

The Programmable Network:
Navigating Fragmentation in the Network API Era

SIPNOC – September 2026

Who am I, and what is netnumber?

Number Intelligence as a Service (NIaaS)

GLOBAL CONTEXT

Authoritative numbering, routing & carrier data across the world

OPERATIONAL DECISIONS

Validate • enrich • route • monitor

USE CASES

Voice & messaging • digital identity • fraud prevention

Network APIs: Early Use Cases

Digital Identity APIs across the customer journey



Trusted Conversation

Number Check

Reject Bots

Scam Signal

Tenure Signal

Account Protection

Device Binding

SIM Swap

Seamless Authentication

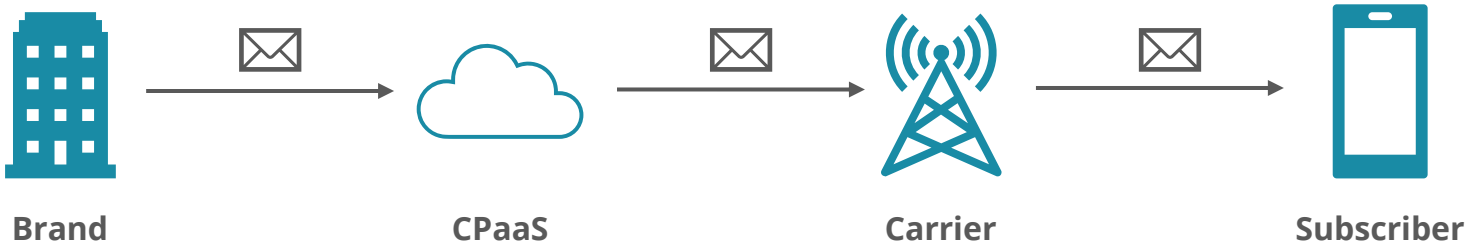
Identity Verification

Number Verify

KYC Match

Image by Sprinklr

Delivering OTP Text Messages is Easy



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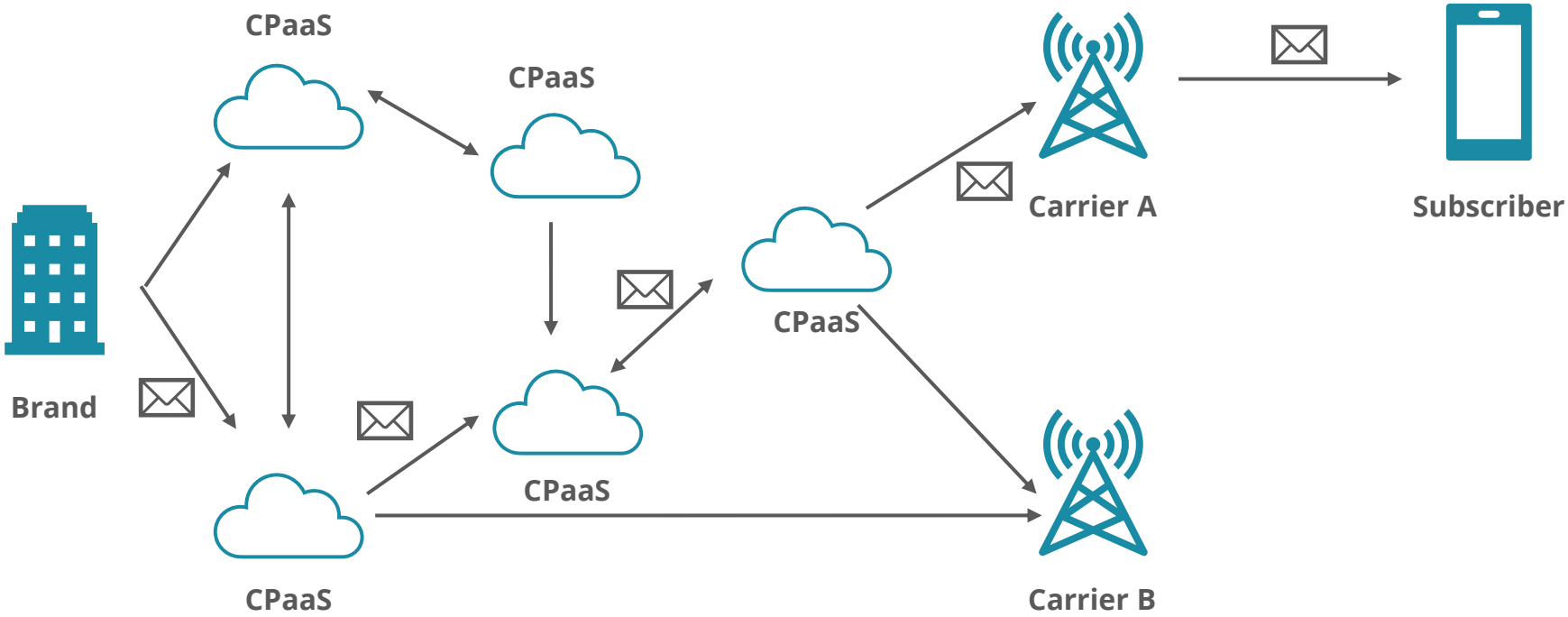
Just Kidding...



International A2P SMS often combines direct routes with wholesale coverage for the long tail.

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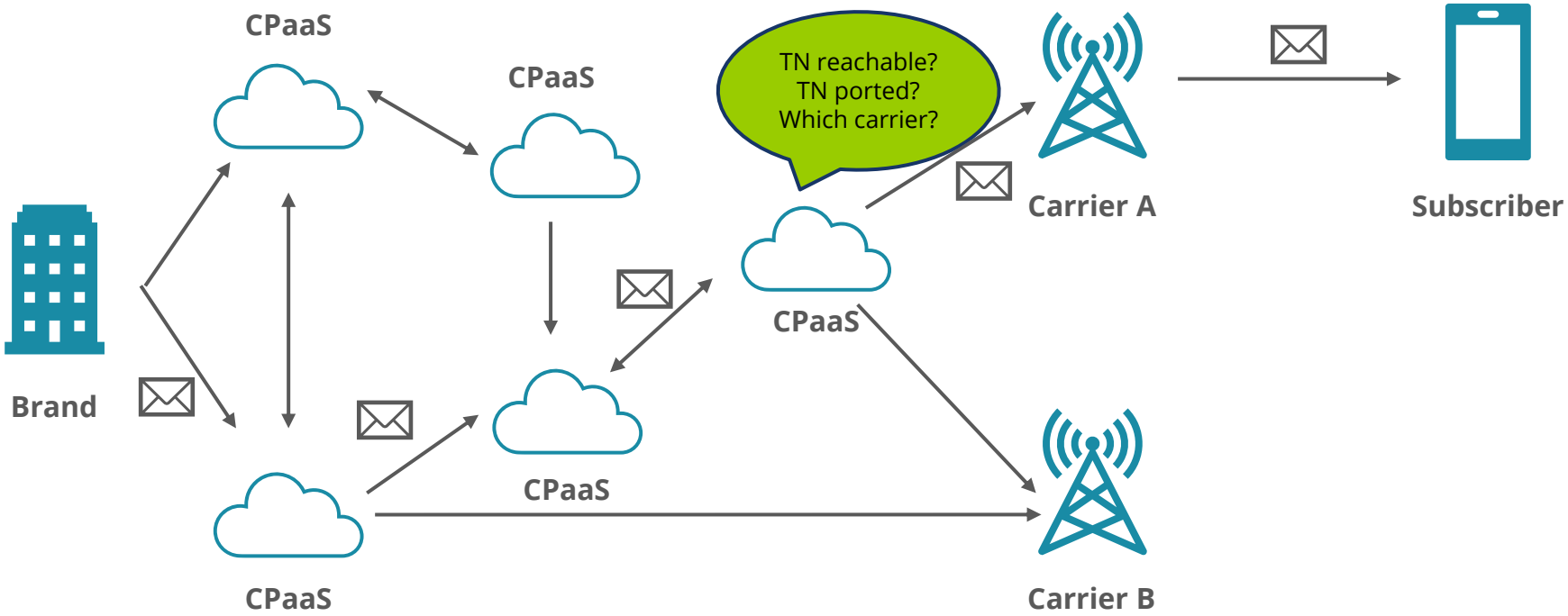
Message Routing Needs Number Intelligence



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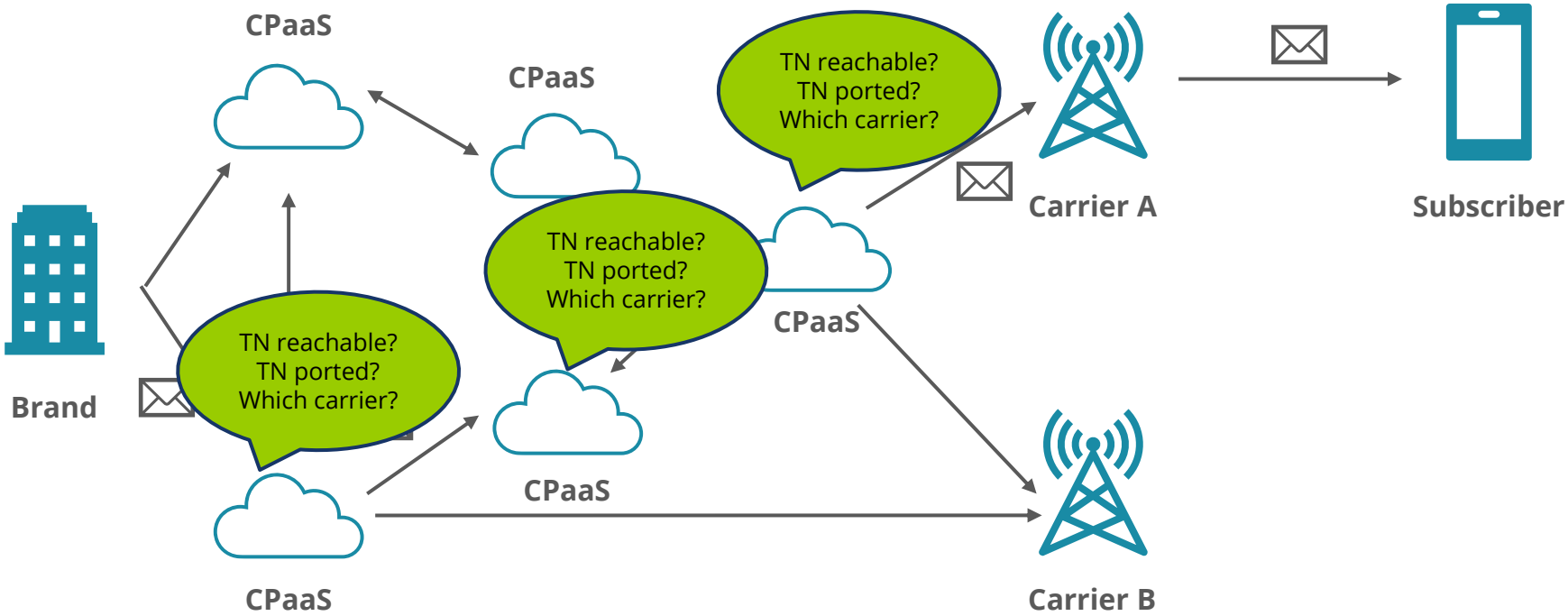
Routing Decisions Happen at Every Hop



At each step in the delivery chain, the next best hop needs to be determined

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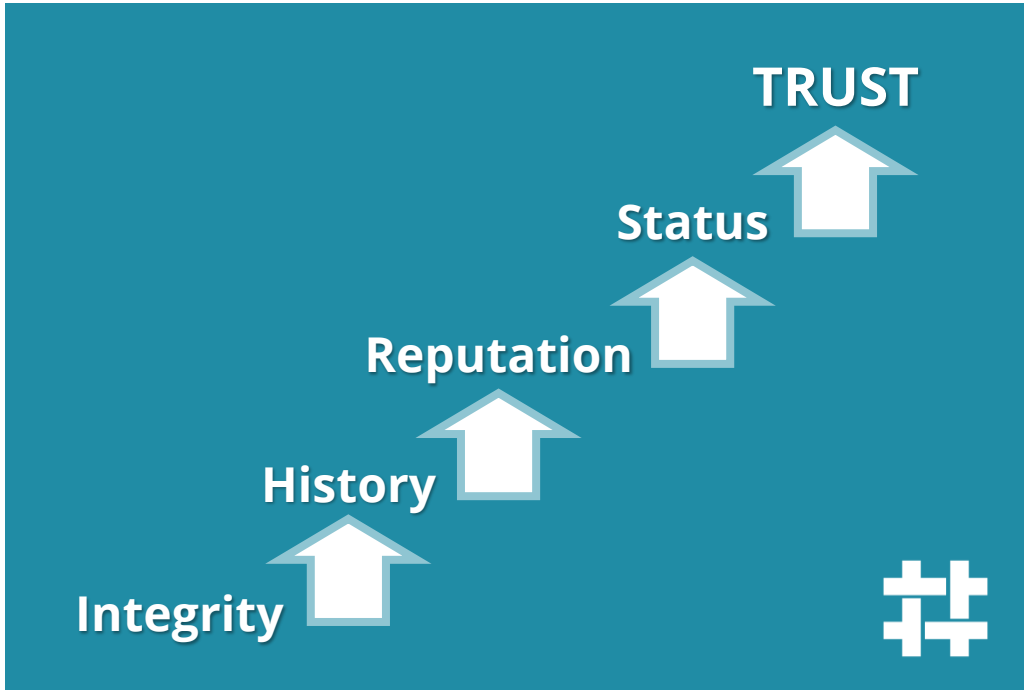
What is Number Intelligence?

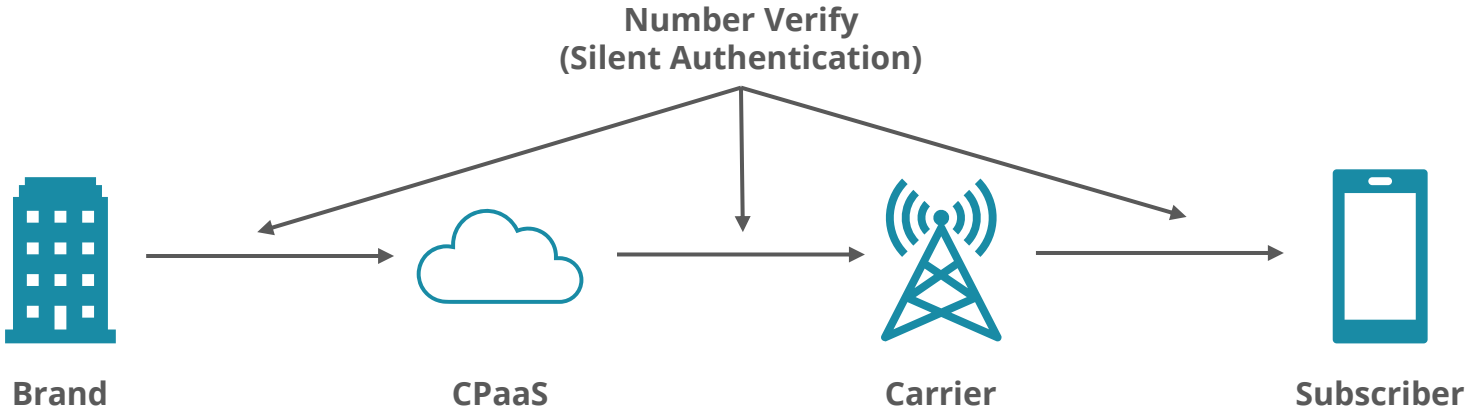
Metadata and Activity – Current and Historical

- Carrier / service provider
- Number type
- Texting capability
- Porting status
- Last porting date
- Valid / invalid
- Involvement in fraud
- Many more…

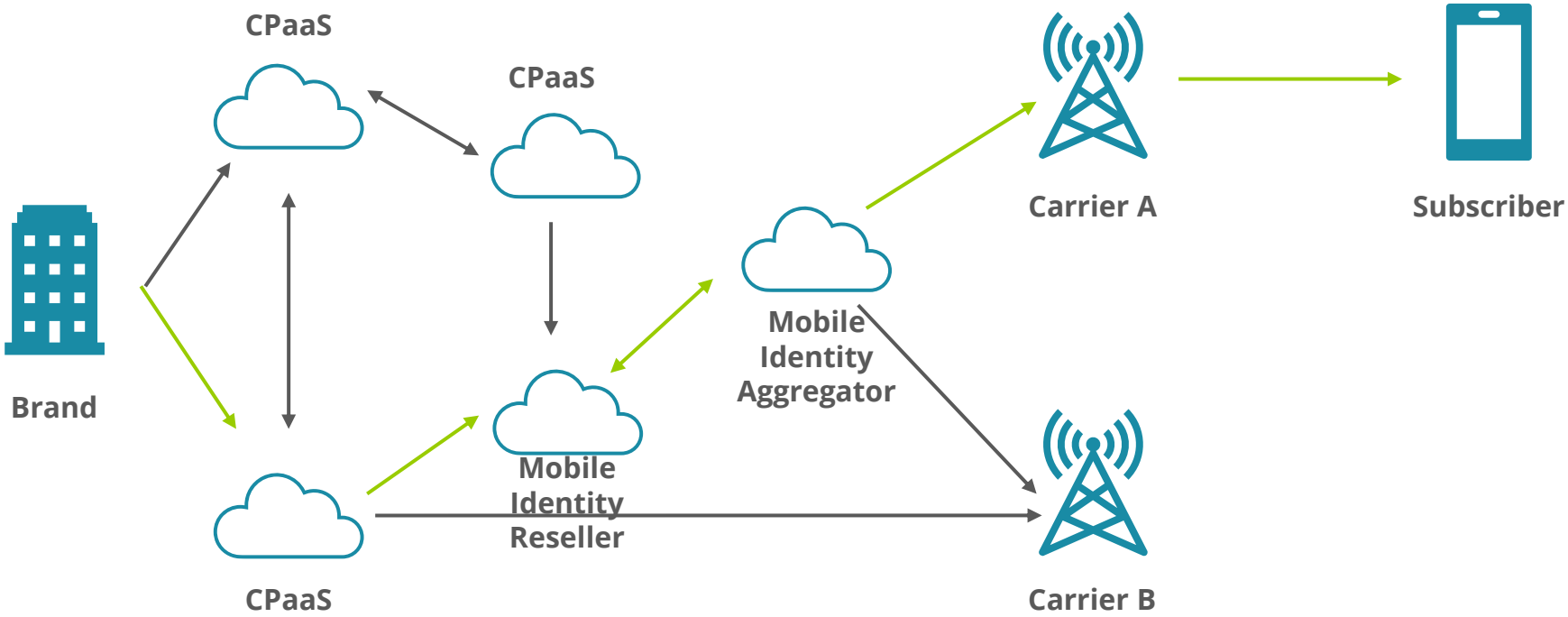


Global – Authoritative – Real-Time

Luckily, We Have Network APIs



Just Kidding Again...



Network APIs are also built on a mix of direct connectivity and aggregation / resell

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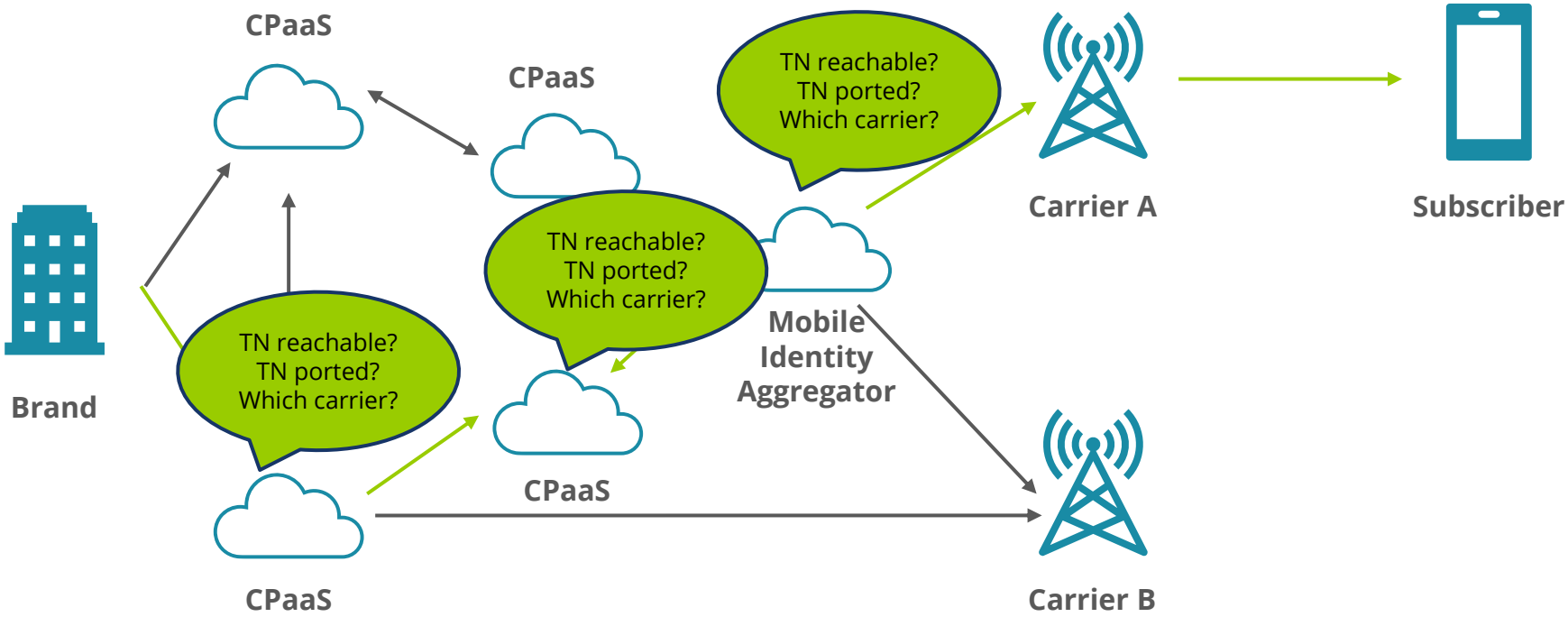
API Access Still Has a Routing Problem



At each step, the next API path depends on current number context

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New World, Old Challenges

Challenge	Text Messages	Network APIs
Ecosystem Fragmentation	Direct routes plus wholesale / resell. Local gateways and exclusives.	Direct APIs plus aggregators, resellers and service enablers.
Number Portability	Wrong carrier data can mean failed delivery, extra hops or higher cost.	The serving carrier must be identified before choosing the API endpoint.
Cost Optimization	Pay-per-submit means unreachable numbers create avoidable spend.	Avoidable API calls matter when transactions are priced per request.
Failover	Reach is broad; alternate routes and providers are commonly available.	Coverage varies by carrier, market and API. Fall back to other signals or channels.

Number intelligence is the decision layer that connects channels and APIs — helping optimize reach, cost and customer experience.

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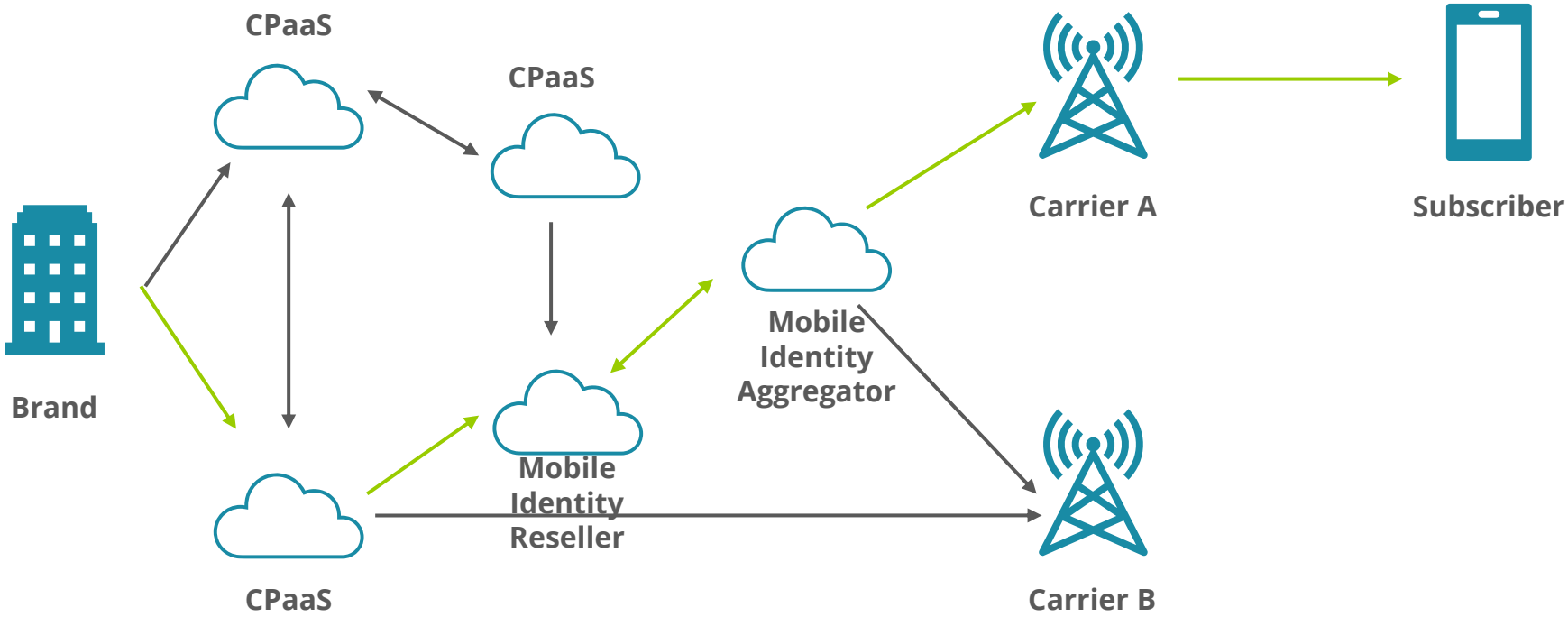
With Number Intelligence, This...



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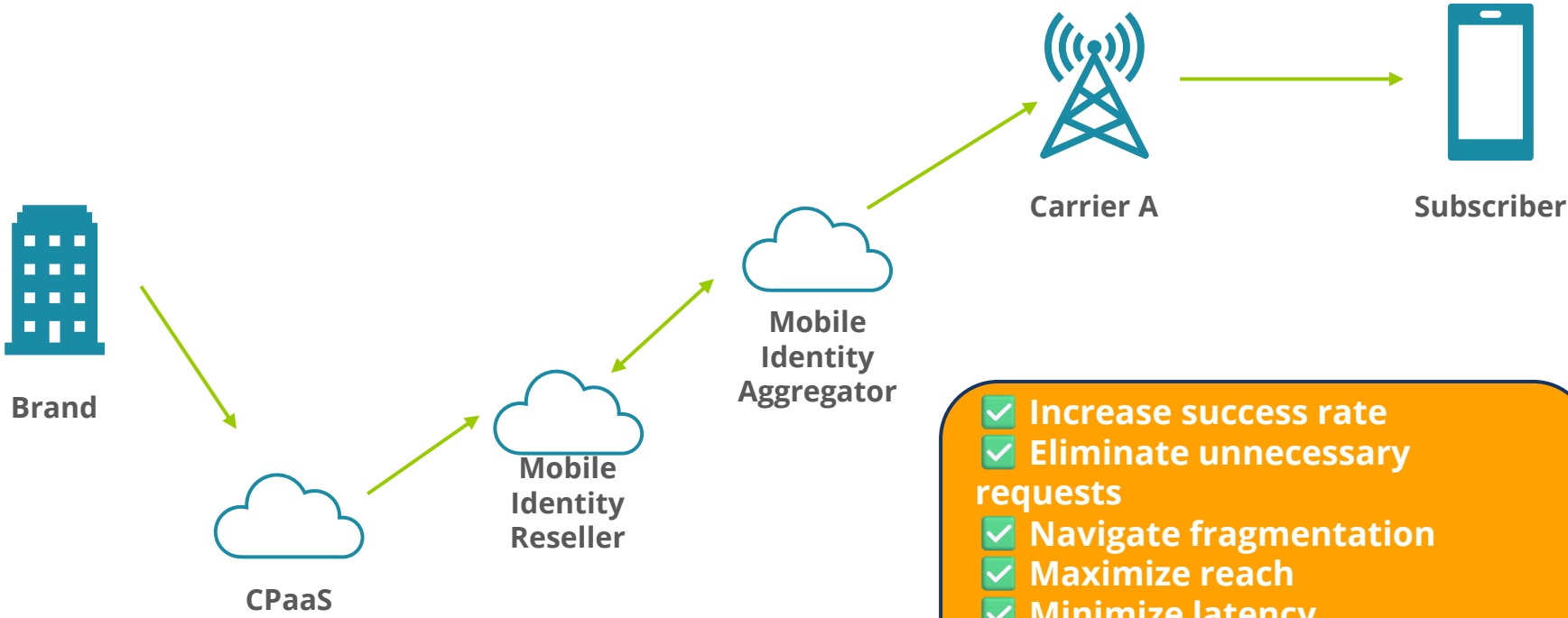
… Becomes This



- ✅ Increase success rate
- ✅ Eliminate unnecessary requests
- ✅ Navigate fragmentation
- ✅ Maximize reach
- ✅ Minimize latency
- ✅ Reduce cost
- ✅ Mix channels intelligently

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Number Intelligence as a Service