

VCP-FIX Tag Mapping Reference

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Purpose

This document provides a semantic mapping between VeritasChain Protocol (VCP) v1.0 event fields and FIX Protocol tags. VCP operates as a **complementary audit layer** alongside FIX—not a replacement. FIX handles real-time message exchange; VCP provides cryptographically verifiable audit evidence.

1. Event Type Mapping

VCP Event	Code	FIX Message	MsgType (35)	Notes
SIG	1	—	—	Pre-trade; no FIX equivalent
ORD	2	NewOrderSingle	D	Order submission
ACK	3	ExecutionReport	8	ExecType=0 (New)
EXE	4	ExecutionReport	8	ExecType=F (Trade)
PRT	5	ExecutionReport	8	ExecType=F, partial
REJ	6	ExecutionReport	8	ExecType=8 (Rejected)
CXL	7	ExecutionReport	8	ExecType=4 (Canceled)
MOD	8	OrderCancelReplace	G	Modification
CLS	9	ExecutionReport	8	Position close
ALG	20	—	—	Governance; no FIX equiv
RSK	21	—	—	Risk; no FIX equiv
HBT	98	Heartbeat	0	Session-level
ERR	99	Reject	3/j	Error handling

2. Core Field Mapping

2.1 Identification Fields

VCP Field	VCP Location	FIX Tag	FIX Name	Notes
event_id	Header	—	—	VCP-specific UUID v7
trace_id	Header	—	—	Links SIG→ORD→EXE
—	—	11	ClOrdID	Client order ID
—	—	37	OrderID	Broker order ID
account_id	Header	1	Account	Account identifier
venue_id	Header	100	ExDestination	Execution venue

2.2 Order Fields (VCP-TRADE ↔ FIX)

VCP Field	FIX Tag	FIX Name	Notes
order_id	37	OrderID	Exchange/broker ID
side	54	Side	1=Buy, 2=Sell
order_type	40	OrdType	1=Market, 2=Limit
price	44	Price	Limit price
quantity	38	OrderQty	Order quantity
filled_qty	14	CumQty	Cumulative filled
leaves_qty	151	LeavesQty	Remaining qty
avg_price	6	AvgPx	Average fill price

last_price	31	LastPx	Last fill price
last_qty	32	LastQty	Last fill quantity

2.3 Time Fields

VCP Field	FIX Tag	FIX Name	Notes
timestamp_iso	60	TransactTime	Transaction time
timestamp_int	—	—	VCP: nanoseconds as string
clock_sync_status	—	—	GAP: No FIX equivalent
timestamp_precision	—	—	GAP: No FIX equivalent

3. Security/Audit Fields (VCP-Specific)

These fields have **no FIX equivalent** and represent VCP's core value proposition:

VCP Field	Location	Description	FIX Status
event_hash	Security	SHA-256 of event	GAP
prev_hash	Security	Chain link to previous	GAP
merkle_root	Security	Batch verification anchor	GAP
signature	Security	Ed25519 signature	GAP
sign_algo	Security	Signature algorithm ID	GAP

4. Proposed FIX Extension Tags (User-Defined Range)

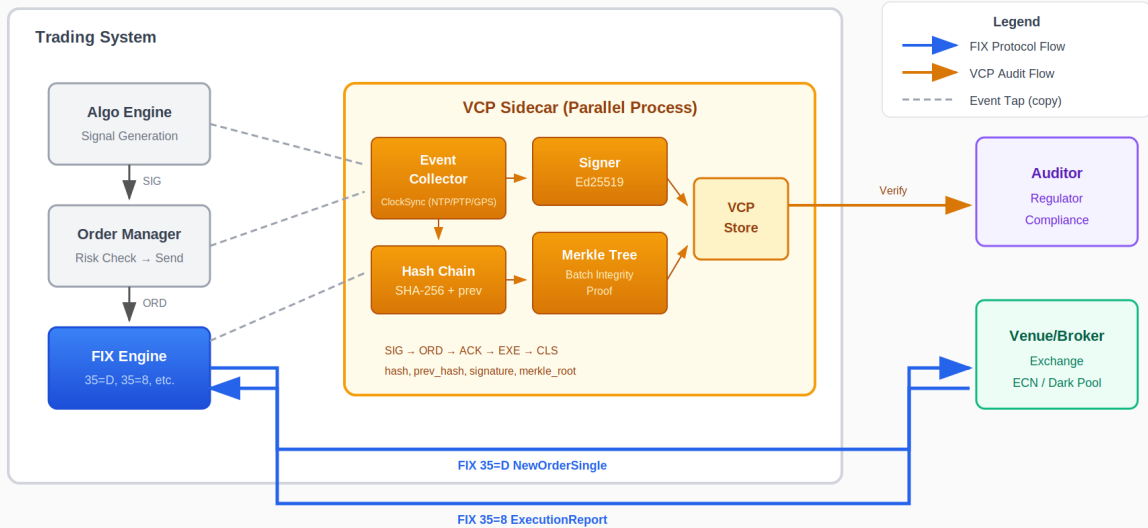
Tag	Name	Type	Description
20001	AuditEventHash	String	SHA-256 hash (first 16 hex chars)
20002	AuditPrevHash	String	Previous event hash reference
20003	AuditTraceID	String	UUID v7 trace identifier
20004	ClockSyncStatus	Int	0=Unknown, 1=NTP, 2=PTP, 3=GPS
20005	AuditMerkleRoot	String	Batch Merkle root (optional)
20006	TimestampPrecision	Int	0=Sec, 1=ms, 2=μs, 3=ns
20007-09	Algo* fields	Various	Decision factors, confidence, method
20010-12	Signature fields	Various	Signature, algo, key reference

User-defined range (20001-20999) for PoC. Formal tag allocation via FIX GTC if adopted as Extension Pack.

5. Integration Architecture

VCP-FIX Sidecar Integration Architecture

FIX messages flow unchanged • VCP adds cryptographic audit layer in parallel



Key Principle: Zero FIX Modification • No Impact on Trading Latency

FIX messages flow to venue unchanged. VCP sidecar runs async, adds cryptographic proof, enables independent verification.

References: VCP v1.0 (veritaschain.org) | FIX Latest (fixtrading.org) | EP292, EP297

Contact: technical@veritaschain.org | standards@veritaschain.org

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