

PROJECT
NORTHSTAR
— MAINELY CODE —

DISTRIBUTED INFERENCE COGNITION™

THE INTRANET OF CELESTIAL NODES

PUBLIC PRODUCT STORY / OCTOBER 2026

THE NORTHSTAR CONSTELLATION

The Intranet of Celestial Nodes. The real stars.

A private, governed fabric where every admitted participant contributes a bounded capability and every exchange returns to one accountable executive core.

WHAT COUNTS AS A CELESTIAL NODE

Models. CPUs. GPUs. Scientific solvers. Instruments. Databases. Specialist services. Network devices. Human-directed expertise.

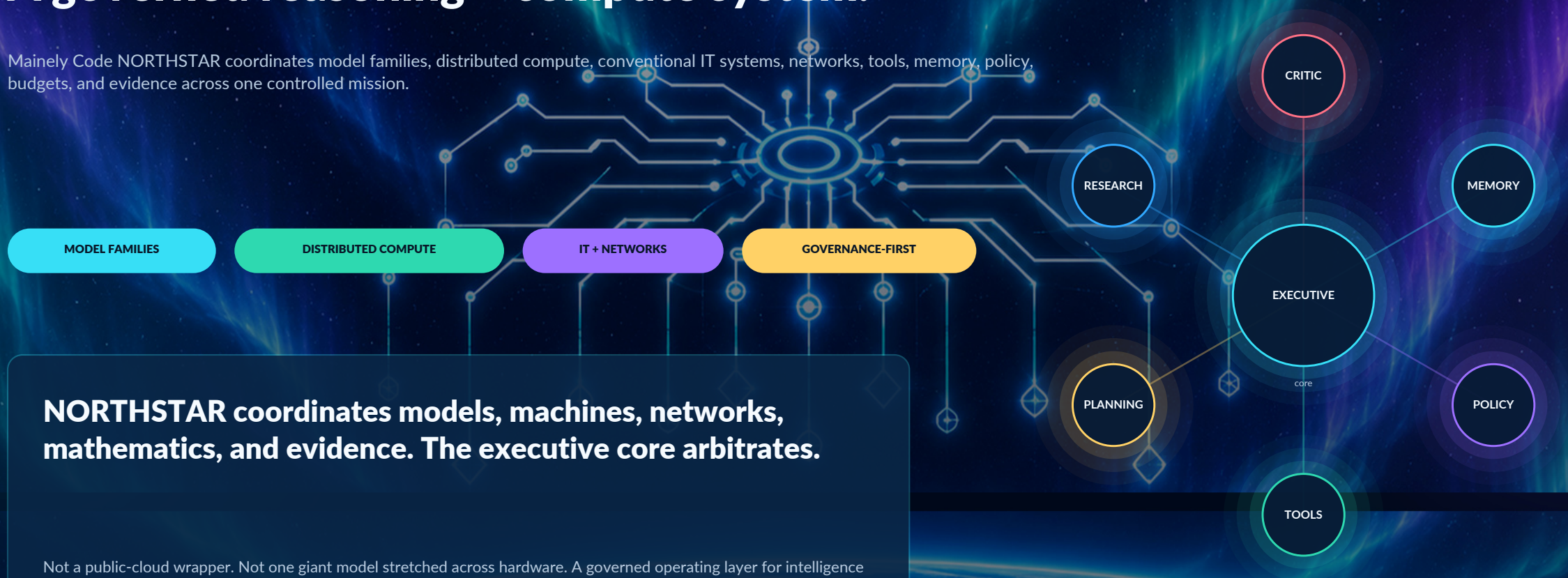
The stars are not decorative. They are admitted participants with identity, scope, capability, budget, evidence, and a defined role in the mission.

CONNECTION IS NOT CONSENSUS



Beyond a model. A governed reasoning + compute system.

Mainly Code NORTHSTAR coordinates model families, distributed compute, conventional IT systems, networks, tools, memory, policy, budgets, and evidence across one controlled mission.



NORTHSTAR coordinates models, machines, networks, mathematics, and evidence. The executive core arbitrates.

Not a public-cloud wrapper. Not one giant model stretched across hardware. A governed operating layer for intelligence and computation.

Many models. Many machines. One governed mission.

Work can move across local systems, private infrastructure, accelerators, tools, and approved cloud capacity according to capability, risk, budget, latency, data policy, and evidence needs.

THE DIFFERENTIATOR

**Intelligence + conventional IT + distributed compute + networking -
brought into the right execution path without losing authority, provenance,
or proof.**

CAPACITY DOES NOT GRANT AUTHORITY

OLD LAPTOP

LAN NODE

PRIVATE GPU

EDGE

APPROVED CLOUD

NORTHSTAR

one plan

LOCAL • LAN • PRIVATE • EDGE • APPROVED CLOUD

Not a chain of answers. A lattice of inquiry.

Frame the goal. Assign models and machines. Route bounded work across authorized infrastructure. Challenge results. Preserve the evidence chain.

01

FRAME

Turn purpose into bounded questions.

02

DISTRIBUTE

Match each lane to the right participant.

03

CHALLENGE

Seek contradiction and alternate methods.

04

VERIFY

Test claims against evidence and constraints.

05

SYNTHESIZE

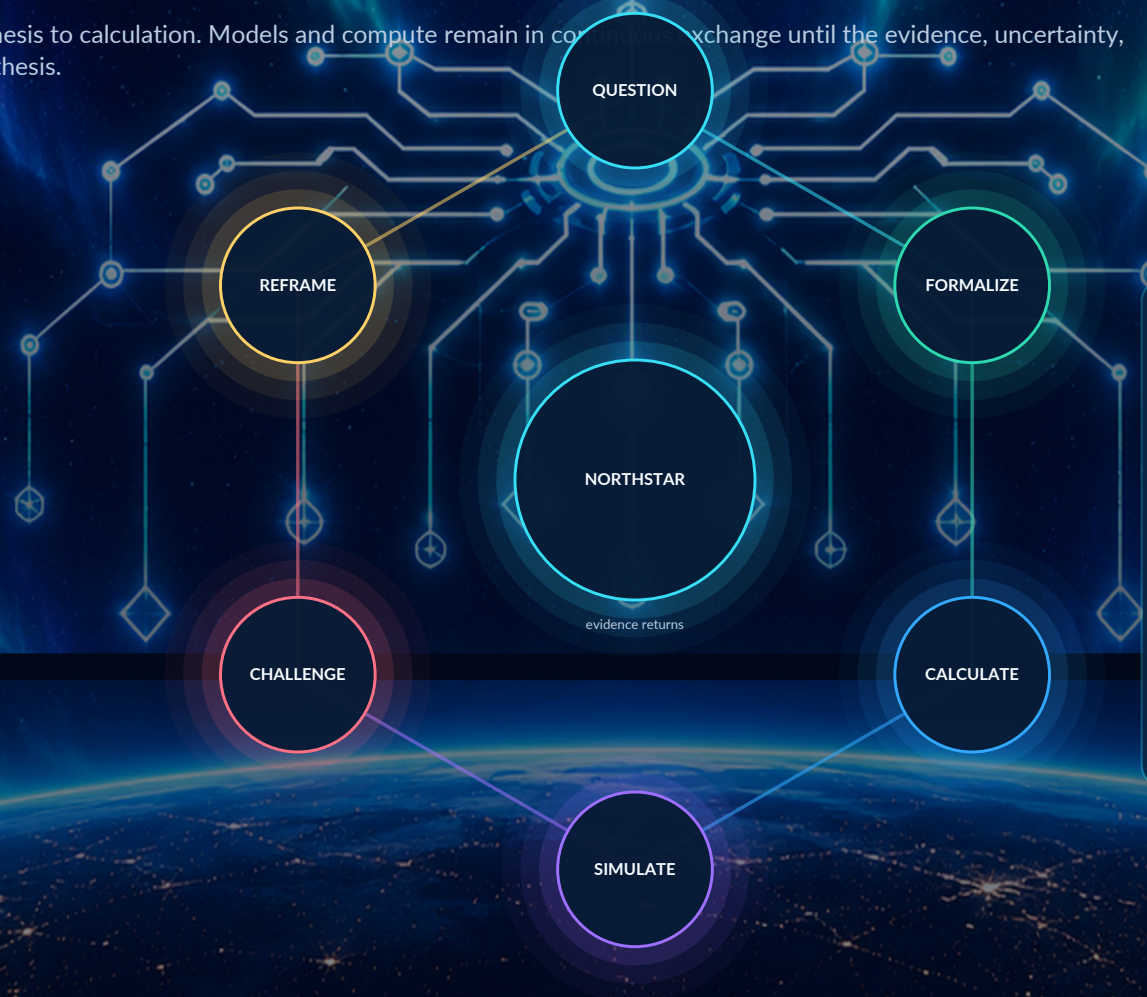
Publish only what survives review.

DISTRIBUTION IS A MEANS. COHERENT, COMPUTE-AWARE COGNITION IS THE PRODUCT.

DISTRIBUTED INFERENCE COGNITION™

Reasoning shapes computation. Computation reshapes reasoning.

NORTHSTAR is not a one-way trip from hypothesis to calculation. Models and compute remain in continuous exchange until the evidence, uncertainty, and mission boundary support a defensible synthesis.



THE SYMBIOSIS

- REASONING frames the model
- MATHEMATICS makes it explicit
- COMPUTE tests it at scale
- EVIDENCE changes the next question

THE ANSWER IS NOT ENOUGH. SHOW THE WORK.

NORTHSTAR is being designed to return an inspectable evidence path - not a persuasive paragraph that asks experts to trust an invisible process.

PROBLEM

Formal question and measurable outputs

ASSUMPTIONS

Priors, constraints, units, boundaries

DERIVATION

Equations and transformations

EXECUTION

Code, solver, version, precision, hardware

VERIFICATION

Residuals, convergence, alternate methods

UNCERTAINTY

Error bounds, contradictions, limitations

NO MATERIAL CLAIM WITHOUT A TRACEABLE DERIVATION OR COMPUTE RECEIPT.

Calculus is not a metaphor. The work is inspectable.

Symbolic mathematics, numerical methods, automatic differentiation, simulation, and independent checks should meet inside one evidence graph.

DIFFERENTIATION

$$f(x) = x^3 e^x$$

$$f'(x) = e^x(x^3 + 3x^2)$$

INTEGRATION

$$\int_0^\infty e^{-x^2} dx$$

$$= \sqrt{\pi} / 2$$

DYNAMICS

$$dy/dt = f(t, y)$$

step error < declared tolerance

FIELD EQUATION

$$\partial u / \partial t = \alpha \nabla^2 u$$

residual + convergence reported

OPTIMIZATION

$$x^* = \arg \min J(x)$$

constraints + gradients + sensitivity

THE NORTHSTAR RULE

A model may propose the method. The mathematics must remain explicit. The compute must be reproducible. The result must survive a check.

Astrophysics: from equations to orbital evidence.

NORTHSTAR can coordinate analytic reasoning, numerical propagation, parameter sweeps, uncertainty analysis, and independent verification - while preserving the exact path from assumptions to result.

$$\mathbf{d^2r/dt^2} = -\mu\mathbf{r} / |\mathbf{r}|^3 + \text{perturbations}$$

$$\epsilon = \mathbf{v^2/2} - \mu/\mathbf{r}$$

$\Delta\text{state} \rightarrow \text{propagate} \rightarrow \text{residual} \rightarrow \text{refine}$

Frames, constants, units, initial conditions, integrator choice, timestep, tolerance, conservation error, and uncertainty stay attached to the trajectory.

01 FORMULATE

02 PROPAGATE

03 SWEEP

04 CROSS-CHECK

05 PROVE

RESEARCH DIRECTION - NOT A RELEASE CLAIM

Quantum physics: expose the basis, the operator, and the residual.

A quantum result should not arrive as unexplained prose. The Hamiltonian, basis, truncation, solver, normalization, precision, convergence, and uncertainty must be visible.

EIGENPROBLEM

$$\hat{H}|\psi\rangle = E|\psi\rangle$$

operator + basis + boundary conditions

EVOLUTION

$$i\hbar \partial|\psi\rangle/\partial t = \hat{H}|\psi\rangle$$

time step + unitary check

NORMALIZATION

$$\langle\psi|\psi\rangle = 1$$

state norm + physical constraints

RESIDUAL

$$\|\hat{H}\psi - E\psi\| < \varepsilon$$

convergence + declared tolerance

THE RESULT IS REVIEWABLE BECAUSE THE FORMULATION AND COMPUTE RECEIPT TRAVEL WITH IT.

Everything that benefits from disciplined inquiry.

The same show-the-work contract can govern multidisciplinary research: models form and challenge hypotheses; mathematics makes them explicit; computation tests them; evidence redirects the inquiry.

● CALCULUS

● ASTROPHYSICS

● QUANTUM

● AEROSPACE

● MATERIALS

● CHEMISTRY

● CLIMATE

● BIOLOGY

● ENGINEERING

● OPERATIONS RESEARCH

● DATA SCIENCE

● PUBLIC-INTEREST RESEARCH

Ambitious research direction, not a claim that software alone has solved these disciplines. Human expertise, institutions, experiments, and real-world validation remain essential.

Every serious claim should point back to its work.

NORTHSTAR binds the final synthesis to a typed, hash-addressed path of formulation, mathematics, execution, verification, and uncertainty.



NO MATERIAL NUMBER WITHOUT A TRACEABLE RECEIPT

Ask. Formalize. Derive. Compute. Interrogate. Repeat.

Independent verification surrounds the loop. Disagreement is preserved, not averaged away to make the answer look cleaner.



EVIDENCE RETURNS TO THE QUESTION. THE NEXT QUESTION IS BETTER.

GOVERNANCE IS THE DIFFERENTIATOR.

Power without provenance is not enough.

Operators need to know what ran, why it ran, what it cost, what evidence it produced, what disagreed, and what happened when the mission failed.

01

IDENTITY

Model, tool, node, and human authority

02

POLICY

Data, budget, network, and execution boundaries

03

PROVENANCE

Inputs, versions, attempts, artifacts, lineage

04

UNCERTAINTY

Error bars, disagreement, unsupported claims

05

RECOVERY

Cancellation, quarantine, rollback, restart

HONEST OUTCOMES

Verified. Supported but method-dependent.
Simulation-supported. Inconclusive. Contradicted. Insufficient precision.

A result is not complete until the system can explain how it got there.



PROOF + LOGGING

inputs • attempts • receipts • artifacts • policy

ROLLBACK + RESULT REVIEW

late results • uncertain outcomes • quarantine

SUCCESS = EVIDENCE

not merely a completed process

Not a public-cloud wrapper. A governed intelligence fabric.

NORTHSTAR is differentiated by the combination of models, conventional IT, distributed computing, secure networking, tools, and proof across the full authorized resource continuum.



INDEPENDENT PROOF BEFORE PRODUCT INTEGRATION

One operating layer. Six explicit planes.

The architecture separates executive authority, cognition, compute, evidence, network control, and identity so each can be inspected, tested, replaced and governed.

EXECUTIVE

admission • budgets • method selection • publication

COGNITION

specialists • critique • synthesis • escalation

COMPUTE

CPU • GPU • symbolic • numerical • simulation

EVIDENCE

receipts • artifacts • residuals • uncertainty

NETWORK

LAN • SD-LAN • SD-WAN • routing • policy

IDENTITY

nodes • workloads • certificates • quarantine

THE MAINLY CODE PRODUCT FAMILY

One flagship. Clear product boundaries.

NORTHSTAR is the cognitive executive. The rest of the family remains distinct - each with a clear job, proof boundary, and acceptance authority.

NORTHSTAR

Flagship cognitive platform

Governed multi-model cognition, compute routing, synthesis, arbitration, provenance.

PROJECT SASQUATCH

Cloud command center

Cloud delivery and operator experience for NORTHSTAR-backed capability.

BUILDROOM

Proof-driven software engineer

Bounded engineering work with tests, receipts, rollback, and verified outcomes.

ORB-WEAVER

Local-first design + UI/UX loom

Visual intake, screens, flows, systems, and editable interface foundations.

BUILT FOR SERIOUS WORK

Institutional AI should be powerful, inspectable, and governable.

NORTHSTAR is positioned for organizations that need more than a conversational front end: they need control over how intelligence is assembled and evidence is preserved.

● RESEARCH + EDUCATION

Explore hypotheses, preserve methods, and compare independent approaches.

● B2B + ENTERPRISE

Coordinate models, tools, infrastructure, and policy around consequential work.

● PUBLIC SECTOR

Preserve authority, provenance, boundaries, and accountable review.

● TECHNICAL TEAMS

Connect scientific, engineering, operations, and IT expertise.

GOVERNED COGNITION FOR SERIOUS INSTITUTIONAL WORK.

The system knows there is a difference between thinking and doing.

THINK

Use the right reasoning lane for the question.

models • critics • planners • synthesis

COMPUTE

Send mathematics and simulation to deterministic engines.

symbolic • numerical • GPU • optimization

PROVE

Bind important claims to reproducible evidence.

receipts • hashes • independent verification

CONNECT

Route through authorized infrastructure.

identity • network policy • topology • telemetry

ACT

Require explicit authority before external effects.

policy • approvals • staged enforcement • rollback

A CONCRETE QUALIFICATION HORIZON

One Commander. Up to 249 workers.

NORTHSTAR is being engineered toward a bounded 250-node qualification across local, private, and FRONTIER cloud infrastructure - with authority, evidence, recovery, and final publication intact.

250

ADMITTED PARTICIPANTS

A node is a participant - not necessarily one physical server, GPU, model, or process.

CAPACITY IS NOT CONCURRENCY

IDENTITY

admission + scope

BUDGET

tokens + cost + time

FAILURE

partitions + churn + quotas

EVIDENCE

receipts + synthesis

RECOVERY

cancel + rollback + restart

ACTIVE R&D DIRECTION. FINAL QUALIFICATION REMAINS AN EXPLICIT RELEASE GATE

PROJECT
NORTHSTAR
— MAINELY CODE —

COORDINATE THE INTELLIGENCE.

DISTRIBUTE THE COMPUTATION.

SHOW THE WORK.

THE INTRANET OF CELESTIAL NODES • THE REAL STARS • [MAINELYNORTHSTAR.COM](https://mainelynorthstar.com)

Ambition, with boundaries.

This public narrative communicates NORTHSTAR's current direction and identified upgrade path. It does not claim that every solver, discipline, network dataplane, provider, or 250-node environment is already production-qualified.

CURRENT PUBLIC DIRECTION

Governed multi-model cognition. Distributed inference. Compute-aware scientific inquiry. Provenance, evidence, uncertainty, and explicit product boundaries.

UPGRADE + PROOF DIRECTION

Scientific executors. Heterogeneous compute. Network Fabric integration. External enforcement. Independent labs. Multi-node qualification. Exact release claims only after evidence.

DISTRIBUTED INFERENCE COGNITION™ is a claimed Mainly Code trademark. Human expertise, institutions, experiments, and real-world validation remain essential.

PUBLIC PRODUCT STORY • VISION BEFORE CLAIM