

N E X U S O F W O R K · N O W O S

Task Atlas

A defensible catalog of every task an organization performs — with a justified AI-autonomy recommendation for each.

E x e c u t i v e B r i e f i n g · 2 0 2 6

Every enterprise has a work-governance problem they can't see

Decades of HR systems, ITSM CMDBs, and BPM tools — and nobody has yet cataloged work the way IT catalogs infrastructure.

50K – 500K

distinct task atoms in a Fortune 500

Roughly the same range as an enterprise's IT estate. Yet none of them are governed as configuration items today. Work is invisible to the systems that should govern it.

0

mature enterprises have cataloged them

Workday, Salesforce, ServiceNow each model a slice — the org chart, the deal, the ticket, the payslip. None model the WORK ITSELF as governed configuration.

Now

AI makes the gap urgent

Every task needs a defensible decision: who does this — human, AI, or both? Under what authority? With what ceiling? Without a Task Atlas, every AI-autonomy decision is unsupported.

The first concrete deliverable from NOW OS to a customer

A hyper-realistic, evidence-cited recommendation of who does what — human, AI, or both — for every task in the organization.

● Granular

PER ATOMIC ACTION

Scored at the smallest unit of executable work — not a sweeping 'this role is 60% automatable.' Each atom carries its own AAA designation, AI-Effort grade, and Trust Tier.

● Rationalized

EVERY DECISION HAS A WHY

Every assignment carries LLM-synthesized prose explaining WHY this performer for this action. SAB sees the reasoning before approving, not just the conclusion.

● Defensible

EVIDENCE CHAIN INTACT

Every rationale cites the corpus signals it derived from — policy \$X.Y.Z, Workday role record, framework reference, Logics score. Stands up under audit, regulator, or board scrutiny.

USED BY Implementation Services · Customer Strategic Advisory Board · Runtime Agents (Phase E)

Ten levels — from Institution to AtomicAction

Every task in the enterprise decomposes through the same hierarchy. Same shape for HR, finance, research, IT, academics.

THE HIERARCHY

WORKED EXAMPLE · FERPA Disclosure

L0 **now:InstitutionSystem**

A U.S. public university system

L1 **now:Institution**

Flagship campus

L2 **now:MissionTrack**

Student Affairs · Academic

L3 **now:OrgUnit**

Office of the Registrar

L4 **now:Department**

Records & Compliance

L5 **now:Role**

Registrar Analyst

L6 **now:AreaOfResponsibility**

Federal Aid Compliance & FERPA

L7 **now:MasterTask**

Process FERPA Disclosure Request

L8 **now:SubTask**

Validate consent → Retrieve → Release

L9 **now:TCI**

Process_FERPA_Disclosure_GradeRelease

L10 **now:AtomicAction**

release_to_party_via_approved_channel

L10 is where the mode is authored — every atomic action carries one of {Automate, Augment, Assist, Human-Only}, bounded by the L9 TCI's governance envelope.

Where authority lives. Where ceilings are set.

Three layers of authority. Each layer constrains the next. No level above the AtomicAction carries an AAA designation.

Role Authority Profile

L5 — set by SAB per role tier

Defines the highest mode each role tier may be given. The customer's Strategic Advisory Board sets the ceilings.

TCI Envelope

L9 — `envelopeAaaCeiling` + `envelopeTrustTierCeiling`

Per-TCI-type ceiling, derived from Role Authority Profile × Policy × Framework × SAB tolerance. Bounds every child AtomicAction.

AtomicAction Designation

L10 — `aaaDesignation` ∈ {Automate, Augment, Assist, HumanOnly}

Classified by the kind of act and what it puts at stake → published rule → AEI Level → mode. Clamped by the TCI's envelope ceiling.

≥

≥

THE FOUR MODES

Automate

AI executes end-to-end. Human is on-call for exceptions but not in the normal loop. AEI Level 4.

Augment

Hybrid by design. Human + AI collaborate on every instance (L3) or AI executes and humans review exceptions (L3.5).

Assist

Human executes; AI provides support — search, summary, recommendation. AEI Level 1 or 2.

Human-Only

A person executes and answers for it: AI cannot meaningfully help, or policy requires a person. AEI Level 0.

We didn't invent this.

We applied it.

Six architectural patterns, battle-tested at billions-of-records scale across the world economy. NOW OS applies them — for the first time — to WORK.

1

CMDB Spine

IT infrastructure → work atoms

2

Class / Instance

Schema design → tasks

3

Atomic Components

UI libraries → atomic actions

4

Class Certification

Regulators → autonomy decisions

5

Cardinality + Pattern

CRM / ITSM → hybrid contribution

6

Risk-Proportionate Review

Audit / fraud → oversight

1

The CMDB Spine Pattern

One identity per fact. Many governed projections. Explicit cross-graph coherence.

ORIGIN · ITIL / IT Service Management, 1990s — mainstream via BMC Remedy and ServiceNow

Bank of America

SERVICENOW CMDB · ~250,000 CIS

A payment-processing incident references the affected service CI → application CIs → server CIs → network CIs. One click reveals the full dependency chain. The CMDB is the spine — everything else hangs off it.

Walmart

11,000 STORES · ~5M CIS

Every POS terminal, every back-office server, every distribution-center system tracked as a CI. When a software change is proposed, the system auto-computes blast radius: how many stores, how much revenue at risk.

U.S. Dept. of Veterans Affairs

1,600 FACILITIES · ~3M CIS

Legally must know which IT system processes a veteran's medical record at any given time. The CMDB is the system of record for that. Without it, the legal requirement is unsatisfiable.

HOW NOW OS APPLIES IT

Workforce CMDB = task atoms instead of servers. Every TCI and AtomicAction has one canonical URI. Every agent, every policy, every KPI references back through it.

2

Types Carry Weight. Instances Stay Light.

Define the sameness once on the type. Each instance carries only its delta.

ORIGIN · Smalltalk-72 (Alan Kay). Universal in every object-oriented language, every relational database, and every semantic web vocabulary since.

Banking ATMs

50M WITHDRAWALS / DAY

One `WithdrawCashTransaction` class. ~50 million instances per day across America. Change the daily limit on the CLASS once — all future instances inherit. Trillions of historical transactions stay valid.

Airline Bookings

~2B BOOKINGS POINT TO ~30 FARE CLASSES

`FullEconomy` is one type carrying fare rules, cancellation policy, baggage allowance. Each booking carries only passenger, flight, seat. Cancellation policy changes propagate via the type — not via 2B rewrites.

Tesla Fleet

~2M VEHICLES OTA FROM ONE FIRMWARE CLASS

Each car carries its VIN, owner, location, current state. Tesla pushes an Autopilot update to the CLASS. 2 million cars inherit. No per-vehicle re-flash.

HOW NOW OS APPLIES IT

A canonical AtomicAction type carries its score and SHACL shape ONCE. ~10 triples per instance instead of ~50. Saves billions of triples across the Task Atlas.

3

Generic at the Bottom. Contextual at the Top.

Low-level actions repeat across domains. High-level work is contextual.

ORIGIN · Brad Frost's Atomic Design (2013) for UI · Alistair Cockburn's Hexagonal Architecture (2005) for systems · Unix philosophy (1970s) for everything

Material UI (Google)

ONE <Button> COMPONENT ACROSS ALL OF GOOGLE

Bit-identical Button across Docs, Gmail, Calendar, Pay, Maps. Page-level components above are app-specific.

Stripe Checkout

ONE PAYMENT ATOM · ~3M BUSINESSES

Same component on Spotify, OpenAI, Shopify, Substack, HubSpot, Notion. Knows cards + SCA; knows nothing about music or AI.

AWS Console

ONE 'CREATE' BUTTON ACROSS EC2 / S3 / RDS / LAMBDA

Same atom. Configuration forms above it differ wildly — but the act of pressing Create is the same act everywhere.

Linux Kernel

~300 SYSCALLS · ~3B DEVICES

Open, read, write, close, mmap — same across a database, a web server, a desktop, a phone. Apps diverge in userspace; the kernel is narrow + universal.

HOW NOW OS APPLIES IT

L10 AtomicActions (`validate\_field`, `route\_for\_review`) are cross-domain canonical. L6 AoRs (`Course Design`, `Federal Aid Compliance`) are domain-scoped. Gradient grows from generic at the leaves to contextual at the roots.

4

Approve the Kind. Sample the Instances.

The only governance pattern that's both meaningful and achievable at enterprise scale.

ORIGIN · Statistical Process Control (Shewhart, 1924) · Total Quality Management (Deming, 1950s) · Now mandatory in every regulated industry on Earth

FDA	FAA	Hospital Pharmacy	SOC 2 Audit	ITIL CAB
MEDTRONIC MICRA · 150K / YR	BOEING 787 · ~1,100 BUILT	10K DOSES / DAY	MILLIONS OF LOGINS	CHANGE TEMPLATES + EXCEPTIONS
ONE device clearance. ~150,000 pacemakers ship per year under it. FDA samples production; audits on exception; recalls the TYPE when deviations surface.	ONE type certificate. Every 787 inherits. FAA samples production at Everett + reviews fleet maintenance. When MCAS surfaced, FAA grounded the TYPE worldwide overnight.	Pharmacy & Therapeutics Committee approves the FORMULARY. Doses dispense under that approval. Committee reviews adverse drug reactions — not every dose.	Auditors approve the CONTROL ('access requires MFA + approver'). Sample ~25 logins out of millions to verify operation. Same pattern.	Direct CMDB analog. CAB approves CHANGE TEMPLATES. Engineers fire templates ~50x / quarter without CAB review. CAB convenes monthly for exceptions.

HOW NOW OS APPLIES IT

Customer SAB approves ~5–10K canonical task types + envelope ceilings. Doesn't review 1.3B individual AtomicActions. Cartographer/Sentinel flag anomalies for human review.

5

Cardinality + Pattern, Not Reification

When two performers act on one record, add a field — not a join table.

Salesforce

Opportunity

Owner + Account_Team[] + Splits[]

ServiceNow

Incident

assigned_to + watch_list[] + cc_list[]

GitHub

Issue

assignee + reviewers[] + mentioned[]

Jira

Ticket

assignee + reporter + watchers[]

NOW OS APPLICATION Hybrid AAs carry 1..2 `performedBy` edges + a `contributionPattern` enum {solo, co_execution, exec_then_review}. No reified contribution wrapper. Saves ~2.5B triples.

6

Risk-Proportionate Review

Scale review effort with risk — not with volume.

TSA Screening

~2M / DAY · 1% ESCALATED

Standard screening for 99%. Behavioral cues + watch lists + random selection for the 1%.

IRS Audits

~150M RETURNS · 0.4% AUDITED

Statistical anomaly models + flagged-relationship triggers select the audited 600K.

Visa Fraud

~200B TXNS / YR · 0.1% REVIEWED

ML auto-resolves most flags. ~10M / yr reach a human. The other 199.9B run automatically.

NOW OS APPLICATION 1.3B AAs run under approved types. ~100–500 / month reach the SAB anomaly queue.

Processing a FERPA disclosure request

A parent calls the Registrar to release her child's grades. FERPA requires consent on file unless the student is a tax dependent.

THE DECONSTRUCTION

L7	MasterTask	<i>domain-scoped</i>
L8	SubTask	<i>cross-cutting composition</i>
L9	TCI	<i>domain-scoped</i>
L10	lookup_student_record	<i>cross-domain</i>
L10	validate_consent_on_file	HYBRID · Augment L3.5
L10	verify_requester_identity	<i>cross-domain</i>
L10	check_exemption_applies	<i>solo human · Assist</i>
L10	compile_disclosable_fields	<i>cross-domain</i>
L10	release_via_channel	<i>cross-domain</i>
L10	record_in_audit_log	<i>solo agent · Automate</i>

ONE HYBRID AA, IN TRIPLES

validate_consent_on_file

performedBy	Agent:document_extraction_v2
performedBy	Person:jane_smith (Registrar)
contributionPattern	exec_then_review
aaaDesignation	Augment
aeiLevel	L3.5

WHAT THE SAB SEES

Approves once: the TCI type + envelope ceiling (max AAA = Augment).

Doesn't review: the ~50,000 FERPA disclosures / year — they run on the approved type.

Does review: the ~100 / year flagged by Cartographer — minors, non-family parties, ambiguous consent.

Onboarding a new tenured faculty member

A 6–8 week cross-cutting MasterTask spanning HR, IT, Facilities, Library, the department, and the College. ~250 AtomicActions in total.

THE DECONSTRUCTION

L7	MasterTask	Onboard Tenured Faculty · isCrossCutting
L8	SubTask × 6	HR Setup · IT · Facilities · Payroll · Benefits · Orientation
L9	TCIs × ~30	Across the 6 SubTasks (mix of domain + cross-cutting types)
L10	AtomicActions × ~250	Almost all cross-domain canonical types

ALL THREE CONTRIBUTION PATTERNS APPEAR

● Automate · solo agent	provision_email_mailbox
● Augment · co_execution	request_workspace_assignment
● Assist · solo human	negotiate_lab_space_with_dept_chair

WHERE THE ARCHITECTURE PAYS OFF

The L10 atoms (`create\_ad\_account`, `provision\_email`, `add\_to\_distribution\_list`) are the same atoms fired during contractor onboarding, vendor setup, and student worker onboarding.

The rating lives ONCE on each type. The instance under this onboarding carries only the new account name, the role, the dept, the start date — ~10 triples.

WHAT SAB APPROVES

Approves once: the type `Onboard\_Tenured\_Faculty` + its envelope (max AAA = Augment; faculty hires have political + contractual sensitivity).

Anomaly queue: dual-appointment hires across colleges · H-1B visa cases · joint research/teaching appointments.

What the customer receives — at enterprise scale

The Task Atlas for one Fortune-500-grade institution. A major U.S. public university system is the reference implementation.

31,035

**Position × Department
Deconstructions**

Each one fans out to AoRs, MasterTasks, SubTasks, TCIs, and AtomicActions.

~150M

**TCI Instances
(Level 9)**

Every Task Configuration Item — the unit governed by an envelope ceiling.

~1.3B

**AtomicAction Instances
(Level 10)**

Where work executes. Where AAA designation lives. Where Phase E agents wire in.

~5–10K

**Canonical Task Types
(the bounded library)**

The SAB-approved library. Every instance points to a type. Type changes are versioned, not rewrites.

SAB LOAD — STEADY STATE

~50 hrs / quarter for type + envelope updates · ~10–30 hrs / month for the anomaly queue · sustainable for a 5-person board

Same patterns. Applied to work.

Battle-tested at billions-of-records scale, in every regulated industry on Earth. The architectural foundation isn't novel — the application to work governance is.

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|---|----------------------------------|---|
| 1 | CMDB Spine | ServiceNow at Bank of America, Walmart, the VA |
| 2 | Class / Instance | Banking ATMs, airline bookings, Tesla fleet |
| 3 | Atomic Components | Material UI, Stripe, AWS, Linux kernel |
| 4 | Class Certification | FDA, FAA, hospital formularies, SOC 2, ITIL CAB |
| 5 | Cardinality + Pattern | Salesforce, ServiceNow, GitHub, Jira |
| 6 | Risk-Proportionate Review | TSA, IRS audits, Visa fraud detection |