



AI-Accelerated Modernization: A Factory Model for Enterprise-Scale



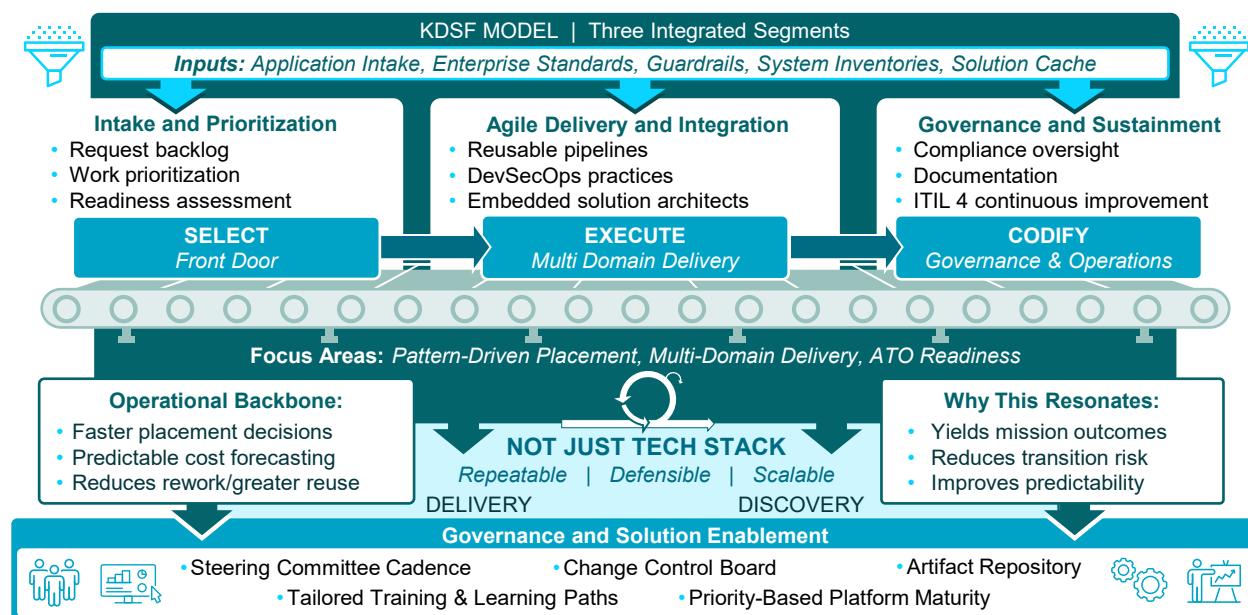
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Large enterprises face mounting pressure to modernize aging systems while simultaneously improving security, reducing operational burden, and delivering intuitive digital experiences. Decades of incremental updates produced sprawling portfolios of legacy applications, siloed data, inconsistent workflows, and brittle integrations that slow mission delivery and increase operational risk. Meeting this challenge requires a repeatable, scalable modernization model—one that unifies rationalization, architecture, user experience, security, and AI into a single, automation-first engine.

The Kentro Digital Services Factory (KDSF) Is That Model. KDSF is an AI-accelerated engine that transforms modernization from a series of one-off projects into a continuous, evidence-driven capability. By combining data-driven rationalization, human-centered design, reusable architecture patterns, and security-as-code, KDSF enables modernizing at scale without increasing headcount or disrupting mission operations.

The Modernization Challenge: A Landscape of Complexity. Across government and industry, organizations encounter the same structural barriers: fragmented identity systems, redundant data entry, inconsistent business logic, and brittle point-to-point integrations that make even small changes risky. Data is often trapped in isolated stores, limiting visibility and analytics. Security processes remain manual and document-driven, slowing delivery and increasing exposure. Sustainment costs rise as legacy systems proliferate and diverge. What organizations need is a portfolio-wide operating model that brings consistency, automation, and intelligence to modernization itself.

KDSF: A Unified Modernization Engine. Modernization at enterprise scale cannot be achieved through isolated system rewrites or one-off cloud migrations. Organizations need a governed, automated, and reusable delivery engine that brings consistency to modernization, accelerates delivery, and reduces risk across an entire portfolio.



Our KDSF accelerates delivery, strengthens security and continuously improves at enterprise scale

Modernization begins with a clear understanding of the people and processes the system supports. We summarize our modernization lifecycle in the following table:

Step	Actions	Value Delivered
Intake and Assessment	• Applications enter through standardized intake process • Evaluates attributes, business needs, pain points • Each system routed to appropriate modernization pathway	• Reduces ad-hoc decision-making • Enables consistent, defensible routing • Aligns modernization priorities with real user needs
Human-Centered Insights	• User journeys, workflow friction points, and operational challenges incorporated early in lifecycle to shape modernization decisions	• Improves usability and mission alignment • Prevents rework caused by late-stage UX discovery • Delivers outcomes that reflect real-world needs
Standard Delivery Pathway	• Every app follows hardened, repeatable delivery pipeline • Shared security controls, quality gates, compliance checks	• Eliminates variability and drift • Improves reliability and predictability • Strengthens security posture across efforts
AI-Enabled Engineering	• Identifies refactoring opportunities, surfaces technical debt, generates tests, and assists with remediation activities	• Accelerates modernization tasks • Improves code quality and maintainability • Enhances engineering productivity

KDSF is a learning system. Every modernization effort feeds a continuously expanding Solution Cache. Architectures, templates, pipelines, guardrails, and reusable components are captured, validated, and made available for future use. Human-centered design patterns, accessibility standards, and user-tested components are codified alongside technical assets, ensuring that usability improvements scale across the enterprise. Over time, KDSF becomes faster, smarter, and more efficient as each modernization wave strengthens the next.

KDSF Modernization Economics

- Improves cost efficiency & predictability through outcome-based pricing, reuse economics, FinOps governance, automation-driven velocity, & reduced sustainment burden
- Standardizes modernization pathways and captures reusable assets
- Enables organizations to modernize more systems, more quickly, without expanding headcount or increasing operational risk

KDSF's closed-loop model is anchored by a data-driven rationalization engine that establishes a single source of truth, surfaces duplication and hidden dependencies, and uses AI to strengthen the speed and accuracy of analysis. These insights drive disposition decisions, sequencing, and user-experience improvements while producing the target architecture KDSF executes—rooted in domain-driven design, API-first integration, event-driven consistency, Zero Trust, cloud-native services, and data mesh governance. This architecture eliminates brittle integrations, reduces duplication, and creates modular, independently deployable services that support real-time data flow, consistent security boundaries, and scalable modernization waves.

Security is embedded throughout the factory, not bolted on at the end. KDSF's evidence-producing pipelines generate SBOMs, POA&M artifacts, infrastructure-as-code scans, static and dynamic analysis results, drift detection, and automated OSCAL-aligned evidence bundles. Digital Twins analyze this evidence to support continuous authorization decisions, transforming security from a manual, document-driven process into a continuous, automated workflow, reducing authorization timelines, improves consistency, and strengthens security posture across the portfolio.

KDSF brings rationalization, architecture, AI, security, and user experience together into a single modernization engine. It helps organizations modernize at portfolio scale, reduce long-term technical debt, and deliver better outcomes for the public. With an AI-accelerated, automation-first model, modernization shifts from a series of one-off projects into a continuous, mission-driven capability.

See how it works. Join our upcoming webinar to learn more: [REGISTRATION LINK](#).