

The limitations of GeoLite for fraud prevention & security applications

While GeoLite offers a basic introduction to IP geolocation, its limitations make it unsuitable for commercial-grade applications. For businesses facing evolving security and fraud risks, a robust and accurate IP intelligence solution like GeoIP® is essential.

GeoIP City: 10% more accurate and 36% better coverage than GeoLite.

The cost of accuracy for cybersecurity, fraud prevention, and compliance

It may seem minor, but small uplifts in true positives can have big impacts like:

- ✓ Fewer chargebacks, less remediation costs and lower account abuse
- ✓ Decreased risk of regulatory fines and penalties
- ✓ Improved customer trust and operational efficiency

GeoLite vs. GeoIP City: A side-by-side comparison

	GeoLite	GeoIP City
Data sources	Primarily public signals	Network-powered accuracy The data and intelligence behind GeoIP is built on validated information from trusted network operator partners and billions of authenticated end user signals.
Coverage and completeness	Lower city level coverage Some IP ranges return only at the country level.	Broader city-level coverage 36% more IPs mapped to regions and cities.
Accuracy	Lower accuracy at the city level	Higher city-level accuracy 10% more accurate.
Accuracy radius and confidence scores	Broad, limiting city level accuracy Provides an estimated radius, but not confidence scores.	Tighter accuracy radius and included confidence scores Enables models to weigh signals and use "We're X% sure this login is in Y."
Data freshness	Updated 2x per week	Updated daily ISP feeds and commercial partner data. New allocations and ISP shifts reflected sooner.
Support	Knowledge base and developer hub articles only.	Dedicated support from the MaxMind team. Access to our knowledge base and developer hub.
Licensing	Limited commercial use (ie. prohibits display and redistribution).	Flexible and customizable commercial licensing.

Why it matters, understand the impact of GeoIP City

Use case	With GeoLite	With GeoIP City	Business impact
Account takeover detection	City often missing or inaccurate → “impossible travel” checks (e.g., Kansas City to Chicago) may fail to trigger.	More complete and fresher city data → more accurate “impossible travel” detection.	Reduced account takeover losses: even a 5–10% lift in true positive detection can save millions in chargebacks or remediation costs.
Fraudulent new account creation	Incomplete city coverage → many fraudster IPs default to country-level only (miss finer anomalies like “all signups in Toronto suburb from the same datacenter”).	Higher city-level coverage & accuracy radius → clusters of fraud become more obvious.	Improved fraud scoring → lowers false approvals; prevents fake account farms costing \$X per account in promotions, bonuses, or abuse.
Regulatory compliance (KYC / AML)	Country-level okay, but weak city precision → harder to enforce location-specific regulations (e.g., sub-national gaming or tax rules, identification of disputed territories in conflict zones).	Reliable city resolution → aligns with geo-blocking, tax enforcement, gambling laws.	Avoided fines & penalties: one regulatory breach can have devastating financial consequences, easily justifying paid data.
Combating online payment fraud	Lower accuracy and coverage can leave you at risk of missing suspicious financial transactions (e.g., credit card fraud, unauthorized money transfers).	Enhanced accuracy and broader city-level coverage means improved detection of suspicious or fraudulent financial transactions.	Reduced financial losses and improved fraud detection: minimizes chargebacks and restitution costs while protecting against reputational damage.

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MaxMind, Inc.
51 Pleasant Street #1020
Malden, MA 02148
USA
www.maxmind.com

