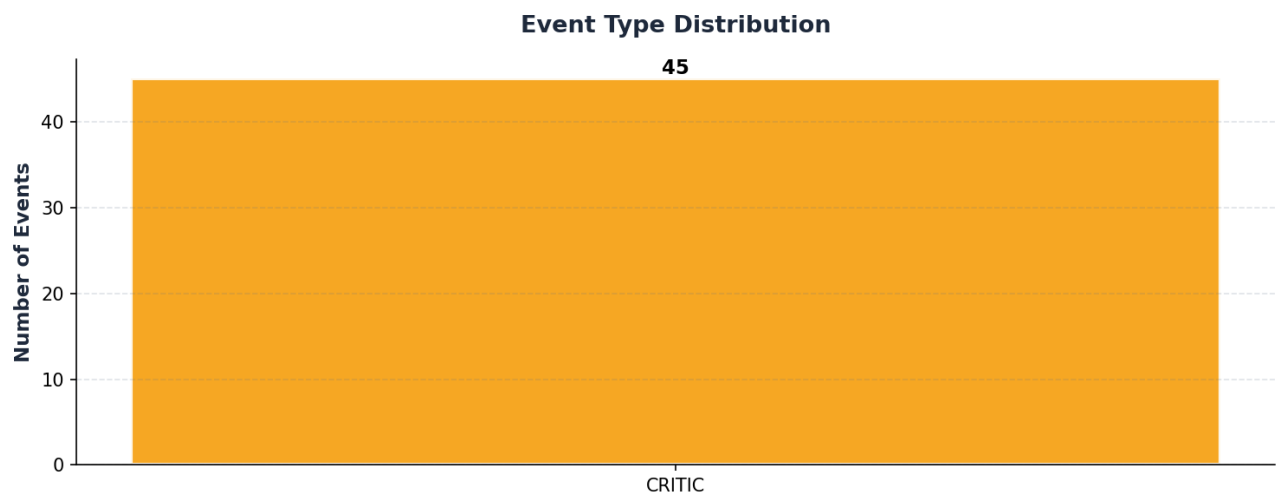
UNIQUE INJECTS

20.0%

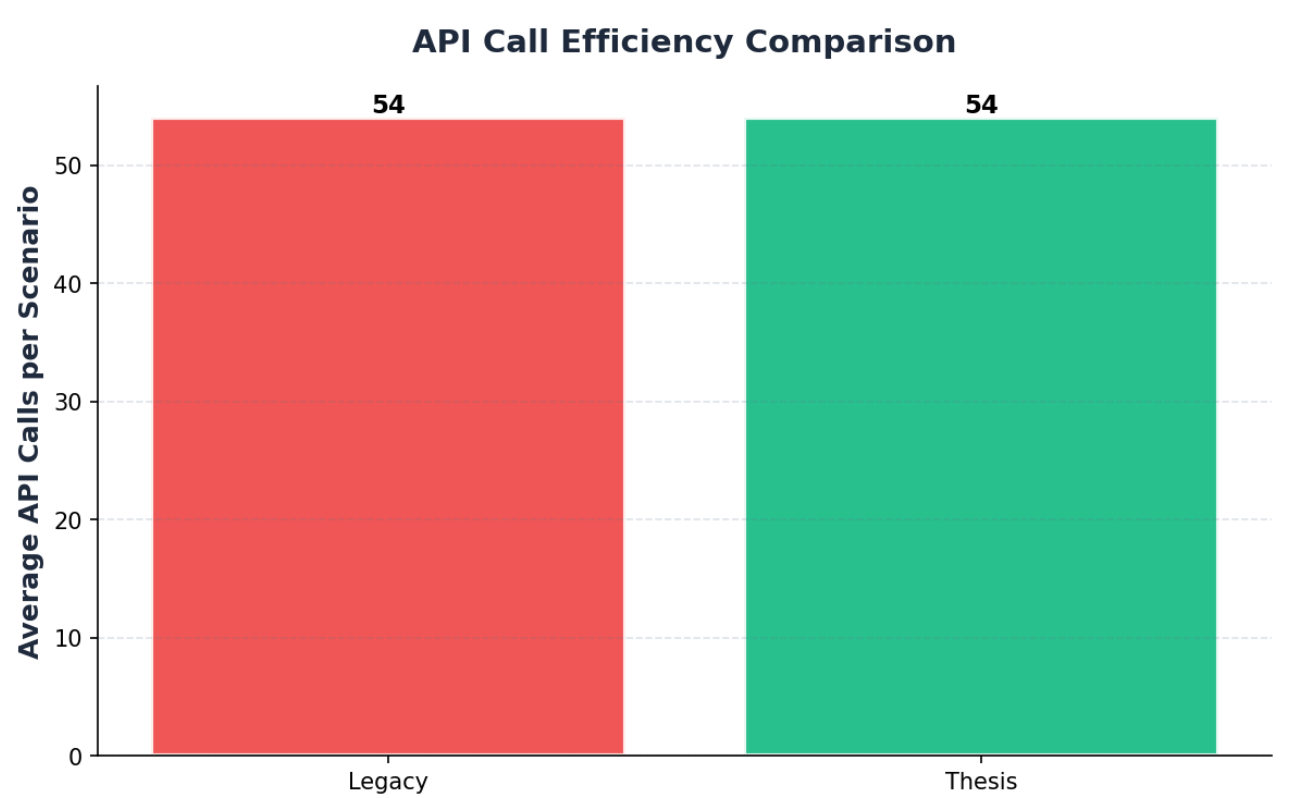
REJECTION RATE

0.50

AVG REFINES PER INJECT



API Call Efficiency



Detailed Results by Scenario

Scenario ID	Legacy Hallucinations	Thesis Hallucinations	Hallucinations Prevented	Thesis Refines
SCEN-000	0	0	0	0
SCEN-001	0	0	0	0