OMNARETH

SOLUTION BRIEF

Cargo Chain of Custody & Fraud Prevention

By road and sea: stop unauthorized releases and custody fraud, and prove every handoff

The challenge

High-value cargo changes hands many times, on the road and across the ocean, between parties that verify each other with paperwork. The costliest losses often involve no force at all: a driver who was never dispatched, a forged release order or bill of lading, a vessel that diverts to an unbooked port. They succeed because the gate cannot see the whole custody record, and because nobody can later prove what that record said.

The solution

Omnareth checks every handoff, vessel loading and discharge, voyage report and release against the shipment's record and explicit custody rules before anything moves, returns allow, flag or deny with the reasons, remembers who tried across shipments, and seals every decision so the custody record can be proven unaltered.

Every refusal records the driver, truck or party it implicated. Repeat offenders, reused release orders and drivers working several shipments open fraud cases; confirming a case blocks that identity on every shipment.

23	75 ms	22/22
threats covered by the reference rules	median fraud-checked, audited decision, lab test	reference scenario decisions correct and verified on chain

How it fits

Omnareth sits beside your transport, warehouse and terminal systems. They send events and act on the decision; when a transfer is allowed, they update the shipment's custodian. Refused attempts never change custody.

Evidence that holds up

Every decision stores the shipment state, the event and the exact rules evaluated under a SHA-256 integrity hash, anchored on the Omnareth chain.

In testing, a decision flipped from DENY to ALLOW, an edited seal number, and an edit hidden by recomputing the stored hash were all detected.

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What it stops

THREAT	HOW OMNARETH CATCHES IT	DECISION
Seal tampering or seal swap	Seal at handoff differs from the origin seal, or is reported broken	DENY
Container swap	Container number differs from the booking	DENY
Custody gap / ghost handoff	Party handing over or releasing is not the recorded custodian	DENY
Unauthorized custodian	Receiving party is not approved for the route	DENY
Unauthorized release	Release recipient is not an authorized consignee	DENY
Forged or stale release order	Release order at the gate does not match the order issued	DENY
Fictitious pickup	Driver is not on the consignee's dispatch list	DENY
Double release	Shipment has already been released	DENY
Premature release	Customs not cleared, or a hold is active	DENY
Seal compromised at release	Seal missing, different or broken at the gate	DENY
Door breach in transit	Doors opened outside an authorized facility	DENY
Pilferage or contraband	Scale weight outside the booked tolerance	FLAG
Hijack precursors	Route deviation or unscheduled stop over 30 minutes	FLAG
Skipped inspection	Handoff recorded without a seal check	FLAG
Phantom or switched vessel	Container loaded on, or arriving on, a vessel other than the booked one	DENY
Wrong port of loading	Loading at a port other than the booked port	DENY
Seal tampering at sea	Seal missing, different or broken at loading or discharge	DENY
Cargo diversion	Discharge at a port that is not an authorized port of discharge	DENY
Ship-to-ship transfer	A transfer between vessels at sea reported for the cargo	DENY
Forged bill of lading	Bill of lading presented at release is not the one the carrier issued	DENY
Release without the original bill	Original bill of lading not surrendered at release	DENY
AIS dark period	Vessel stopped transmitting its position for over 6 hours	FLAG
Unscheduled port call	Call at a port not on the vessel's published rotation	FLAG

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Across shipments

THREAT	HOW OMNARETH CATCHES IT	DECISION
Known fraudster returns	A driver, truck or party in the event is blocked on the fraud watchlist	DENY
Watched identity	An identity is under watch, added by an analyst or automatically	FLAG
Repeat offender	An identity was implicated in 2 or more denied events in the last 30 days	FLAG
Compromised release document	The release order or bill of lading has also been presented for another shipment	FLAG
Driver hopping	The driver was implicated in denied pickups on 2 or more other shipments in 24 hours	FLAG

The reference voyage

Shipment SHP-2026-0071, 24 t of copper cathodes, Antofagasta to Rotterdam on the Pacific Meridian under an original bill of lading:

EVENT	DECISION	RULES THAT FIRED
Loading switched to a vessel never booked	DENY	VESSEL_MISMATCH
Loaded on the booked vessel at Antofagasta	ALLOW	-
Vessel dark for 14 hours	FLAG	AIS_GAP
Ship-to-ship transfer reported	DENY	SHIP_TO_SHIP_TRANSFER
Unscheduled call at Tanger Med	FLAG	UNSCHEDULED_PORT_CALL
Discharge attempted at Tanger Med	DENY	UNAUTHORIZED_DISCHARGE
Discharged at Rotterdam; vessel now on watch	FLAG	WATCHLIST_MATCH · REPEAT_OFFENDER
Forged original bill of lading	DENY	INVALID_BILL_OF_LADING
Original bill surrendered by the consignee	ALLOW	-

Next step: run the reference scenarios with your team (one command each: 22 custody decisions by road and sea, then an impostor followed across 3 shipments, every record verified), then scope a shadow-mode pilot on one lane or terminal. See the Pilot Program Guide.

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