

Enterprise —

Open Source vs

Paid Architecture

Playbook

Strategic ROI Comparison for
Medium Insurance Enterprises

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Executive Summary

This report compares open-source (Apache/MIT/BSD) tools versus enterprise paid alternatives across Data Engineering, Networking, Security, Blockchain, AI Stack, Infrastructure, and Application Development for a medium-sized insurance enterprise (~500–2,000 employees, 100 TB data).

1 Data Engineering

Category	Open Source Tool	✓ Pros (3)	⚠ Cons (3)	Paid Alternative	✓ Pros (3)	⚠ Cons (3)	💰 Savings
Orchestration	Apache Airflow	DAG-based; scalable; extensible	Setup complex; UI lag; no lineage	AWS Step Functions	Managed; visual; AWS native	AWS lock-in; per-step cost; limited connectors	\$100k–\$300k
Compute	Apache Spark	Unified SQL; scalable; proven	Hard tuning; RAM-heavy; debug issues	Databricks	Managed Spark; UI; autoscale	Costly; proprietary; lock-in	\$200k–\$500k
Transform	dbt Core	SQL modular; tests; git-native	No GUI; SQL-only; large DAG mgmt	Informatica Cloud	Full ETL suite; lineage; support	Heavy license; SaaS; steep learning	\$150k–\$250k
Analytics	Apache Superset	Open BI; dashboards; SQL IDE	No semantic layer; limited filters; UI scaling	Tableau	Rich visuals; support; Excel integration	Cost per user; closed; desktop	\$100k–\$300k
Storage	MinIO	S3 compatible; on-prem; simple ops	Manual scaling; no tiering; limited lifecycle	AWS S3	Reliable; global; lifecycle rules	Recurring cost; egress; cloud-only	\$50k–\$150k

2 Networking

Category	Open Source Tool	✓ Pros (3)	⚠ Cons (3)	Paid Alternative	✓ Pros (3)	⚠ Cons (3)
IPAM/DCIM	NetBox	API; plugins; DCIM	Manual entry; no config push; scale tuning	Infoblox	Full IPAM/DNS; secure; HA	High cost; appliance; upgrades
Routing	FRRouting	BGP/OSPF; active; Linux	CLI; manual HA; HW dependent	Cisco IOS-XE	Stable; vendor support; features	Expensive; proprietary; limited automation
SDN	Open vSwitch	Cloud-native; SDN; performant	Steep learning; debugging; no GUI	VMware NSX	GUI policy; microsegmentation; vSphere tie	High cost; proprietary; heavy
Automation	Ansible	Agentless; vendor support; declarative	Slow for bulk; no diff view; discipline	Cisco DNA Center	Telemetry; RBAC; automation	License; lock-in; training
Monitoring	Zabbix	SNMP/agent; alerts; maps	UI dated; config heavy; noise	SolarWinds NPM	Dashboards; auto-discover; SLA alerts	Subscription; closed; security concerns

3 Security

Category	Open Source Tool	✓ Pros (3)	⚠ Cons (3)	Paid Alternative	✓ Pros (3)	⚠ Cons (3)	💰 Saving

SIEM	Wazuh	Full SIEM; HIDS; dashboards	Storage; false positives; scaling	Splunk ES	Analytics; ecosystem; support	Very costly; GB/day license; setup complex	\$200k– \$400k
IDS/IPS	Suricata	Fast; sig+anomaly; flexible	Tuning; HW load; limited ML	Palo Alto TP	Detection; mgmt; intel feed	Hardware bound; per- sensor; renewals	\$100k– \$200k
Vuln Scan	OpenVAS	CVE feed; free; reports	Slow; manual; FP	Tenable Nessus	Fast; detailed; support	Per-asset; subscription; closed feed	\$50k– \$150k
Hardening	Lynis	CLI; compliance; automation	Audit- only; Unix focus; manual fix	Qualys PC	Automated scoring; dashboards; remediation	SaaS-only; cost per host; cloud	\$20k– \$50k
Antivirus	ClamAV	Free; updated; cross- platform	Weaker heuristics; slower; less coverage	Symantec Endpoint	Mgmt; updates; analytics	License; usage; closed	\$10k– \$50k

4 Blockchain

Category	Open Source Tool	✓ Pros (3)	✗ Cons (3)	Paid Alternative	✓ Pros (3)	✗ Cons (3)	฿ Savings
Ledger	Hyperledger Fabric	Permissioned; modular; secure	Complex setup; tuning; ops skill	Corda Enterprise	Enterprise-ready; privacy; integration	High license; vendor lock; limited flexibility	\$250k-\$600k
Smart Contracts	Hyperledger Besu	EVM compatible; hybrid; open	Storage; security; privacy	ConsenSys Quorum	Ethereum-based; mature; tooling	Costly; SaaS; enterprise-only	\$100k-\$200k
Bridge	Hyperledger Cactus	Multi-ledger; interop; flexible	Immature; docs; testbed	IBM Blockchain Platform	Managed; support; enterprise	Expensive; lock-in; limited APIs	\$50k+
Storage	IPFS	Tamper-proof; distributed; secure	Latency; pinning; gateways	Filecoin	Public ledger; integration; support	Storage fees; complexity; latency	\$50k-\$100k

5 AI Stack

Category	Open Source Tool	✓ Pros (3)	⚠ Cons (3)	Paid Alternative	✓ Pros (3)	⚠ Cons (3)	💰 Savings
LLM Serving	Ollama	Simple; local; GPU-efficient	New; fewer enterprise features; scaling	Azure OpenAI	Enterprise support; models; SLA	Per-token cost; data egress; cloud-only	\$400k+
Engine	vLLM	Multi-GPU; fast; scalable	Needs GPU cluster skill	AWS Bedrock	Fully managed; scaling; multi-model	Cost; vendor lock; usage fees	\$300k+
Speech/Text	whisper.cpp	Accurate; private; free	GPU build; perf tune	Twilio Voice	Easy API; scalable; analytics	Cost per min; external data	\$100k-\$250k
TTS	Piper TTS	Lightweight; multilingual; local	Voice quality; fewer voices	Azure Speech	Realistic voices; easy use; cloud	Fees per use; cloud only	\$100k+

6 Infrastructure

Category	Open Source Tool	✓ Pros (3)	⚠ Cons (3)	Paid Alternative	✓ Pros (3)	⚠ Cons (3)	💰 Savings
Cloud Mgmt	OpenStack	Private; multi-tenant;	Complex ops;	VMware vRealize	Integrated; UI;	Licensing; lock-in;	\$500k-\$900k

		open	upgrades		automation	costly	
Containers	Kubernetes	Standardized; portable; scalable	Ops complex; steep learning	OpenShift	Enterprise; UI; support	License cost; heavy; cloud tie	\$300k+
IaC	Terraform	Declarative; multi-cloud; IaC	State mgmt; loops; plan drift	BMC/ServiceNow CloudOps	Integration; governance; UI	High cost; SaaS-only; vendor tie	\$200k+

7 Application Development

Category	Open Source Tool	✓ Pros (3)	⚠ Cons (3)	Paid Alternative	✓ Pros (3)	⚠ Cons (3)	💰 Savings
Frontend	React	Ecosystem; performance; modular	Learning curve; boilerplate; updates	OutSystems	Low-code; enterprise; UI builder	Cost; lock-in; limited flexibility	\$250k+
Mobile	Flutter	Cross-platform; fast; modern	App size; fewer native libs	SAP Fiori	Enterprise UX; SAP integration	Expensive; closed; limited custom	\$200k+
Backend	Django + FastAPI	Secure; Pythonic; fast APIs	ORM perf; scale tuning	Xamarin/.NET	Enterprise-ready; IDE; integration	License; Windows tie; heavy	\$150k+