

Open Source This

Make No Mistakes

by Daniel Bovensiepen

Everything Claude Saw: A Transparent Account of the Chardet v7 Rewrite

March 29, 2026 · Updated March 31, 2026 · 30 min · Dan Blanchard



BinaryBlob.exe

Executable

Open Source This! Make No Mistakes!!!

Slopping away >



BUT WITH AI

Reverse Engineering

General Remarks

What is the purpose of Reverse Engineering?

That is a great question!

Stopped thinking >

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Reverse Engineering Purpose Research & Study



跨境爆款汽车节油器 | 省油器俄
罗斯12V车载节油省油tv

已售 0

平台加补后 **¥6.9** 优惠前 ¥13.9

券满10减1

3天内发货 | 快递: 免运费 | 广东广州 至 北京 顺义

7天无理由退货

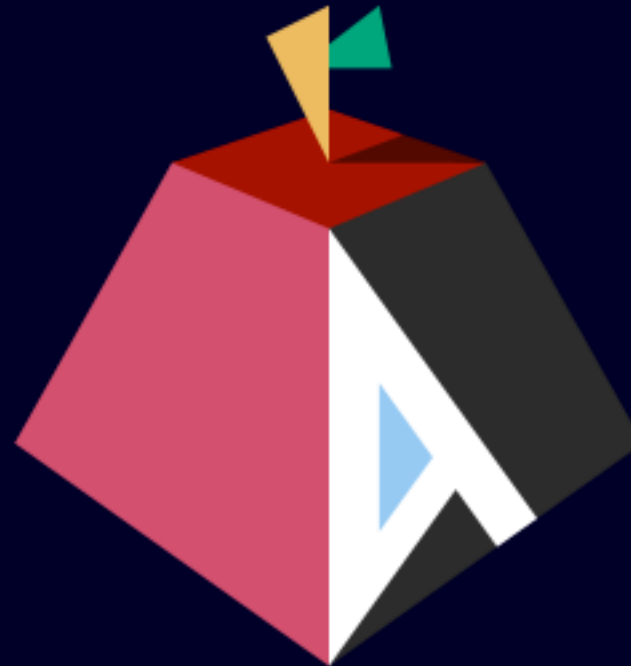
信用卡支付

商品规格

省油器



Reverse Engineering Purpose Interoperability



Asahi Linux

Port of the Linux kernel to Apple Silicon based Macs

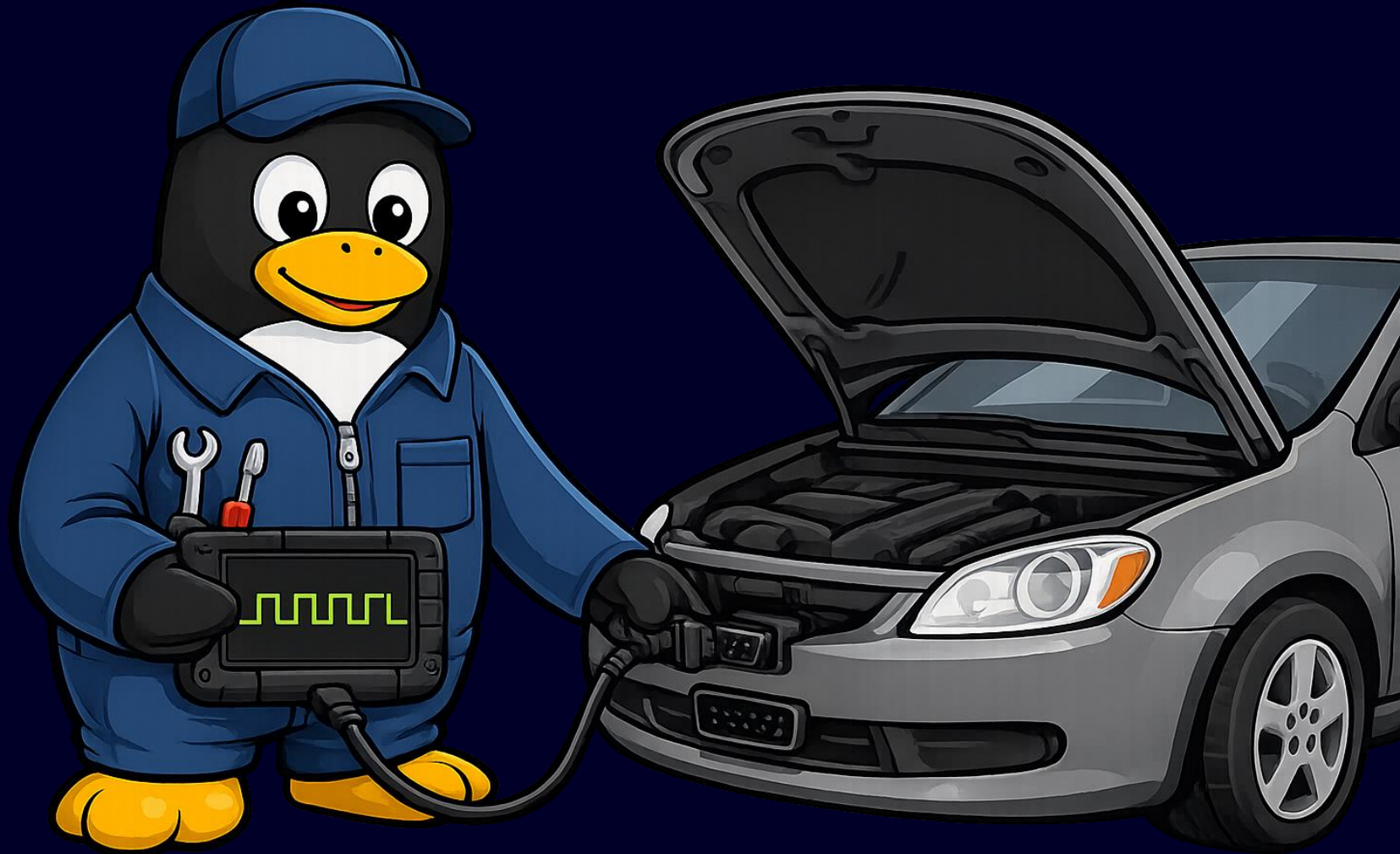
Reverse Engineering Purpose Digital Preservation



Console Emulators and Game Engines

Reverse Engineering Purpose Debugging / Right-to-Repair

Independent diagnostic and repair
of cars based on analyzed CAN
messages, ECU behavior and
diagnostic protocols.



Reverse Engineering Purpose Competitive Analysis



Siemens product



Competitor product

Reverse Engineering Summary

Purposes

- Research & Study
- Interoperability
- Digital Preservation
- Debugging / Right-to-Repair
- Competitive Analysis
- Security

Strategies

Artifact

- static analysis
- firmware extraction
- hardware inspection

Behavior

- dynamic analysis
- black-box testing
- protocol tracing

Case Studies

Case Study #1

CGM

A CGM is a device for continuously monitoring blood glucose.

Working principle:

- electrode is placed under the skin
- BLE transmitter sends every 3min a reading
- smartphone receives and plots data
- calibration (optional) with separate blood glucose measurement

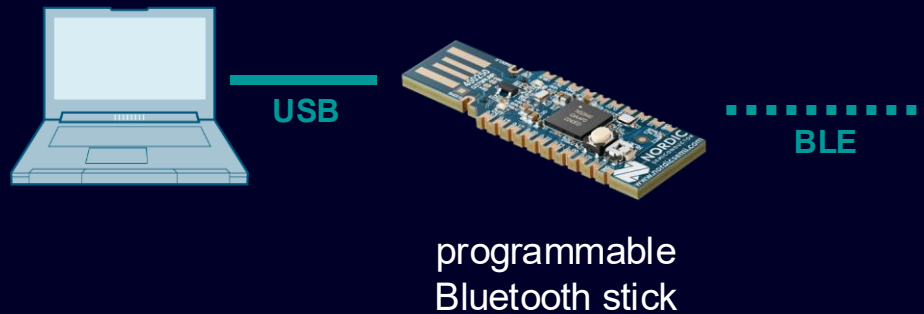


Case Study #1

CGM

Investment:

- 3x CGM tags
- ~2 million tokens
- ~3 hours (non-attended)
- ~2 hours (human interaction)



CGM activated in
glucose test fluid (honey + salt water)

Process:

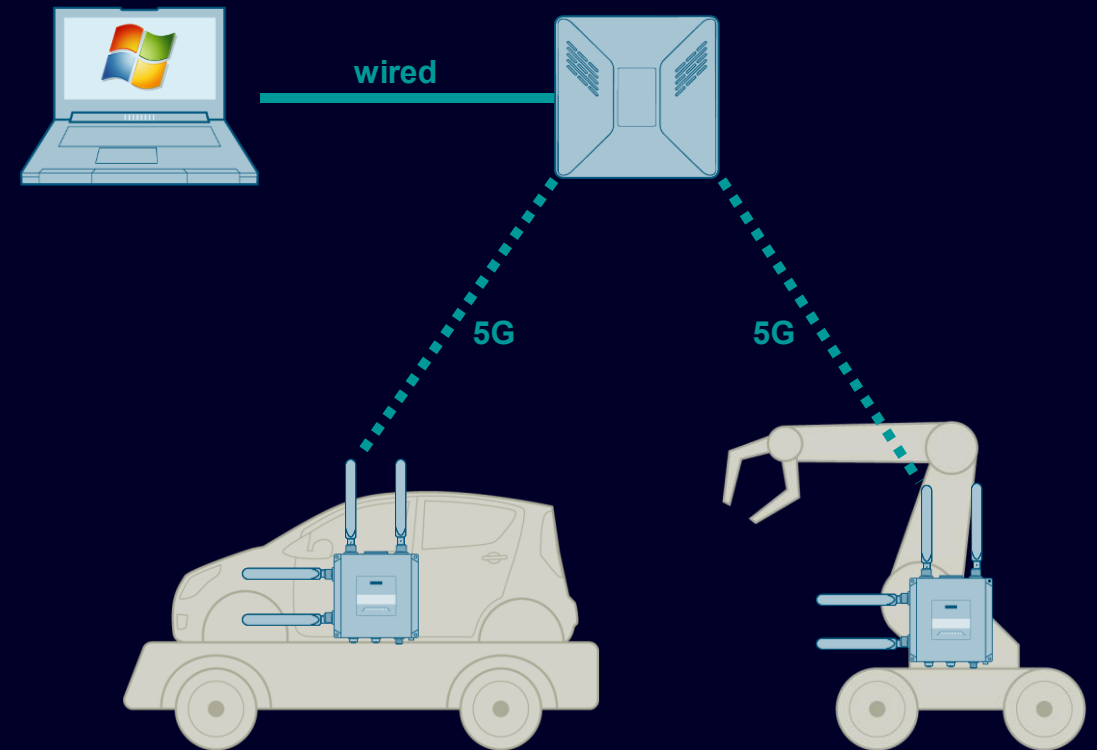
1. static analysis of APK (original app)
2. clean-room spec
3. Linux implementation of v1
4. dynamic debugging with sensor (10 additional versions)
5. plausibility check against 2nd sensor binded to original app

Case Study #2 5G Baseband Remote Diagnostic

On-Site log collection requires proprietary tooling

Challenges:

- 5G standard is rather complex
- interoperability between UEs and infrastructure
- diagnostic tooling often Windows only
- deployment locations are battery powered



Case Study #2

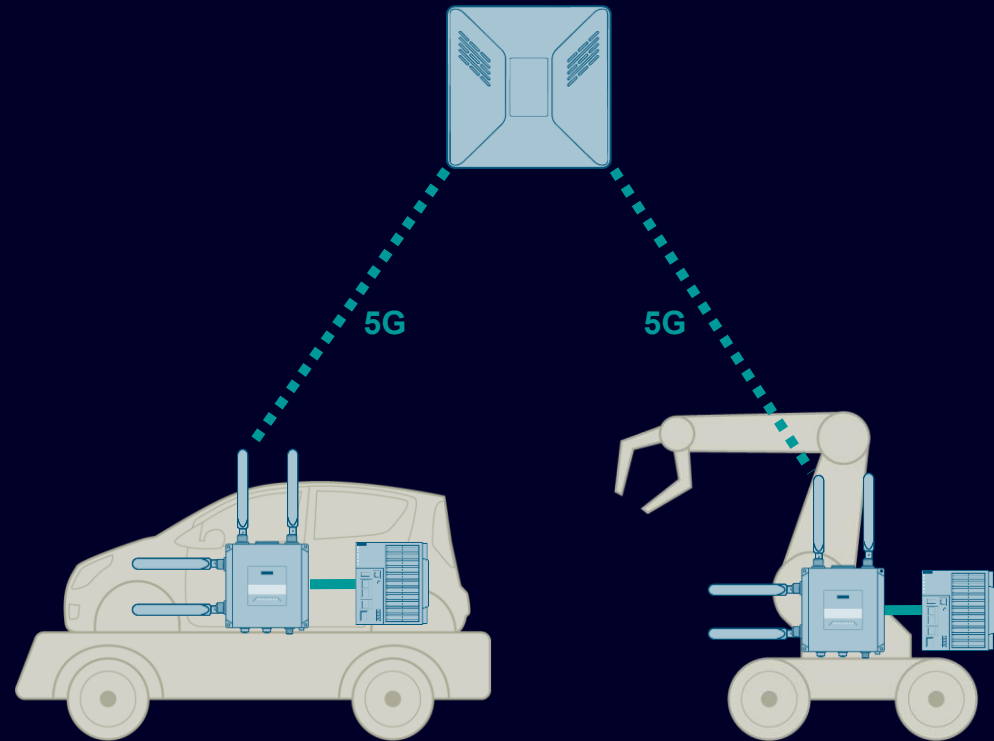
5G Baseband Remote Diagnostic

Investment:

- ~80.000 tokens
- ~½ hours (non-attended)
- ~½ hours (human interaction)

Process:

1. static analysis of C++ Windows exe (original app)
2. clean-room spec
3. one-shot Linux implementation of v1
4. plausibility check against old log files



AutoSave 2026-05-20__Open Source This - Make no Mistakes -- Open Source at Siemens C1 - Restricted - Saved

Search (Cmd + Ctrl + U)

Home Insert Draw Design Transitions Animations Slide Show Record Review View

Comments Present in Teams Record Share

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Arial (Body) 12+ A⁺ A⁻ A_o

B I U x^2 x_2 AV Aa

Convert to SmartArt Picture Drawing Sensitivity Add-ins Designer

```
anytime-blood-sugar --zsh -- 138x46
...cthing/siemens/presentations/Open Source This - Make No Mistakes
dabo@SE1C07F5235Q6P0 anytime-blood-sugar %
```

Client Connector

Private Access

Internet Security

Notifications

More

RETRY

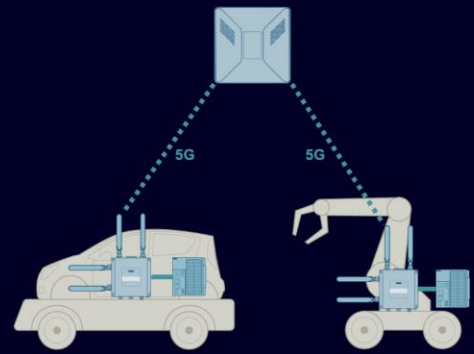
Total Bytes Received

Case Study #2 5G Baseband Remote Diagnostic

Investment:

- ~80,000 tokens
- ~5 hours (non-attended)
- ~5 hours (human interaction)

- Process:
- static analysis of C++ Windows exe (original app)
 - clean-room spec
 - one-shot Linux implementation of v1
 - feasibility check against old log files



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SIEMENS

Case Study #2
5G Baseband Remote Diagnostic

Investment:

- ~80,000 tokens
- ~5 hours (non-attended)
- ~5 hours (human interaction)

Process:

- static analysis of C++ Windows exe (original app)
- clean-room spec
- one-shot Linux implementation of v1
- feasibility check against old log files

Click to add notes

Case Study #3

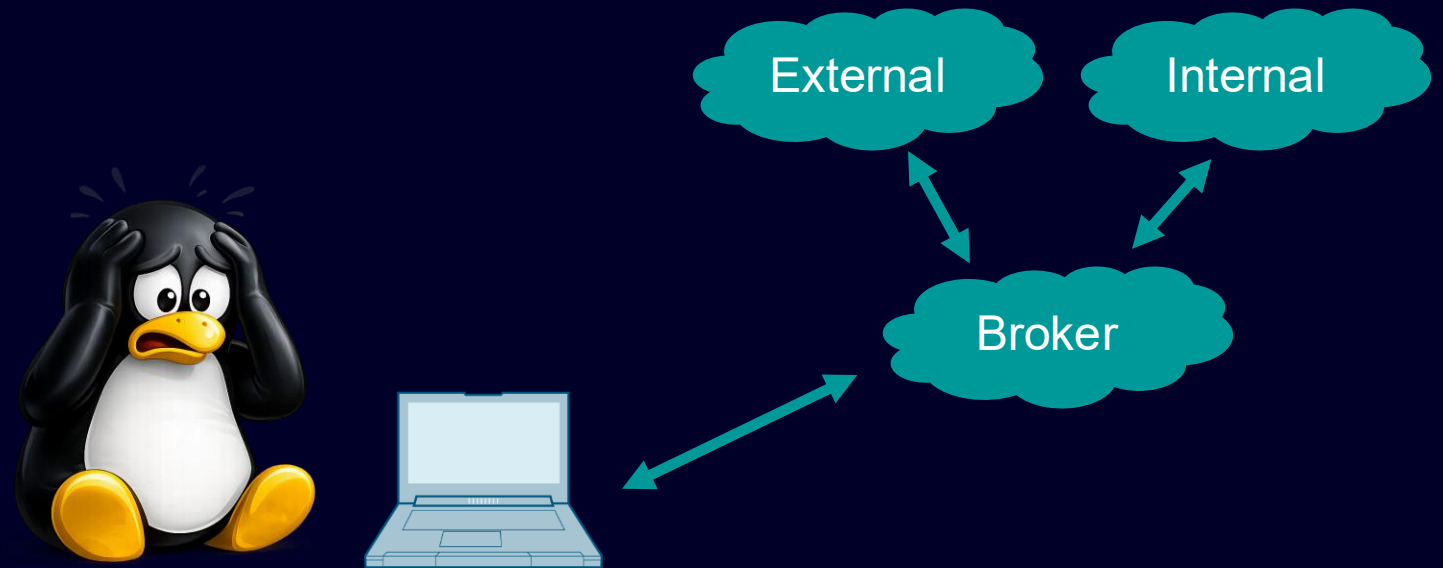
Zero Trust Endpoint Connector

Placed at the user endpoint and steers traffic to the appropriated services (external or internal).

Also provides Cyber++ security.

Challenges:

- protocol is proprietary
- focus on Windows and macOS
- Linux clients of low quality
- lack support for new distributions
- no flexibility





Home

Case Study #3

Zero Trust Endpoint Connector

Investment:

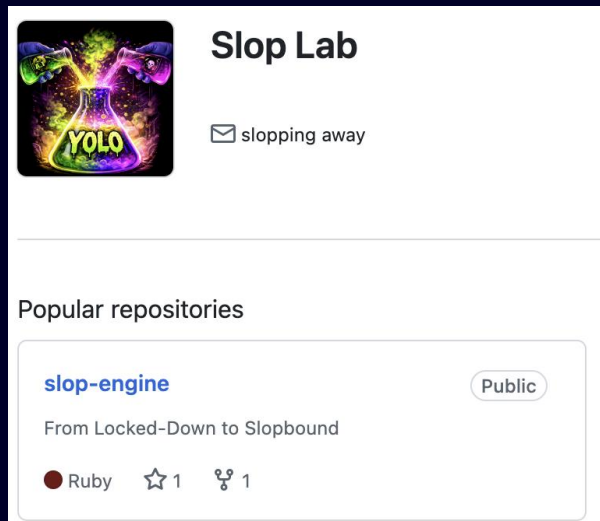
- 10+ million tokens
- 10+ hours (non-attended)
- 4+ hours (human interaction)

Process:

1. static analysis of original Linux app
2. clean-room spec
3. proxy-based capable Linux implementation of v1
4. dynamic debugging with backend and original client (25+ additional versions)
5. plausibility check against backend with extracted credentials from original Linux app

Case Studies Summary

	CGM	5G Diagnostic	Zero Trust Endpoint Connector
Tokens	~2 million	~80k	~10 million
Machine Time	3 hours	½ hour	10+ hours
Human Time	2 hours	½ hour	4+ hours
Revisions	11	1	26+
Issues	data loss, calibration, energy	log types missing	v2 tunnel missing



Slop Lab
slopping away

Popular repositories





slop-engine Public
From Locked-Down to Slopbound
Ruby ☆ 1 🍴 1

Sources

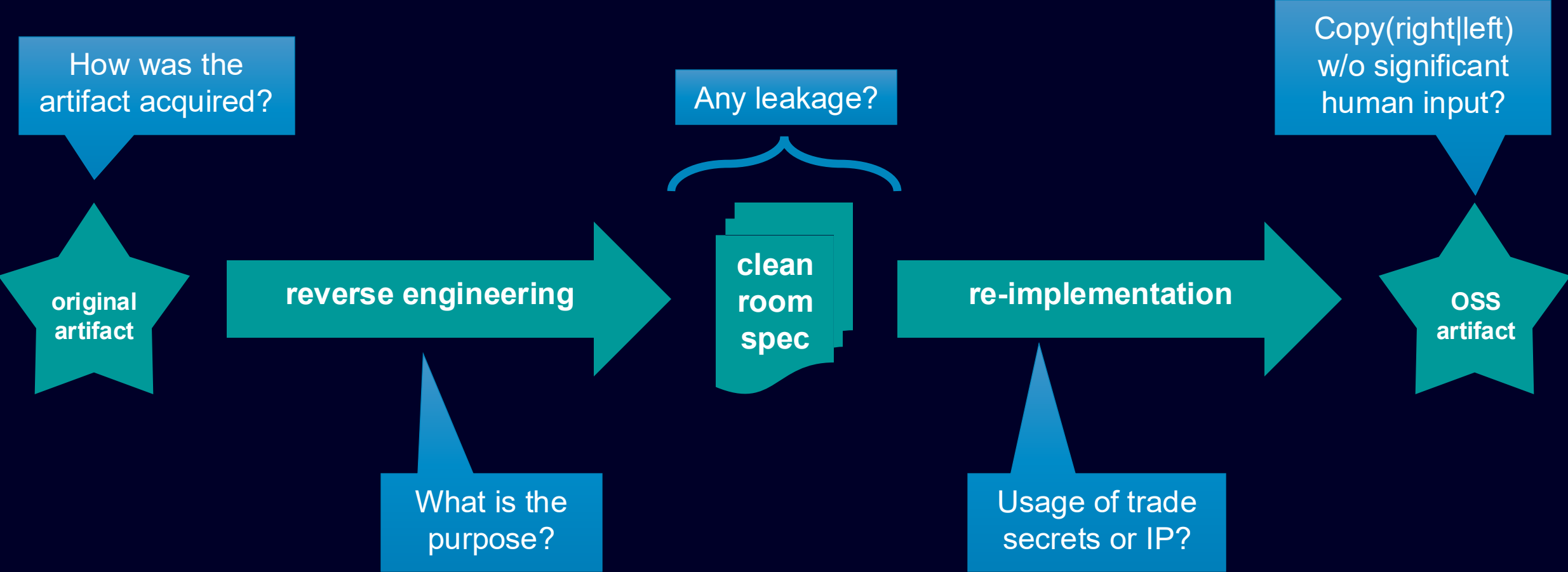
- Slop Lab (selection of case-studies): <https://github.com/SlopLab>
- SlopEngine: <https://github.com/SlopLab/slop-engine>

Legal

Legal Concerns

Jurisdiction	Legal Question #1	Legal Question #2
#1		
#2		

Legal Concerns



Summary

Summary

Reverse engineering (with AI):

- undeniable speed-up
- clearly automatic testable goal needs to be defined
- AI-assisted vs. AI-guided
- next: hardware-aided

What is Open Source?

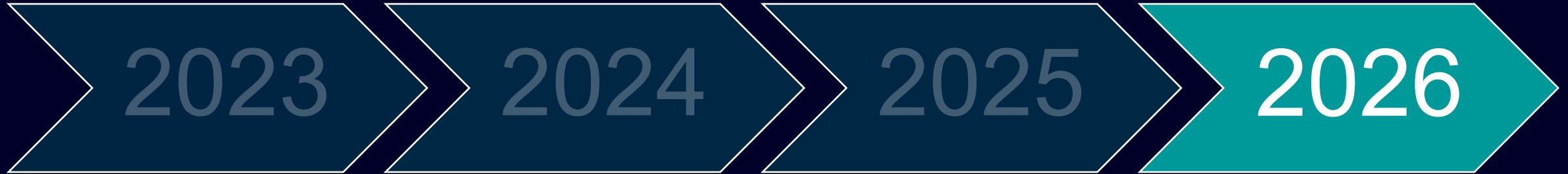
- Something which is available under a certain license?
- Something I can control?
- Something I can learn from?
- Something I can modify?

**AI-assisted reverse engineering changes the economic rules
but not the legal ones.**

Open Source @ 西门子 in China



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Open Source
Real-Time

Open Source
Artificial Intelligence

Open Source
Semiconductor

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Robotics



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