Forensic Analysis Report

Neuro-Symbolic Crisis Generator • Comprehensive Evaluation

Generated: 2025-12-20 10:33:53

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

63

ERRORS PREVENTED (FORENSIC)

6

TOTAL SCENARIOS

21.2%

REJECTION RATE

Statistical Significance Analysis

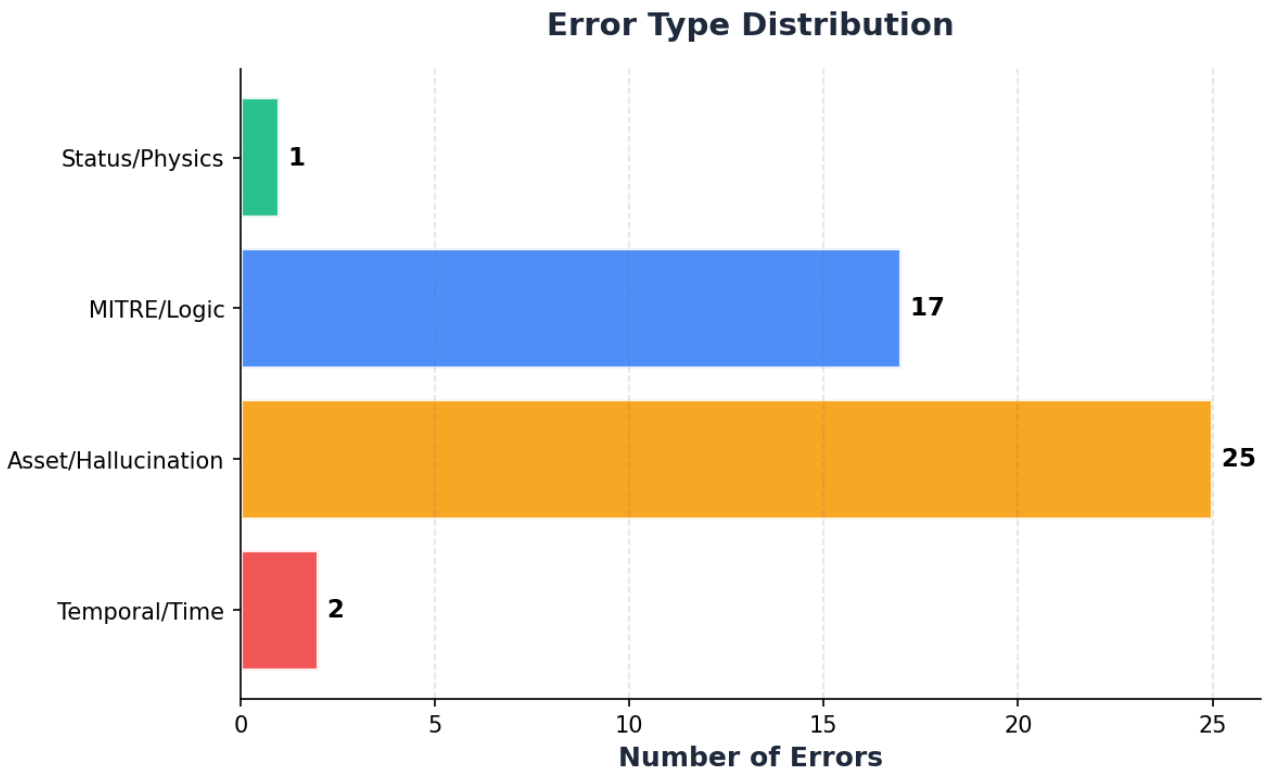
Hypothesis Testing

H0: μ_legacy = μ_thesis (No difference)

H1: μ_legacy > μ_thesis (Thesis reduces hallucinations)

METRIC	VALUE	INTERPRETATION
Mean Difference	0.167	Legacy - Thesis hallucinations
T-Statistic	1.000	Test statistic
P-Value	0.3632	Significance level
Cohen's d	0.408	Effect size: Small
95% CI	[-0.262, 0.595]	Confidence interval
Sample Size	6	Number of scenarios

Qualitative Error Pattern Analysis



CATEGORY	COUNT	THESIS INTERPRETATION
Asset/ Hallucination	25	LLM invents non-existent assets. System enforces reality.
MITRE/Logic	17	LLM violates cybersecurity rules. System enforces domain knowledge.
Temporal/Time	2	LLM creates temporal paradoxes. System enforces causality.
Status/Physics	1	LLM violates state consistency. System enforces physics.

Exemplary Interventions

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

Asset/Hallucination:

"Asset 'SRV-CORE-003' ist im Systemzustand als 'suspicious' aufgeführt, aber es wird behauptet, dass Daten von diesem Asset exfiltriert wurden, was einen kompromittierten Zustand voraussetzt."

MITRE/Logic:

"MITRE ID T1546.014 (Event Triggered Execution) passt nicht zur beschriebenen Aktivität der Verschlüsselung und der Lösegeldforderung. Diese Technik ist nicht direkt mit der Verschlüsselung von Dateien..."

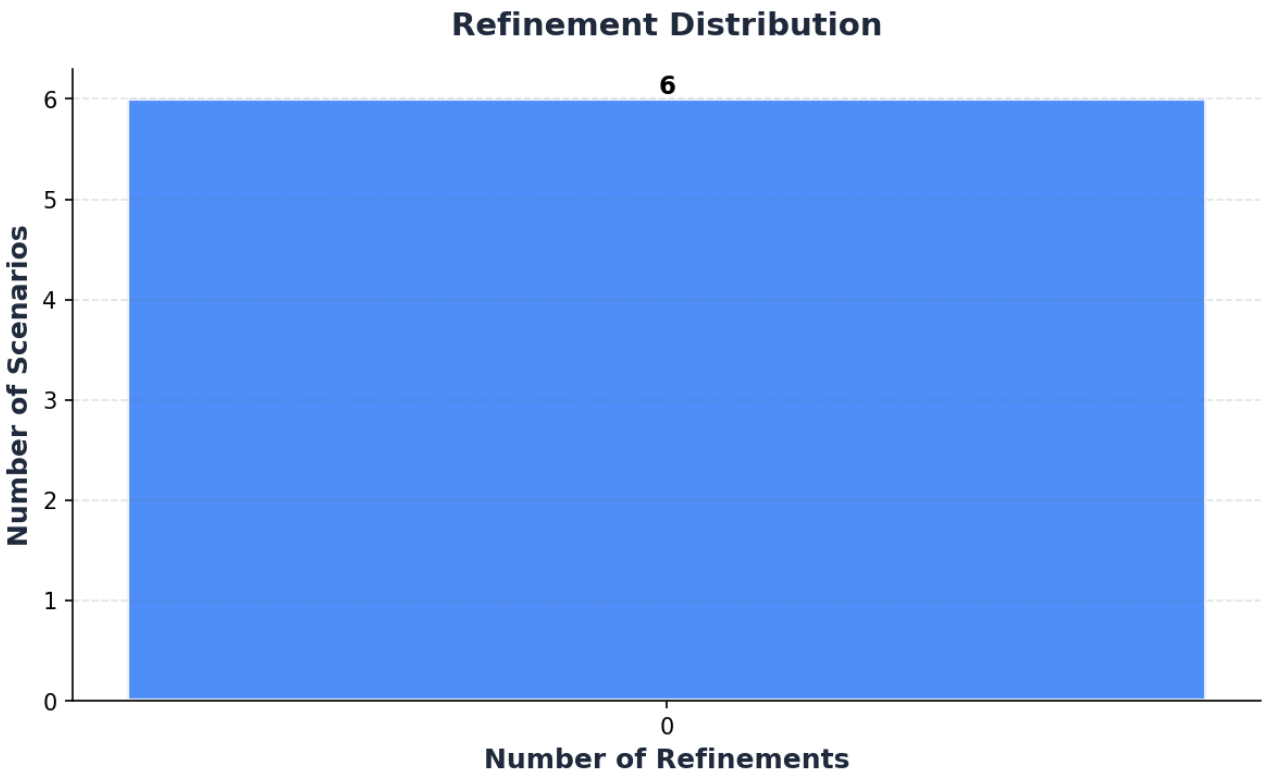
Temporal/Time:

"Temporale Inkonsistenz: Inject INJ-010 hat Zeitstempel T+00:00:05, aber vorheriger Inject INJ-003 hat T+00:03:00 (später). Zeitstempel müssen chronologisch sein."

Status/Physics:

"Der Zustand von 'SRV-CORE-001' wird als 'compromised' angegeben, aber der Inject beschreibt einen Ausfall, was eine Diskrepanz darstellt."

Refinement Efficiency Analysis



0.00

AVG REFINES PER SCENARIO

0

MAX REFINES NEEDED

100.0%

FIRST ATTEMPT SUCCESS RATE

Cost-Benefit Analysis

53

AVG LEGACY API CALLS

54

AVG THESIS API CALLS

0.9%

OVERHEAD

1

TOTAL PREVENTED

Forensic Analysis Details

146

TOTAL EVENTS

18

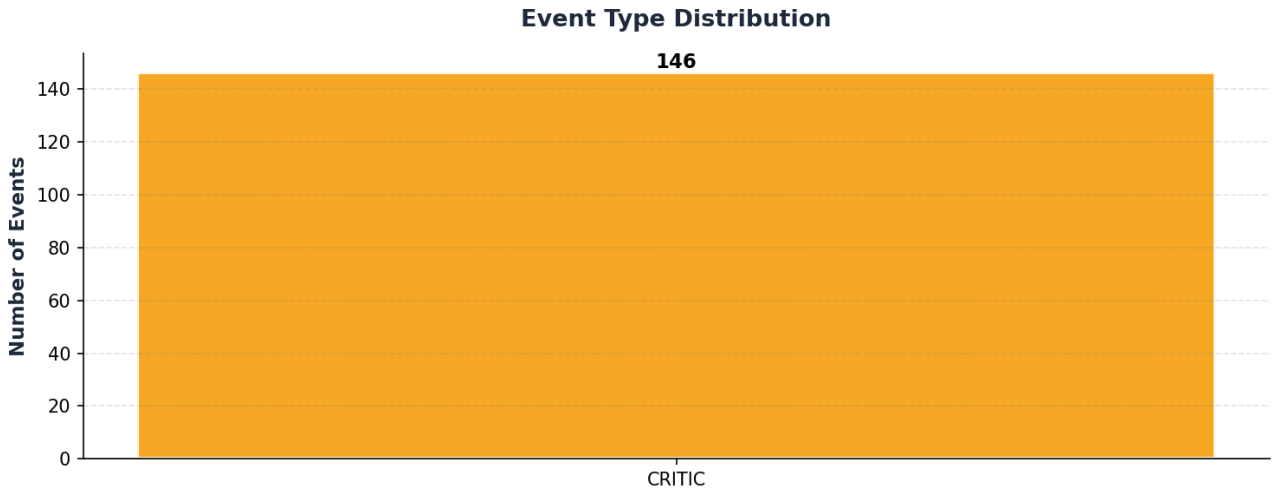
UNIQUE INJECTS

21.2%

REJECTION RATE

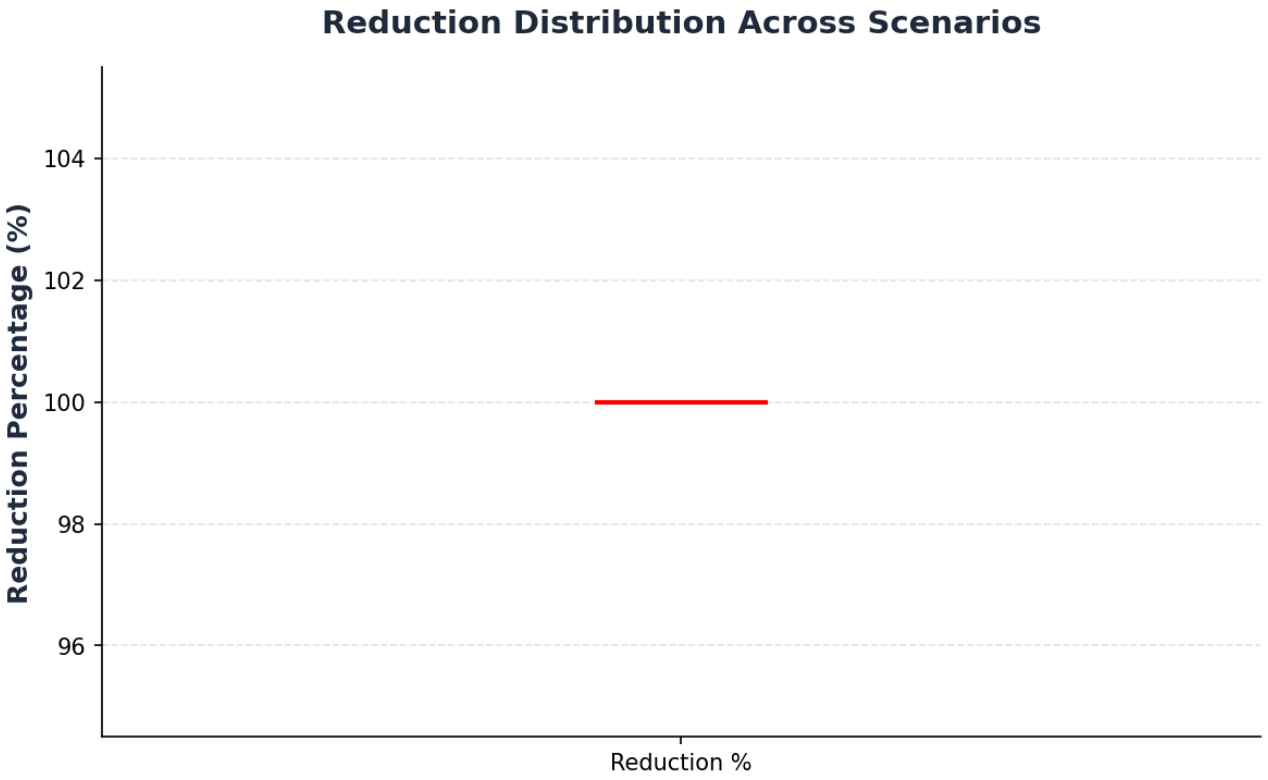
1.00

AVG REFINES PER INJECT



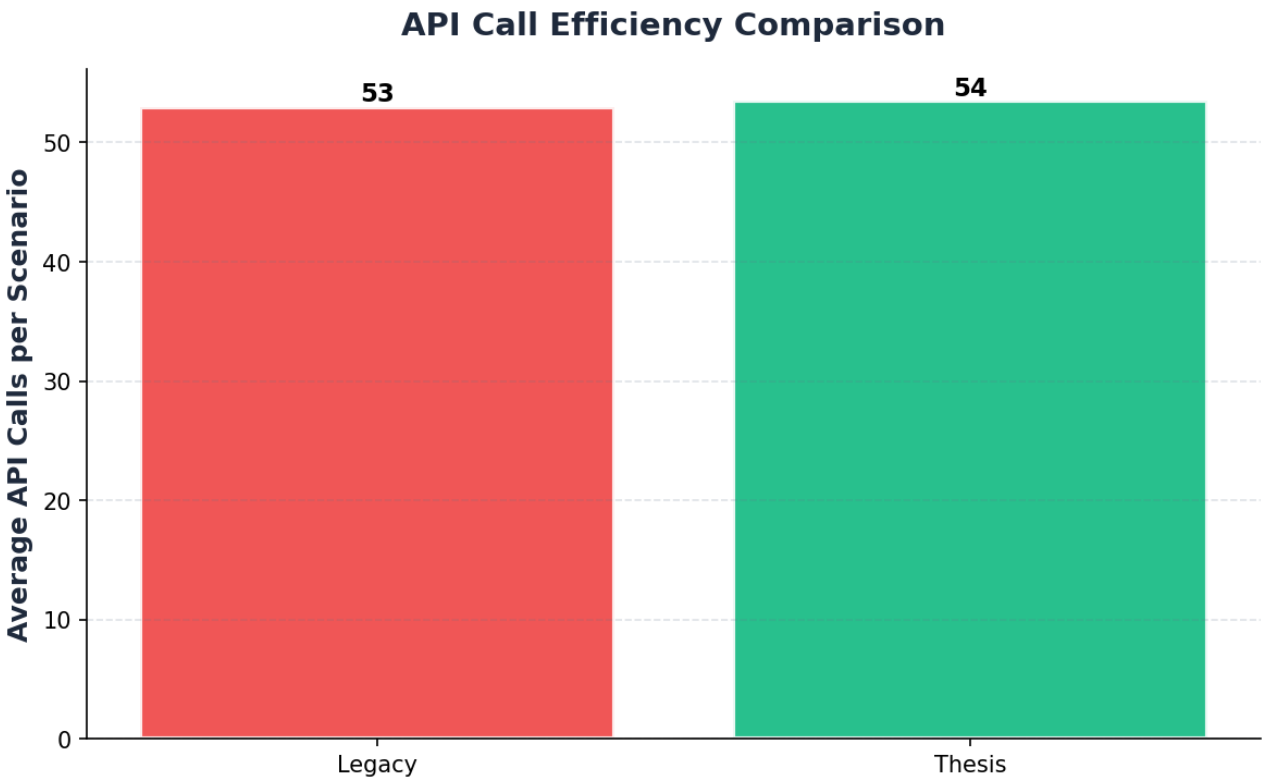
Robustness Analysis

Consistency Check: How robust are the results across different scenarios?



METRIC	VALUE
Average Reduction %	100.0%
Std Deviation	0.0%
Min Reduction	100.0%
Max Reduction	100.0%
Consistency Score	100.0%

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
SCEN-002	0	0	0	0
SCEN-003	0	0	0	0
SCEN-004	0	0	0	0
SCEN-005	1	0	1	0