WHITEPAPER

The IdentityDNS Whitepaper

How businesses are understood, owned, and chosen when AI replaces search.

EXECUTIVE SUMMARY

IdentityDNS produces a structured, machine-readable identity record for local businesses. The product activates in minutes, strengthens through guided inputs, and emits a canonical JSON-LD object that search engines, AI systems, and validators consume directly.

This paper defines the architecture behind that system: how business identity is structured, verified, owned, and evaluated when AI is the primary discovery interface.

The Protocol of Deterministic Search

Why AI cannot recommend what it does not understand.

The End of Probabilistic Discovery

For twenty years, local business discovery ran on guesswork. Search engines indexed fragments from directories, review sites, social profiles, and websites, then assembled a best guess for each business. Inconsistent signals. Unverified data. Often contradictory.

The taxonomy behind that era was equally shallow: categories, keywords, ad groups, and service pages. Built for indexing. Never for understanding.

That model worked when the interface was ten blue links. Users absorbed the ambiguity. They clicked, compared, and decided for themselves.

AI does not work this way.

> AI requires deterministic inputs to produce deterministic outputs. Ambiguous input means the output is wrong or absent.

When a customer asks an AI assistant for a roofer in Tampa, the system resolves that query against structured, verified data. If that data does not exist, the AI hallucinates an answer or declines to recommend.

Neither outcome serves the business.

The Deterministic Requirement

Deterministic search means the system produces the same correct answer every time. Three properties are required:

First: structured data. The business defined in a machine-readable schema. Canonical fields, verified values. Not scraped fragments.

Second: verified provenance. Data traceable to the business owner. Not inferred from third-party aggregation.

Third: temporal currency. Data that reflects the current state of the business. Not a cached snapshot from an unknown date.

> Without all three, no AI system can recommend a business with confidence.

The IdentityDNS Resolution

IdentityDNS establishes a canonical identity record for each business. Not a profile. Not a listing. A structured data object that satisfies all three deterministic requirements.

The record is built through a resolution process: observed from public data, claimed and verified by the owner, then enriched with structured signals AI can query directly.

The result: AI resolves business queries against verified, owner-controlled data. Deterministically.

> This is not an optimization of search. It is a replacement of the underlying model.

The businesses that get structured first get recommended first. That is the protocol.

Local AI Taxonomy

The old local-search world organized businesses around categories, keywords, ad groups, and service pages. That taxonomy was designed for indexing. It helped businesses show up in a list. It was never designed to explain why one business should be chosen over another.

AI needs something deeper. It needs to understand why a business deserves a recommendation.

> IdentityDNS is built on Local AI Taxonomy: a proprietary organizing system for how local businesses are understood, trusted, and recommended by AI.

Local AI Taxonomy captures the drivers behind actual buying decisions. What the business does. Who it is right for. What makes it credible. What makes it different. What reassurance its customers need. What proof supports its claims. What context shifts a recommendation from tentative to confident.

Categories tell a machine what kind of business it is looking at. Local AI Taxonomy tells a machine whether to recommend it and why.

Every module in the product is built on this taxonomy. 33 Truths structure the business around it. The FAQ Engine surfaces questions that map to it. The Proof Engine generates signals that support it. The taxonomy is not a feature. It is the foundation.

> Keywords described traffic. Local AI Taxonomy explains recommendation.

Trust Signal Generation

AI cannot access the most important data about a business.

Licenses, insurance, certifications, and compliance records stay private, locked in filing cabinets and scattered systems. AI models are left to infer credibility instead of verifying it.

IdentityDNS solves this by converting private business data into structured, machine-readable signals. The documents stay private. The signals go public.

> AI stops inferring. It starts verifying.

The Identity Locker

The Identity Locker holds the sensitive data: licenses, insurance certificates, compliance records, professional credentials.

Documents are structured, timestamped, and tracked. IdentityDNS extracts verification signals (valid, expiring, expired) without exposing the documents themselves.

Expiration tracking prevents decay. When a license lapses, the signal updates automatically.

> Private data becomes a public trust signal. The business stays protected. AI gets the verification it needs.

The End of the Rented Presence

Why businesses do not own their identity. And how we fix it.

The Rented Infrastructure

Every digital presence a business has today is rented. Google Business Profile. Yelp. Facebook. Even the website sits on rented hosting, indexed by systems the business does not control.

This is not a metaphor. It is a structural fact.

Platform changes its algorithm: you lose placement. Directory shuts down: the data vanishes. Review site updates its moderation: you have no recourse.

> No business in the history of the internet has owned its digital identity. Every presence is a tenancy agreement with a platform that can change the terms whenever it wants.

That was tolerable when humans browsed websites and made their own judgments. It breaks down when AI must resolve identity from authoritative sources.

The Ownership Requirement

AI needs to know who is authoritative. Five different sources give five different descriptions of the same business. The AI has no basis for choosing which one to believe.

Ownership solves this. A business that owns its identity record, verified and structurally complete, gives AI an authoritative source it can act on.

> Ownership is not a feature. It is the precondition for being recommended.

Platforms cannot provide this. They own the data. They control the format. They decide what gets shown. The business is a tenant.

IdentityDNS inverts that relationship. The business owns a canonical record structured around Local AI Taxonomy: what the business is, what makes it credible, what makes it different, what proof supports it. The record is portable and under the owner's direct control. Platforms become consumers of the record, not controllers of it.

The Transition

The transition from rented presence to owned identity is binary. You own your canonical record, or you do not.

Businesses that own their record have a single authoritative source AI can query. Businesses that do not remain dependent on fragmented, platform-controlled data.

> We deliver cryptographic ownership of the business identity record. This is a structural change in how identity operates.

The rented era lasted twenty years because humans tolerated ambiguity. AI does not. The businesses that secure ownership now will be the businesses AI recommends with confidence.

The rest get guessed at, or skipped.

The Conversion Ledger

How structured data becomes a revenue engine.

The Trust Deficit

Every local business transaction starts with a gap. The customer does not know the business. The business cannot prove its claims. That gap is the primary source of lost revenue in local commerce.

Marketing does not close it. Marketing creates awareness. Structure creates confidence.

> The conversion problem is not a traffic problem. It is a structure problem. Customers convert when the information they need is organized, verifiable, and complete.

A business that structurally answers the buying questions (what do you do, why should I choose you, what will this cost, what should I expect) before the customer asks them eliminates the friction that causes abandonment.

The Ledger Architecture

The Conversion Ledger is the data layer within the identity record that directly drives revenue. Not a marketing page. Not a profile. A machine-readable and human-readable record of every signal a customer or AI system needs to make a decision.

The ledger is organized around Local AI Taxonomy: the behavioral and decision drivers behind actual buying choices. A profile describes the business. The ledger answers the questions that drive the decision.

Five categories of structured data:

Service definition: what the business does, with scope boundaries and disqualifiers.

Credibility signals: licenses, insurance, certifications, guarantees, and verifiable credentials.

Transaction clarity: pricing models, payment methods, onboarding steps, and time-to-value.

Operational proof: response commitments, process documentation, and communication standards.

> Every field answers a buying question before it gets asked.

The Revenue Equation

Local commerce revenue follows a simple equation: awareness multiplied by credibility multiplied by friction reduction.

Most businesses invest only in awareness. SEO, ads, social. They ignore the other two variables entirely.

The Conversion Ledger addresses all three. Structured data makes the business findable by AI. Verified credentials establish credibility. Pre-answered questions reduce friction.

> Businesses that structure their identity convert at higher rates because they are better understood. The Conversion Ledger makes that understanding systematic.

The businesses that build their ledger first capture the revenue that unstructured competitors lose to hesitation and abandonment.

Origin of Local Trust

The thinking behind IdentityDNS comes from twenty years of work in local business data.

In 2004, Justin Sanger built one of the first platforms to structure and distribute local business data at scale. It was later acquired by a company led by the inventor of the Yellow Pages.

In 2011, he founded SupportLocal, a platform for recommendations driven by real consumer relationships.

In 2020, he coined the term “Local Trust Pack” to describe how Google ranks businesses on credibility rather than raw placement.

> IdentityDNS extends that model into a world where AI systems choose which businesses to recommend based on structured identity and verified signals.