Local AI could unlock a new era of enterprise AI

Insight

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For most of the generative AI era, enterprises have operated with a fairly straightforward assumption: *the most capable intelligence lives in the cloud.*

Organizations send data to increasingly powerful models, receive an answer or action in return, and then manage the security, privacy, cost, governance, and compliance implications surrounding that exchange.

That assumption is starting to change.

AI models are becoming capable of running on laptops, workstations, private servers, specialized appliances, and other computing environments that are much closer to the enterprise and its data. At the same time, advances in processors and AI-specific hardware are dramatically increasing the amount of intelligence that can run locally. That combination could open a new chapter for enterprise AI.

Instead of continually moving data to the intelligence, organizations can increasingly bring the intelligence to the data.

Recent moves from companies such as Perplexity offer one example of this emerging model. More processing can take place locally, while cloud-based models can be selectively invoked when greater computational power, broader information access, or more advanced reasoning is needed.

The opportunity extends well beyond lowering token costs. Local AI gives enterprises another architectural choice, and potentially a powerful new way to determine how and where AI operates across the business.

More choice over where intelligence lives

One of the persistent challenges surrounding enterprise AI has been remarkably simple: organizations want the benefits of increasingly capable models without unnecessarily moving sensitive information outside environments they control. Local AI (or “on-device AI) changes that equation.

Source code, contracts, financial information, intellectual property, regulated data, strategic plans, internal communications, and other sensitive material can increasingly be analyzed closer to where that information already resides. That can reduce exposure while providing other practical advantages.

Local processing can lower latency, improve resiliency, create more predictable consumption economics, and enable AI in environments where cloud connectivity may be limited, undesirable, or prohibited. It also gives enterprises much more flexibility.

Some workloads might run entirely locally. Others could use local models for routine processing and invoke cloud or costly token-intensive resources only when additional capability is required. Highly sensitive information could remain within a tightly controlled environment. Different policies could apply based on users, applications, business processes, data classifications, jurisdictions, or risk levels.

The future of enterprise AI is unlikely to be entirely cloud-based or entirely local. It may be a diversified portfolio of environments, intelligently matched to the needs of each workload.

Local-first does not mean local-only

That flexibility also introduces one of the most important governance questions enterprises will need to address: *what happens when AI moves between local and cloud environments?*

A system operating locally may determine that a cloud model could perform a particular task better. A user may be asked whether information can be sent externally to obtain deeper research, more sophisticated reasoning, or additional computing power. That can be useful, and it can also become a significant control point.

Users routinely approve permissions they do not fully understand. AI agents make the issue more complicated because they can operate across files, applications, browsers, email, collaboration platforms, code repositories, connectors, and business workflows.

The person initiating an AI task may not even know all of the information the system has assembled as context. Attackers may also attempt to manipulate models through prompt injection or other techniques intended to cause protected information to cross an enterprise boundary. For that reason, local-to-cloud escalation cannot simply be left to the model or the individual user. If an enterprise decides that certain information must remain local, it should be able to enforce that decision technically.

That means mature local AI environments will likely require centrally managed network egress controls, destination allowlists, data-loss-prevention capabilities, identity and connector restrictions, application sandboxing, comprehensive logging, and administrative controls capable of preventing cloud escalation for particular users, workloads, applications, devices, or data classifications.

The important principle is simple: *the enterprise should determine the boundary.*

An AI system may recognize that additional external computing could produce a better answer. It should not independently determine whether corporate information is permitted to leave a controlled environment.

The endpoint is becoming an intelligence platform

Local AI also changes what an enterprise endpoint represents.

Historically, organizations have thought about laptops, workstations, and mobile devices primarily as devices that run applications, store information, and connect users to enterprise systems. AI expands that role considerably.

A local AI-enabled device can simultaneously become a repository of sensitive context, an inference platform, an agent runtime, a decision engine, and a gateway into email, collaboration platforms, code repositories, browsers, enterprise applications, and corporate data.

That makes the endpoint considerably more valuable. It also makes it considerably more powerful.

Traditional endpoint security was built primarily around applications, files, identities, devices, and network activity. Local AI introduces systems capable of interpreting information, assembling context, making decisions, initiating actions, and interacting with multiple enterprise systems simultaneously.

That creates a new privileged computing tier that deserves its own security and governance architecture. The opportunity for CIOs and CISOs is to design those controls as local AI matures rather than trying to retrofit them later.

A new enterprise AI model

Local AI should ultimately be viewed as an expansion of what enterprises can do with artificial intelligence. Organizations no longer have to make a binary choice between sending everything to public cloud models and

operating completely isolated AI environments. They can begin designing AI around the characteristics of the work itself.

Public cloud models may make sense for one class of activity. Enterprise-hosted models may be appropriate for another. Specialized local models may serve sensitive or high-frequency workloads. Hybrid systems could move selectively between environments under carefully defined policies.

That creates an opportunity to align AI architecture much more closely with business value, risk, economics, performance, and data sensitivity. It may also help address some of the biggest obstacles enterprises have encountered in scaling generative and agentic AI, including privacy concerns, intellectual-property exposure, data sovereignty requirements, cybersecurity risks, and unpredictable consumption costs.

Local AI will not eliminate those issues. But it gives enterprises another set of tools for managing them.

Control becomes part of the AI strategy

As this model evolves, enterprises should establish clear policy around three fundamental questions.

1. What is AI allowed to see?

Organizations need to determine which information, repositories, applications, and contextual data local models and agents are permitted to access.

2. What is AI allowed to do?

Enterprises need clear boundaries around the actions AI can initiate across applications, infrastructure, communications, and business processes.

3. When is information allowed to leave?

Organizations need explicit rules governing which data and workloads can cross from local environments into cloud services, where they can go, who has the authority to approve that movement, and what technical controls enforce the decision.

Those questions are likely to become increasingly important as AI moves deeper into everyday enterprise operations.

The best, and hardest, is yet to come

The first phase of generative AI was dominated by model capability. Enterprises understandably focused on which models were smartest, fastest, or most capable. The next phase will increasingly be about choice. Where should intelligence run? Where should data stay? Which workloads require cloud-scale capability? Which should remain local? And how should enterprises govern the movement between those environments?

Local AI creates another answer to those questions.

As models become smaller, endpoints become more powerful, and hybrid AI environments mature, enterprises will gain significantly greater flexibility over how artificial intelligence is deployed.

That could unlock a new era of enterprise AI, one defined not simply by more powerful models, but by greater choice over where intelligence lives, how it operates, and how much control the enterprise retains.