A Jurisdiction-Explicit Verdict on the Sovereignty Trilemma

Testing an architectural impossibility claim against the US–EU–PRC digital-law corpus

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Abstract

Wiggins (2026) claims that no global technology company can simultaneously satisfy Chinese content control, European interoperability mandates, and American decoupling policy, and that the resulting contradictions are architectural and permanent. We test the claim against dual-verified official texts of the governing instruments in the European Union (EU), the United States (US), and the People's Republic of China (PRC), read through the jurisdiction-explicit model (JEM) of [Sa26a], in which the enforcing State is an explicit parameter of the machine. Casting the trilemma as a JEM instance over four regulated surfaces of one product architecture (inference-content, interoperability, counterparty, data-locus), we formalise Wiggins's thesis as the joint satisfiability of the three jurisdictions' obligations under the *abide* behaviour, and give its verdict as a statement about the instance's *minimal unsatisfiable core*. At the current corpus snapshot the joint system is unsatisfiable – a result determinate on the EU side and interpretive on the PRC (translation-dependent) side, hence only as firm as the declared PRC reading – and its unique minimal unsatisfiable core is a single clause pair – EU Digital Markets Act (DMA) Art. 6(7), a positive mandate of openness, against the PRC Interim Measures for the Administration of Generative AI Services Arts. 4 and 17, a positive mandate of architecture – on the operating-system and virtual-assistant surface. The counterparty surface is satisfiable today and contributes a *second* minimal unsatisfiable core only once a further governmental act lands (a trajectory contradiction); the content-control and data-locus surfaces are individually satisfiable and merely fork-forcing. Wiggins's universal quantification over companies holds only when re-scoped to architectures, since market exit vacates a leg; permanence is not corpus-decidable and is typed as a conjecture with four stated falsifiers. The unique feasible resolution predicted by the JEM – a jurisdiction-indexed family of admissible architectures – is the empirically observed structure.

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Introduction

On 8 June 2026 the US Department of Defense (DoD) designated Alibaba under its Section 1260H authority (National Defense Authorization Act for Fiscal Year 2021 [nda21]); on 14 August Reuters reported that Apple had trained a China-market model with Alibaba's support [Reu26]. Apple operates a censored, state-registered artificial-intelligence (AI) stack in the PRC, withholds its AI assistant in the EU following a DMA dispute, and ships a full stack in the US. Wiggins concludes [Wig26]: *"No global technology company can simultaneously satisfy Chinese content control, European interoperability mandates, and American decoupling policy. The contradictions are not political. They are architectural. And they are permanent."*

We test that claim as mathematics rather than rhetoric. Our method is conservative about what a language model may assert: no model is the authority on what a law says. Each instrument is fetched on two independent paths – a curated legal-intelligence gateway where the corpus is enrolled, and a deterministic fetch from the official government portal – then compared, hashed, and archived with its verification status, including honest provenance downgrades. Every clause is typed before it is cited, and only then do we reason, adversarially: for every candidate contradiction we attempt to construct an architecture satisfying both sides, admitting the contradiction only when that construction provably cannot exist.

We work inside the JEM of [Sa26a], which makes the enforcing State an explicit parameter of an operation and its resources; here the resources are the regulated surfaces of a deployed product rather than the processors of a computation. §1 fixes the surfaces, the typed clause ground, and the satisfiability frame; §2 states Wiggins's thesis as three sub-claims; §3 locates the minimal unsatisfiable core; §4 states the verdict; §5 lists the falsifiers; §6 records the governance method. A more generally accessible account of the same result, in plain language, appears as the issue-3 article of the *Being AVake Works* newsletter [Sa26b].

1 The instance, the clauses, and satisfiability

Definition 1.1 (Regulated surfaces and the abide instance)**.** *For a single product architecture deployed under a set $\mathcal{S}$ of jurisdictions, the* regulated surfaces *are the four coordinates at which digital-sovereignty law binds it:* S_1 inference-content *(what the model may generate),* S_2 interoperability *(what must be exposed to third parties),* S_3 counterparty *(with whom the supply chain may transact), and* S_4 data-locus *(where data must reside). Following the jurisdiction-explicit model [Sa26a] – whose resource set may be "the premises, licences, inputs, and counterparties of any real-world operation" – we take the surfaces as the resources and each jurisdiction $J \in \mathcal{S}$ as an enforcing State, giving a JEM instance whose* obligation assignment O *maps each pair (S_i, J) to a set of typed clauses; the surfaces are* independent coordinates *– each clause binds exactly one surface, and an architecture assigns the four surfaces independently. The* abide behaviour *(the govern-by compliance mode of [Sa26a]) is the jurisdiction-explicit behaviour that satisfies every State's obligations at once; the abide instance's total obligation set is $\Phi = \bigcup_{i,J} O(S_i, J)$.*

Definition 1.2 (Binding types and typed σ-attested clauses)**.** *Each clause carries a* binding type *– a* positive mandate *(requires an act: mandate-openness = expose; mandate-architecture = control), a* prohibition *(forbids a class of act), or a* designation *(names an entity without prohibiting any transaction) – and a* verification type $\tau \in \{\mathrm{DET}, \mathrm{INT}, \mathrm{gap}\}$*: determinate (the verified text settles the question mechanically), interpretive (a defensible reading is required, e.g. any English rendering of a PRC statute), or gap. Under the σ-discipline of [Sa26a] each clause enters the analysis as an append-only, hash-carried attestation recording its source, its dual-verification status, and its type; the clause registry is the only citable set. A* typed contradiction $\tau_1 \otimes \tau_2$ *between two clauses inherits the weaker of the two types: a contradiction is*

only as strong as its softest-typed side.

Definition 1.3 (Satisfaction and the minimal unsatisfiable core)**.** *An* architecture A *is an assignment of concrete behaviour to the four surfaces.* A satisfies *a clause when its behaviour on that clause's surface complies with the clause, and* $A \models \Phi$ *when it satisfies every clause in* Φ*.* Φ *is* satisfiable *if some architecture satisfies it, and* unsatisfiable *(UNSAT) otherwise.* A minimal unsatisfiable core *(MUC) is a subset* $M \subseteq \Phi$ *that is unsatisfiable while every proper subset of* M *is satisfiable. We establish satisfiability constructively (exhibit a complying architecture) and unsatisfiability adversarially (show no complying architecture can exist); no automated solver is used.*

The verified clause ground, each provision typed and dual-verified at source (registry `clause_rosters.dion-trilemma-2026-08-15`):

Leg	Instrument and provision	Binding type	Verification
EU	DMA (Reg. (EU) 2022/1925) Art. 6(7): a designated gatekeeper shall allow third parties, free of charge, effective interoperability with the same operating-system and virtual-assistant features available to its own services [dma22]	positive mandate (openness)	dual-verified (gateway + EUR-Lex)
PRC	Interim Measures for the Administration of Generative AI Services (2023) Art. 4(1) (adhere to core socialist values; do not generate enumerated content) + Art. 17 (public-opinion services: state security assessment + algorithm filing) [gen23]	positive mandate (architecture)	official text; translation interpretive, provenance declared
PRC	Cybersecurity Law Art. 39 + Personal Information Protection Law Art. 40: in-PRC data stored in-PRC; export via state security assessment [csl26, pip21]	positive mandate (architecture)	Art. 39 dual-verified cross-instrument; PIPL Art. 40 single-path
US	NDAA FY2021 Section 1260H: DoD designation of "Chinese military companies"; no transaction prohibition attaches to designation [nda21]	designation only	archived capture (direct refetch pending)

Leg	Instrument and provision	Binding type	Verification
US	Executive Order 13959 as amended by 14032: US persons may not purchase or sell publicly traded securities of listed (NS-CMIC) entities; binds only listed entities [eo121]	prohibition (securities)	dual-verified (Federal Register)
US	COINS Act (Pub. L. 119-60 Title LXXXV Section 8521, adding Defense Production Act Title VIII) with 31 CFR Part 850: prohibits or makes notifiable covered outbound investment in covered technologies (incl. AI) with covered PRC persons [coi26, cfr25]	prohibition / notification (outbound investment)	archived capture + eCFR

2 Wiggins's thesis, decomposed

Claim 1 (Single-architecture unsatisfiability)**.** *The abide instance is unsatisfiable: no single architecture satisfies* Φ*. (Corpus-decidable; located in §3.)*

Claim 2 (Universal quantification over companies)**.** *No company can satisfy all three regimes across its global operations. (Re-scoped in §4: a company may vacate a leg by market exit, so the claim is false at the enterprise level and holds only over single architectures.)*

Claim 3 (Permanence)**.** *The contradiction is permanent. (Not corpus-decidable: a claim about legislative trajectories; typed as a conjecture with falsifiers in §5.)*

3 Locating the minimal unsatisfiable core

We test Claim 1 surface by surface, exhibiting a complying architecture where one exists and showing none can exist otherwise. The surface results together pin down the core.

Proposition 3.1 (S1 and S4 are satisfiable (fork-forcing))**.** *The obligations on* S_1 *and on* S_4 *are each satisfiable by a single architecture; neither contributes to any unsatisfiable core.*

Proof. On S_1, the PRC clauses make the provider answerable for what the model will not generate; no EU or US clause in Φ prohibits operating a globally censored model, so the architecture that applies PRC content rules everywhere satisfies all S_1 obligations. On S_4, CSL Art. 39 and PIPL Art. 40 pin in-PRC data to PRC territory, and no verified EU or US clause forbids PRC-resident storage of PRC-collected data, so the architecture that stores PRC data in the PRC complies. In both cases law alone leaves the single-architecture door open; what closes it is commercial and democratic-legitimacy pressure, which is extra-legal and so outside Φ. Hence these surfaces are *fork-forcing* – the surviving global architecture is legally permissible but not commercially

viable, which is why the observed resolution is a fork rather than global capitulation. Legal permissibility is reported here as a floor, not an endorsement. □

Proposition 3.2 (S3 is satisfiable now (a trajectory core))**.** *The S_3 obligations are satisfiable at the current snapshot and form a minimal unsatisfiable core only after a further governmental act.*

Proof. Section 1260H designation prohibits nothing by itself; the securities prohibition of EO 13959/14032 binds only entities actually listed under the NS-CMIC regime; and whether a services-form model-training partnership is a "covered transaction" under 31 CFR Part 850 is interpretive. An architecture with a PRC infrastructure partner is therefore lawful for US persons today – with the precision that a services-form partnership is not prohibited though possibly notifiable under 31 CFR 850.210(a)(4)(ii) with 850.217(d)(3), rather than outside the regime. Satisfiability fails only on trajectory: an NS-CMIC listing of the partner, or a covered-transaction determination reaching services-form partnerships, turns the S_3 obligations into a second minimal unsatisfiable core. The COINS Act (outbound investment) and the NS-CMIC line (securities trading) are distinct instruments with distinct verbs; the contingency is real and its wiring precise. □

Proposition 3.3 (The S2 pair is a minimal unsatisfiable core)**.** *The pair $M^\star = \{$DMA Art. 6(7), GenAI Measures Arts. 4+17$\}$ on S_2 is unsatisfiable, and each of its two clauses alone is satisfiable; hence $M^\star$ is a minimal unsatisfiable core, typed* $\mathrm{DET(EU)} \otimes \mathrm{INT(PRC)}$.

Proof. DMA Art. 6(7) obliges the gatekeeper to expose the assistant and operating-system feature surface to arbitrary third parties at feature parity, free of charge (mandate-openness). GenAI Measures Arts. 4 and 17 oblige the provider to warrant, under a state-filed algorithm, everything that surface generates (mandate-architecture). *Unsatisfiability of the pair:* an architecture cannot both expose the surface to un-privileged third-party services and warrant state-filed control of their outputs. Two escape constructions are refuted – geo-gating the open interfaces is itself the per-jurisdiction fork and so concedes rather than satisfies; and the Art. 6(7) integrity exception permits only strictly necessary, proportionate measures protecting the *technical* integrity of the operating system, and by its enumerated objects (operating system, virtual assistant, hardware, software features) does not reach content-control regimes. No complying architecture exists, so the pair is unsatisfiable. *Minimality:* dropping the DMA clause leaves the globally-controlled architecture (satisfies GenAI); dropping the GenAI clauses leaves the fully-open architecture (satisfies DMA); each singleton is satisfiable. The EU side is determinate from the verified text and the PRC side interpretive through the declared translation layer, so the core is typed $\mathrm{DET} \otimes \mathrm{INT}$ (Definition 1.2). □

Lemma 3.4 (Core locality)**.** *Every minimal unsatisfiable core of Φ is contained in a single surface.*

Proof. By Definition 1.1 each clause binds exactly one surface and an architecture assigns the surfaces independently, so the satisfaction of a clause depends only on its own surface's assignment. A clause set spanning two or more surfaces is therefore unsatisfiable only if its restriction to some single surface is already unsatisfiable; such a set is not minimal. Hence every minimal unsatisfiable core lies within one surface. □

4 Verdict

Theorem 4.1 (Sovereignty-trilemma verdict at the current corpus snapshot)**.** *Claim 1 holds: the abide instance Φ is unsatisfiable. By core locality (Lemma 3.4) every minimal unsatisfiable*

core is surface-local, so – with S_1 and S_4 satisfiable (Proposition 3.1) and S_3 satisfiable at this snapshot (Proposition 3.2) – the unique present minimal unsatisfiable core is the single S_2 pair $M^\star$ of Proposition 3.3, typed $\mathrm{DET(EU)} \otimes \mathrm{INT(PRC)}$ *so that Claim 1 is only as firm as the interpretive PRC reading; a further governmental act adds a second core on S_3. Claim 2 holds only re-scoped to architectures: exit vacates a leg. Claim 3 is not corpus-decidable and remains a conjecture (§5). The unique feasible resolution is a jurisdiction-indexed family $\{A_J\}$ of architectures, each admissible where it runs.*

Remark (why the core sits on S_2). $M^\star$ is on S_2 and only S_2 because that is the sole surface pairing a positive legal mandate against a positive legal mandate – the EU *must-open* against the PRC *must-control*. Every other surface pairs a legal mandate with mere commercial untenability, and law does not contradict commerce; that is exactly why those surfaces are satisfiable (Proposition 3.1) while the S_2 pair is not. This positive-mandate-against-positive-mandate criterion is the sharp form of Wiggins's informal "architectural", and the reason the three legs are constraints of different kinds – the EU mandates openness, the PRC mandates architecture, the US prohibits counterparties contingently. In the JEM the resolution is not a compliance failure but a well-typed partition into per-jurisdiction architectures: the empirically observed "three Apples".

5 Falsifiers

Claim 3 is a claim about legislative trajectories, which no archive snapshot can prove. We state instead what would falsify the verdict: (1) an EU specification decision or amendment folding content-control regimes into the DMA Art. 6(7) integrity exception, which would dissolve $M^\star$; (2) a PRC amendment relaxing provider content liability on third-party-interoperable surfaces, which would dissolve it from the other side; (3) a US NS-CMIC listing of the partner entity, or a covered-transaction determination reaching services-form partnerships, which would arm the second core of Proposition 3.2; (4) completion of the open verification items – practitioner-standard translation cross-checks for the PRC clauses and direct-portal refetches for two US texts – which could refine, though the texts' substance makes it unlikely to reverse, the typing of individual cells.

6 Governance receipts

Every step of this analysis ran inside a governed agent substrate: each fetch, verification, hash, typing decision, and edit is a σ-attested, append-only, hash-chained record (Definition 1.2); the clause registry is the only citable set; and the document could not enter the record without passing automated consistency guards. The EU corpora were served by a legal-intelligence gateway and cross-verified against EUR-Lex; PRC and fresh US instruments were fetched and archived from official portals by a deterministic layer, with every provenance caveat recorded. The jurisdiction-explicit model instantiated here is developed in [Sa26a]. An independent adversarial review formed its verdict from the primary corpus before reading this analysis, attacked and failed to break both named pressure points (the S_2 integrity-exception reading and the S_3 covered-transaction typing), and contributed the positive-mandate characterisation of the core and the notifiable-not-outside refinement of S_3.

References

[cfr25] Provisions pertaining to u.s. investments in certain national security technologies and products in countries of concern, 31 CFR part 850. US Code of Federal Regulations;

Outbound Investment Security Program (eCFR), 2025.

[coi26] Comprehensive outbound investment national security (COINS) act, title lxxxv section 8521, adding title viii to the defense production act (50 u.s.c. 4581–4589). Pub. L. 119-60 (US), FY2026 National Defense Authorization Act, 2026.

[csl26] Cybersecurity law of the people's republic of china (zhonghua renmin gongheguo wangluo anquan fa), amended text in force 1 january 2026, art. 39. Standing Committee of the National People's Congress; npc.gov.cn / cac.gov.cn, 2026.

[dma22] Regulation (EU) 2022/1925 of the european parliament and of the council (digital markets act), art. 6(7). Official Journal of the European Union, L 265, 12 October 2022; EUR-Lex CELEX:32022R1925, 2022.

[eo121] Executive order 13959 (2020) as amended by executive order 14032 (2021): prohibited transactions in publicly traded securities of NS-CMIC entities. US Federal Register; Non-SDN Chinese Military-Industrial Complex Companies List, 2021.

[gen23] Interim measures for the administration of generative artificial intelligence services (shengchengshi rengong zhineng fuwu guanli zanxing banfa), arts. 4 and 17. Cyberspace Administration of China (CAC) Order No. 15, effective 15 August 2023; cac.gov.cn, 2023.

[nda21] William m. (mac) thornberry national defense authorization act for fiscal year 2021, section 1260h. Pub. L. 116-283 (US); designation of Chinese military companies, 2021.

[pip21] Personal information protection law of the people's republic of china (zhonghua renmin gongheguo geren xinxi baohu fa), art. 40. Standing Committee of the National People's Congress; npc.gov.cn, 2021.

[Reu26] Reuters. Apple trains its own AI model for china market with alibaba's support, sources say. Reuters, 14 August 2026, 2026.

[Sa26a] Raazesh Sainudiin and an IAS Commons Continuum. An interaction analysis of interacting agent systems: identity, continuity, and governed capability on a sovereign substrate. Monograph, in preparation (VakeWorks / OpenEarth Network Commons), 2026.

[Sa26b] Raazesh Sainudiin and an IAS Commons Continuum. Three apples, one theorem: testing a viral sovereignty claim against the law itself. Being AVake Works newsletter (LinkedIn), issue 3, August 2026. https://www.linkedin.com/pulse/three-apples-one-theorem-testing-viral-sovereignty-claim-sainudiin-phnyf, 2026.

[Wig26] Dion Wiggins. Post on apple's three-jurisdiction AI compliance architectures. LinkedIn, August 2026, urn:li:activity:7494246204449673216, 2026.