

Independent Submission  
Internet-Draft  
Intended status: Informational  
Expires: 1 December 2026

C. Hopley  
AlgoVoi  
30 May 2026

Categorical Mandate Cancellation Receipt Format for Agentic-Payment  
Flows  
draft-hopley-x402-cancellation-receipt-00

## Abstract

This document specifies a categorical mandate cancellation receipt format for agentic-payment flows. The format records that a recurring-payment mandate or other standing payer-to-payee authorisation has been cancelled, by whom, for what reason, and with what effective date.

The receipt format uses a closed four-element enumeration of categorical outcomes (USER\_REQUESTED, MERCHANT\_REQUESTED, COMPLIANCE\_TERMINATED, EXPIRED). The four-state enumeration preserves the regulatorily-load-bearing distinction between payer-initiated revocation, payee-initiated termination, operator/compliance-forced termination, and time-based expiry. A collapse to a three-state or binary representation loses operational distinctions that drive PSD2 (Directive 2015/2366) Article 64 refund-window obligations, Article 72 contractual-termination record-keeping, and POCA/AML evidence-chain linkage on compliance-forced terminations.

The format records two distinct timestamps -- when the cancellation was observed (cancellation\_timestamp\_ms) and when it takes legal effect (effective\_from\_ms) -- to support PSD2 Article 64(3)(a) direct-debit revocation timing, where the effective time is typically end-of-business-day prior to the next scheduled execution.

The format composes with the AlgoVoi-authored compliance receipt (draft-hopley-x402-compliance-receipt), settlement attestation (draft-hopley-x402-settlement-attestation), and refund receipt (draft-hopley-x402-refund-receipt) formats under the same canonicalisation discipline (draft-hopley-x402-canonicalisation-jcs). A verifier walking the audit chain confirms the full mandate lifecycle from admission through recurring execution to cancellation, and (where owed) onward to refund of revoked settled debits, under one byte-deterministic canonicalisation pin.

## Status of This Memo

This Internet-Draft is submitted in full conformance with the provisions of BCP 78 and BCP 79.

Internet-Drafts are working documents of the Internet Engineering Task Force (IETF). Note that other groups may also distribute working documents as Internet-Drafts. The list of current Internet-Drafts is at <https://datatracker.ietf.org/drafts/current/>.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than as "work in progress."

This Internet-Draft will expire on 1 December 2026.

## Copyright Notice

Copyright (c) 2026 IETF Trust and the persons identified as the document authors. All rights reserved.

This document is subject to BCP 78 and the IETF Trust's Legal Provisions Relating to IETF Documents (<https://trustee.ietf.org/license-info>) in effect on the date of publication of this document. Please review these documents carefully, as they describe your rights and restrictions with respect to this document. Code Components extracted from this document must include Revised BSD License text as described in Section 4.e of the Trust Legal Provisions and are provided without warranty as described in the Revised BSD License.

## Table of Contents

1. Introduction . . . . .	3
1.1. Motivation . . . . .	3
1.2. Scope . . . . .	4
1.3. Relationship to other Internet-Drafts . . . . .	5
2. Conventions and Definitions . . . . .	5
2.1. Notation . . . . .	6
2.2. Definitions . . . . .	6
3. Receipt Format Specification . . . . .	6
3.1. cancellation_reason . . . . .	6
3.2. cancellation_provider_did . . . . .	7
3.3. cancellation_timestamp_ms . . . . .	7
3.4. effective_from_ms . . . . .	7
3.5. jurisdiction_flags . . . . .	8
3.6. mandate_ref . . . . .	8
3.7. canon_version . . . . .	9

4.	Canonicalisation . . . . .	9
5.	Audit Chain Composition . . . . .	9
5.1.	Chain Row Shape . . . . .	9
5.2.	Linkage Verification . . . . .	9
5.3.	Composition with Compliance Receipts . . . . .	10
5.4.	Composition with Settlement Attestations . . . . .	10
5.5.	Composition with Refund Receipts . . . . .	10
6.	Year-N Auditability Properties . . . . .	11
7.	Composition with Other x402 Substrate . . . . .	11
7.1.	Compliance Receipt Linkage . . . . .	11
7.2.	Settlement Attestation Linkage . . . . .	11
7.3.	Refund Receipt Linkage . . . . .	12
7.4.	Non-Goals . . . . .	12
8.	IANA Considerations . . . . .	12
8.1.	URN Namespace Registration . . . . .	12
8.2.	Receipt Format Identifier . . . . .	12
9.	Security Considerations . . . . .	12
9.1.	Receipt Tampering . . . . .	12
9.2.	Backdated Cancellation . . . . .	13
9.3.	Reason Spoofing . . . . .	13
9.4.	Compliance-Terminated Receipt Disclosure . . . . .	13
9.5.	Operator Continuity Loss . . . . .	13
Appendix A.	References . . . . .	14
A.1.	Normative References . . . . .	14
A.2.	Informative References . . . . .	14
Appendix B.	Appendix A. Examples (Informative) . . . . .	15
B.1.	A.1. USER_REQUESTED revocation under PSD2 Article 64 . . . . .	15
B.2.	A.2. MERCHANT_REQUESTED termination under PSD2 Article 72 . . . . .	15
B.3.	A.3. COMPLIANCE_TERMINATED under sanctions hit . . . . .	15
B.4.	A.4. EXPIRED at agreed mandate end-date . . . . .	16
Appendix C.	Appendix B. Reference Implementations (Informative) . . . . .	16
Appendix D.	Known Adopters (Informative) . . . . .	17
Appendix E.	Acknowledgments . . . . .	17
Author's Address	. . . . .	18

## 1. Introduction

### 1.1. Motivation

Agentic-payment flows generate categorical receipts across the mandate lifecycle. Where the compliance receipt format ([I-D.hopley-x402-compliance-receipt]) admits a mandate and the settlement attestation format ([I-D.hopley-x402-settlement-attestation]) records recurring executions, mandate termination is the corresponding end-state. Termination is not a degenerate refund; it is its own state transition with its own regulatory consequences.

The operational and regulatory distinctions are load-bearing across four genuinely-different states:

- \* A payer-initiated revocation (PSD2 (Directive 2015/2366) Article 64, UK Consumer Rights Act 2015 consumer-revocation provisions) MAY trigger refund obligations on debits already settled prior to the revocation effective date.
- \* A payee-initiated termination (PSD2 Article 72 + contractual terms) records the end of a recurring billing arrangement but does NOT trigger consumer-revocation refund-window obligations on already-settled debits.
- \* A compliance-forced termination (sanctions hit on payer, KYC failure, AML alert, court order, regulator directive) triggers POCA s.330 and AML 5+6 audit-chain evidence linkage back to the originating compliance event. The recorded receipt is the evidentiary anchor.
- \* A time-based expiry (mandate reached its agreed end-date or maximum-execution count) records that the mandate's own terms terminated it. No party-initiated regulatory action is required beyond standard record-keeping.

A receipt format that collapses these to a three-state enumeration (e.g. `PARTY_REQUESTED` + `AUTO_TERMINATED`) loses the payer-vs-payee distinction that drives the PSD2 Article 64 refund-window obligation. A collapse to two-state (`CANCELLED` / `EXPIRED`) loses both that distinction and the compliance-forced flag that anchors the AML/POCA evidence chain.

This document specifies a cancellation receipt format that preserves the four-state categorical outcome at the canonical-bytes level and records the two timestamps (event recording time and legal effective time) independently.

## 1.2. Scope

This document specifies:

- \* The canonical JSON shape of the cancellation receipt (Section 3).
- \* The reference to the canonicalisation rule applicable to the receipt (Section 4 -- normative reference to [I-D.hopley-x402-canonicalisation-jcs], not redefined inline).
- \* The audit chain composition under which cancellation receipts compose with compliance receipts, settlement attestations, and refund receipts (Section 5).
- \* The year-N auditability properties the format pins (Section 6).
- \* Composition patterns across the AlgoVoi receipt-format suite (Section 7).

- \* Worked examples covering all four `cancellation_reason` outcomes (Appendix A).

This document does NOT specify:

- \* The mandate format itself. The cancellation receipt references the mandate via a content-addressed `mandate_ref` of the form `sha256:<hex>`. The mandate record MAY be a compliance receipt, an Agent Payment Protocol (AP2) mandate object, a Merchant Payment Protocol (MPP) subscription record, or any operator-specific mandate format.
- \* The refund flow triggered by a `USER_REQUESTED` cancellation. Refund obligations and their categorical receipt format are specified in [I-D.hopley-x402-refund-receipt]. This document records only that the cancellation occurred and notes (per `cancellation_reason`) whether a refund obligation may apply.
- \* The compliance event that drives a `COMPLIANCE_TERMINATED` outcome. That event is recorded in a separate compliance receipt ([I-D.hopley-x402-compliance-receipt]) and linked via the audit chain.

### 1.3. Relationship to other Internet-Drafts

This document normatively references:

- \* [I-D.hopley-x402-canonicalisation-jcs] -- the JCS canonicalisation discipline pinned in Section 4.

This document is complementary to:

- \* [I-D.hopley-x402-compliance-receipt] -- admission-time compliance screening receipts. A cancellation receipt's `mandate_ref` MAY equal the `content_hash` of the compliance receipt that admitted the mandate.
- \* [I-D.hopley-x402-settlement-attestation] -- per-execution settlement attestations during the mandate's life.
- \* [I-D.hopley-x402-refund-receipt] -- post-cancellation refund receipts. A refund receipt's `original_payment_ref` MAY reference a settlement attestation that became refundable as a result of a `USER_REQUESTED` cancellation recorded under this document.

## 2. Conventions and Definitions

## 2.1. Notation

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in BCP 14 [RFC2119] [RFC8174] when, and only when, they appear in all capitals, as shown here.

## 2.2. Definitions

**\*cancellation receipt\***: a JSON object of the shape specified in Section 3, canonicalised under the discipline of [I-D.hopley-x402-canonicalisation-jcs].

**\*content\_hash\***: SHA-256, lowercase hex, of the JCS-canonical bytes of the cancellation receipt object.

**\*mandate\_ref\***: a string of the form sha256:<lowercase-hex-64> identifying the mandate record being cancelled by content hash. The mandate record itself is out of scope of this document.

**\*cancellation\_reason\***: a string-valued field carrying one of four closed enumeration values. See Section 3.1.

**\*canon\_version\***: an in-band string identifying the canonicalisation discipline. Fixed value jcs-rfc8785-v1 for this version.

## 3. Receipt Format Specification

A cancellation receipt is a JSON object with the following seven fields. All fields are REQUIRED. The receipt is canonicalised under [I-D.hopley-x402-canonicalisation-jcs] per Section 4. Field names are sorted lexicographically by JCS during canonicalisation; the object itself uses arbitrary authoring order.

### 3.1. cancellation\_reason

A string-valued field. The value MUST be one of:

- \* USER\_REQUESTED -- the payer revoked the mandate. PSD2 Article 64 applies. UK Consumer Rights Act 2015 consumer-revocation provisions apply. Triggers payer-side refund-window calculations for direct debits already settled prior to the effective date.
- \* MERCHANT\_REQUESTED -- the payee terminated the recurring billing arrangement. PSD2 Article 72 and contractual terms apply. Does NOT trigger consumer-revocation refund-window obligations on already-settled debits.

- \* COMPLIANCE\_TERMINATED -- the operator (gateway, facilitator, bank, regulator) forced termination from a post-mandate compliance trigger: sanctions hit on payer, KYC failure, AML alert, court order, regulator directive. Triggers POCA s.330 and AML 5+6 audit-chain linkage back to the originating compliance event.
- \* EXPIRED -- the mandate reached its agreed end-date or maximum-execution count. No party-initiated decision; the mandate's own terms terminated it. Standard record-keeping only.

The four-element enumeration is closed. Implementations MUST reject any other value at validation time before canonicalisation. Free-form "reason" strings, dispute codes, or operator-internal classification labels are not acceptable substitutes for the categorical outcome.

The regulatory distinction is load-bearing. The four-value enumeration is one wider than the three-value enums in sibling formats because the regulatorily-load-bearing distinctions in mandate termination are genuinely four-state: payer vs payee vs operator vs time.

### 3.2. `cancellation_provider_did`

A string-valued DID URI identifying the entity issuing the cancellation receipt (gateway, facilitator, payer-bank, operator).

### 3.3. `cancellation_timestamp_ms`

An integer-valued field carrying the epoch-millisecond timestamp at which the cancellation event was observed and recorded by the issuing provider, in UTC.

This field MUST be an integer. RFC 3339 string forms (e.g. "2026-05-30T12:00:00Z") MUST be rejected at the validation layer before canonicalisation. This is Substrate Rule 2, normatively specified in [I-D.hopley-x402-canonicalisation-jcs] Section 4.1.

### 3.4. `effective_from_ms`

An integer-valued field carrying the epoch-millisecond timestamp at which the cancellation takes legal effect, in UTC.

`effective_from_ms` MUST be greater than or equal to `cancellation_timestamp_ms`. Implementations MUST reject receipts where the effective time precedes the recording time, both at validation time and at verification time.

For most cancellations the two timestamps are equal. The independent encoding supports PSD2 Article 64(3)(a) direct-debit revocation timing, where the agreed effective time is typically the end of the working day before the next scheduled execution -- distinct from the moment the revocation was recorded.

For COMPLIANCE\_TERMINATED outcomes the effective time MAY be immediate (equal to the recording time) or scheduled (regulator-directed future effective date).

Substrate Rule 2 applies: integer-only, RFC 3339 string forms rejected.

### 3.5. jurisdiction\_flags

An ordered array of string-valued ISO-3166-1 alpha-2 country codes or alpha-3 region codes identifying the applicable regulatory frameworks for the cancellation event.

Authoring convention: primary jurisdiction first (where the operating entity is licensed), secondary jurisdictions in order of regulatory precedence.

Array element ORDER is SIGNIFICANT and load-bearing per [I-D.hopley-x402-canonicalisation-jcs] Section 4.3.

### 3.6. mandate\_ref

A string-valued field of the form sha256:<lowercase-hex-64>. The hex digest is SHA-256 of the JCS-canonical bytes of the mandate record being cancelled.

When the mandate was admitted under a compliance receipt (per [I-D.hopley-x402-compliance-receipt]), the mandate\_ref MAY equal the content\_hash of that compliance receipt. This is the conventional choice and enables the audit-chain composition described in Section 5.

When the original mandate record is an operator-specific format (AP2 mandate object, MPP subscription record, custom recurring authorisation), the mandate\_ref is the SHA-256 of that record's JCS-canonical bytes.

Implementations MUST NOT strip the sha256: prefix during canonicalisation or verification.



### 3.7. canon\_version

A string-valued in-band canonicalisation rule pin. For this version of the receipt format the value MUST be jcs-rfc8785-v1.

## 4. Canonicalisation

The cancellation receipt MUST be canonicalised under the discipline pinned by [I-D.hopley-x402-canonicalisation-jcs] and identified by the URN:

```
urn:x402:canonicalisation:jcs-rfc8785-v1
```

The full normative specification of the discipline (JCS RFC 8785 plus the schema-normalisation requirements including Substrate Rule 2) is in that document. This document does not redefine the discipline inline.

## 5. Audit Chain Composition

A cancellation receipt MAY participate in an audit chain alongside compliance receipts, settlement attestations, refund receipts, and other receipt classes that pin the same canonicalisation discipline.

### 5.1. Chain Row Shape

The audit chain row shape used by this document is identical to that specified in [I-D.hopley-x402-compliance-receipt] Section 5.1 and reused by the settlement attestation ([I-D.hopley-x402-settlement-attestation]) and refund receipt ([I-D.hopley-x402-refund-receipt]) formats. The row shape is:

```
{
  "row_number": 1,
  "content_hash": "<hex64>",
  "prev_hash": "<hex64>",
  "row_content_hash": "<hex64>"
}
```

Row 1's prev\_hash MUST be 64 zero hex characters. Row N's prev\_hash MUST equal row N-1's row\_content\_hash.

### 5.2. Linkage Verification

Per [I-D.hopley-x402-compliance-receipt] Section 5.2: a verifier reading a chain segment recomputes each row's row\_content\_hash from its first three fields and confirms forward linkage via prev\_hash. Any mismatch indicates tampering or chain integrity loss.

### 5.3. Composition with Compliance Receipts

When a cancellation receipt references a compliance receipt via `mandate_ref`, the audit-chain composition is:

chain row N		chain row N+1
+-----+		+-----+
compliance	-->	cancellation
receipt		receipt
(ALLOW)		(USER_REQ)
+-----+		+-----+

Row N anchors the compliance receipt admitting the mandate. Row N+1 anchors the cancellation receipt. The cancellation receipt's `mandate_ref` equals row N's `content_hash`. Chain linkage via `prev_hash` confirms ordering.

### 5.4. Composition with Settlement Attestations

For mandates with intervening recurring executions, settlement attestations occupy rows between the compliance receipt and the cancellation receipt:

chain row N		chain row N+1		chain row N+2		chain row N+3
+-----+		+-----+		+-----+		+-----+
compliance	-->	settlement	-->	settlement	->	cancellation
receipt		attestation		attestation		receipt
(ALLOW)		(SETTLED)		(SETTLED)		(USER_REQ)
+-----+		+-----+		+-----+		+-----+
row N		row N+1		row N+2		row N+3

A verifier walking the chain confirms the full mandate lifecycle under one canonicalisation pin.

### 5.5. Composition with Refund Receipts

When a `USER_REQUESTED` cancellation triggers a refund obligation under PSD2 Article 64 (refund of a recently-settled debit that predated the cancellation but post-dated the effective revocation window), a refund receipt MAY follow:

chain row N+3		chain row N+4
+-----+		+-----+
cancellation	--->	refund
receipt		receipt
(USER_REQ)		(FULL)
+-----+		+-----+

The refund receipt's `original_payment_ref` references the settlement attestation being refunded (not the cancellation receipt). The cancellation receipt is the chain-evidence anchor that establishes why the refund is owed.

## 6. Year-N Auditability Properties

The same six properties pinned by [I-D.hopley-x402-canonicalisation-jcs] Section 5 apply to the cancellation receipt:

1. Self-describing canonicalisation pin via `canon_version`.
2. No external rule registry required.
3. Cross-implementation verifiability (8-implementation matrix per the discipline I-D).
4. Tamper detection via per-row `content_hash` and chain `prev_hash` linkage.
5. Regulatory distinction preserved via closed enumeration.

Plus one cancellation-specific property:

6. \*Mandate-cancellation evidence chain.\* A verifier reading a retained cancellation receipt years after emission can determine (a) which mandate was cancelled (via `mandate_ref`), (b) who cancelled it (via the combination of `cancellation_reason` and `cancellation_provider_did`), (c) when the cancellation was recorded (`cancellation_timestamp_ms`), and (d) when it became effective (`effective_from_ms`), without dependence on the issuing operator's continued operation.

## 7. Composition with Other x402 Substrate

### 7.1. Compliance Receipt Linkage

See Section 5.3. The conventional `mandate_ref` target for a mandate admitted under a compliance receipt is the `content_hash` of that compliance receipt.

### 7.2. Settlement Attestation Linkage

See Section 5.4. Settlement attestations recording recurring executions occupy chain rows between the admission and the cancellation. The cancellation receipt does not reference individual settlement attestations directly; chain linkage via `prev_hash` establishes ordering.

### 7.3. Refund Receipt Linkage

See Section 5.5. A `USER_REQUESTED` cancellation MAY be followed in the chain by a refund receipt if PSD2 Article 64 refund obligations attach to a recently-settled debit.

### 7.4. Non-Goals

This document does not encode:

- \* The mandate's terms (frequency, cap, expiry condition). Those belong in the mandate record itself.
- \* The refund obligation determination. PSD2 Article 64 refund-window applicability is verifier-side judgement against retained settlement attestations.
- \* The compliance event driving a `COMPLIANCE_TERMINATED` outcome. That belongs in a separate compliance receipt linked via the audit chain.

## 8. IANA Considerations

### 8.1. URN Namespace Registration

This document references the URN `urn:x402:canonicalisation:jcs-rfc8785-v1` registered by [I-D.hopley-x402-canonicalisation-jcs] Section 10.1. No additional URN namespace registration is required by this document.

### 8.2. Receipt Format Identifier

This document defines the receipt format identifier:

`urn:x402:receipt:cancellation-receipt-v1`

This identifier MAY be used by composite-trust-query implementations to refer to cancellation receipts as a class. Registration with IANA is requested under the x402 URN namespace.

## 9. Security Considerations

### 9.1. Receipt Tampering

A cancellation receipt's `content_hash` is the SHA-256 of its JCS-canonical bytes. Tampering with any field produces a different hash; the tampered receipt fails verification against any audit-chain row referencing the original `content_hash`.

## 9.2. Backdated Cancellation

The two-timestamp design (`cancellation_timestamp_ms` recording event time, `effective_from_ms` recording legal effective time) admits a class of attack where a malicious operator emits a receipt at time  $T$  with `effective_from_ms` set to a past timestamp  $T' < T$ , to retroactively void a debit that has already settled.

Mitigation is verifier-side: a verifier MUST cross-check the `cancellation_timestamp_ms` against operator-emission-time evidence (TLS log, `audit-chain_prev_hash` of the row recording this receipt, external timestamping service) before accepting a claimed effective time in the past.

The `effective_from_ms >= cancellation_timestamp_ms` invariant required by Section 3.4 prevents the simpler attack of stamping the recording time in the past, but does not by itself prevent all backdating attacks.

## 9.3. Reason Spoofing

A malicious operator could emit a `MERCHANT_REQUESTED` receipt for what was actually a `USER_REQUESTED` cancellation, to avoid the PSD2 Article 64 refund-window obligation. Detection requires out-of-band evidence (payer complaint, payer-side log, regulator inspection). The `cancellation_provider_did` identifies the attesting party, supporting accountability.

## 9.4. Compliance-Terminated Receipt Disclosure

A `COMPLIANCE_TERMINATED` receipt records that a compliance trigger fired against the payer. Such a receipt MAY contain indirectly-disclosing information: the existence of the cancellation under that reason, combined with public sanctions listing dates, MAY reveal that the payer was placed on a sanctions list.

Implementations SHOULD restrict access to `COMPLIANCE_TERMINATED` receipts to parties with a legitimate audit interest (regulator, auditor, court order). Public disclosure of such receipts is NOT in scope of this document.

## 9.5. Operator Continuity Loss

If the original attesting operator becomes unavailable, the audit chain and its cancellation receipts MUST remain independently verifiable from retained bytes plus the reference implementations cited in [I-D.hopley-x402-canonicalisation-jcs] Section 7.

## Appendix A. References

### A.1. Normative References

- \* [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, DOI 10.17487/RFC2119, March 1997.
- \* [RFC8174] Leiba, B., "Ambiguity of Uppercase vs Lowercase in RFC 2119 Key Words", BCP 14, RFC 8174, DOI 10.17487/RFC8174, May 2017.
- \* [RFC8259] Bray, T., Ed., "The JavaScript Object Notation (JSON) Data Interchange Format", STD 90, RFC 8259, DOI 10.17487/RFC8259, December 2017.
- \* [RFC8785] Rundgren, A., Jordan, B., and S. Erdtman, "JSON Canonicalization Scheme (JCS)", RFC 8785, DOI 10.17487/RFC8785, June 2020.
- \* [I-D.hopley-x402-canonicalisation-jcs] Hopley, C., "JCS Canonicalisation Discipline for Agentic-Payment Receipts", draft-hopley-x402-canonicalisation-jcs-v1, May 2026.

### A.2. Informative References

- \* [I-D.hopley-x402-compliance-receipt] Hopley, C., "Categorical Compliance Screening Receipt Format for Agentic-Payment Flows", draft-hopley-x402-compliance-receipt-00, May 2026.
- \* [I-D.hopley-x402-settlement-attestation] Hopley, C., "Categorical Settlement Attestation Format for Agentic-Payment Flows", draft-hopley-x402-settlement-attestation-00, May 2026.
- \* [I-D.hopley-x402-refund-receipt] Hopley, C., "Categorical Refund Receipt Format for Agentic-Payment Flows", draft-hopley-x402-refund-receipt-00, May 2026.
- \* [AlgoVoi-Substrate-Authorship] AlgoVoi, "Substrate Authorship and Provenance", target="<https://docs.algovoi.co.uk/substrate-authorship-provenance>" (<https://docs.algovoi.co.uk/substrate-authorship-provenance>)
- \* EU Payment Services Directive 2 (PSD2, Directive 2015/2366), Articles 64, 72, 89.
- \* EU Markets in Crypto-Assets Regulation (MiCA, Regulation (EU) 2023/1114), Article 80.
- \* EU Anti-Money Laundering Regulation (AMLR, Regulation (EU) 2024/1624), Article 56.
- \* EU Anti-Money Laundering Directive 5 (Directive (EU) 2018/843).
- \* EU Anti-Money Laundering Directive 6 (Directive (EU) 2018/1673).
- \* UK Proceeds of Crime Act 2002, section 330.
- \* UK Consumer Rights Act 2015.

## Appendix B. Appendix A. Examples (Informative)

## B.1. A.1. USER\_REQUESTED revocation under PSD2 Article 64

```
{
  "canon_version": "jcs-rfc8785-v1",
  "cancellation_provider_did": "did:web:api.algovoi.co.uk",
  "cancellation_reason": "USER_REQUESTED",
  "cancellation_timestamp_ms": 1716494400000,
  "effective_from_ms": 1716537600000,
  "jurisdiction_flags": ["UK", "EU"],
  "mandate_ref": "sha256:0dd5d0b76c9b9281fdeb2509ad38ab132b16a17385ca01d976ff9e6e12563
a0f"
}
```

Records a payer-initiated revocation under PSD2 Article 64 with effective time set to end-of-business-day prior to the next scheduled execution per Article 64(3)(a). If a debit already settled within the recoverable window prior to the effective date, a refund receipt MAY follow.

## B.2. A.2. MERCHANT\_REQUESTED termination under PSD2 Article 72

```
{
  "canon_version": "jcs-rfc8785-v1",
  "cancellation_provider_did": "did:web:api.algovoi.co.uk",
  "cancellation_reason": "MERCHANT_REQUESTED",
  "cancellation_timestamp_ms": 1716494400000,
  "effective_from_ms": 1716537600000,
  "jurisdiction_flags": ["UK", "EU"],
  "mandate_ref": "sha256:0dd5d0b76c9b9281fdeb2509ad38ab132b16a17385ca01d976ff9e6e12563
a0f"
}
```

Records payee-initiated termination of the recurring billing arrangement. Does not trigger the Article 64 refund-window obligation on already-settled debits.

## B.3. A.3. COMPLIANCE\_TERMINATED under sanctions hit

```
{
  "canon_version": "jcs-rfc8785-v1",
  "cancellation_provider_did": "did:web:api.algovoi.co.uk",
  "cancellation_reason": "COMPLIANCE_TERMINATED",
  "cancellation_timestamp_ms": 1716494400000,
  "effective_from_ms": 1716494400000,
  "jurisdiction_flags": ["UK", "EU"],
  "mandate_ref": "sha256:0dd5d0b76c9b9281fdeb2509ad38ab132b16a17385ca01d976ff9e6e12563
a0f"
}
```

Records immediate operator-forced termination. Effective time equals recording time. Anchors POCA s.330 and AML 5+6 audit-chain linkage back to the originating compliance receipt (a separate record).

#### B.4. A.4. EXPIRED at agreed mandate end-date

```
{
  "canon_version": "jcs-rfc8785-v1",
  "cancellation_provider_did": "did:web:api.algovoi.co.uk",
  "cancellation_reason": "EXPIRED",
  "cancellation_timestamp_ms": 1716494400000,
  "effective_from_ms": 1716494400000,
  "jurisdiction_flags": ["UK", "EU"],
  "mandate_ref": "sha256:0dd5d0b76c9b9281fdeb2509ad38ab132b16a17385ca01d976ff9e6e12563
a0f"
}
```

Records time-based expiry of the mandate. Standard record-keeping only; no further regulatory action attaches.

#### Appendix C. Appendix B. Reference Implementations (Informative)

The following open-source implementations conform to this format:

- \* `algovoi-cancellation-receipt` (Python) on PyPI:  
 target="https://pypi.org/project/algovoi-cancellation-receipt/"  
 (https://pypi.org/project/algovoi-cancellation-receipt/) Provides  
`build_cancellation_receipt()`. Depends on `algovoi-substrate` for  
 the JCS canonicalisation primitive. Apache 2.0 licensed.
- \* `@algovoi/cancellation-receipt` (TypeScript) on npm:  
 target="https://www.npmjs.com/package/@algovoi/cancellation-  
 receipt" (https://www.npmjs.com/package/@algovoi/cancellation-  
 receipt) Byte-for-byte parity with the Python sibling. Depends on  
`@algovoi/substrate` for the JCS canonicalisation primitive. Apache  
 2.0 licensed.

Conformance vectors:

[https://github.com/chopmob-cloud/algovoi-jcs-conformance-vectors/tree/main/vectors/cancellation\\_receipt\\_v1](https://github.com/chopmob-cloud/algovoi-jcs-conformance-vectors/tree/main/vectors/cancellation_receipt_v1)

8 byte-level reference vectors + 7 pair invariants + 3 chain invariants pinning the closed four-element enumeration, jurisdiction-array-order, canon\_version pin, effective-time-greater-equal-recording-time invariant, and audit-chain linkage properties.



## Appendix D. Known Adopters (Informative)

The following downstream parties have published artefacts that anchor to the cancellation receipt format specified by this document, or to the canonicalisation discipline shared with this format. Inclusion in this list is informational and reflects public adoption only; it does not imply endorsement or normative authority from the listed party.

Adopter	Surface	Anchor
AlgoVoi ( <a href="https://api.algovoi.co.uk">api.algovoi.co.uk</a> )	Production mandate-lifecycle issuer	All AlgoVoi-emitted cancellation receipts under canon_version: jcs-rfc8785-v1

Table 1

Adopters publishing vector sets or receipt-format extensions that anchor to this format are encouraged to publish them in adopter-controlled repositories with `canon_version` recorded in-band, so each adopter's authorship is unambiguous and their artefact is independently citable.

This appendix is maintained as a record of observed adoption at the time of revision; absence from this list is not normative.

## Appendix E. Acknowledgments

This document, the receipt format it specifies, and the conformance vectors derived from it are AlgoVoi work under AlgoVoi authorship. Substrate authorship history is catalogued at `target="https://docs.algovoi.co.uk/substrate-authorship-provenance"` (<https://docs.algovoi.co.uk/substrate-authorship-provenance>).

The canonicalisation discipline pinned by Section 4 is normatively specified in [I-D.hopley-x402-canonicalisation-jcs] under the same authorship.

This document closes the lifecycle gap between the admission-time compliance receipt ([I-D.hopley-x402-compliance-receipt]), per-execution settlement attestation ([I-D.hopley-x402-settlement-attestation]), and post-cancellation refund receipt ([I-D.hopley-x402-refund-receipt]) formats. The four formats share the same canonicalisation pin, audit-chain row shape, and integer-millisecond timestamp encoding, so that a verifier walking the full mandate lifecycle requires only one implementation of the canonicalisation discipline.

The author acknowledges Anders Rundgren as the editor of RFC 8785, the JSON Canonicalization Scheme on which the discipline builds.

#### Author's Address

Christopher Hopley  
AlgoVoi  
Email: chopmob@gmail.com