



DATASHEET

Unified Namespace

Unify Every Signal. Enable Every System.

In modern manufacturing, fragmentation across control systems, applications, and various databases create silos that hinder agility and visibility. Unified Namespace (UNS) implementations provide a structured, scalable and extensible publish-subscribe pillar to democratize data for integrating industrial with enterprise systems.

LOGICAL SYSTEMS UNS App delivers this promise through a secure, resilient platform purpose-built for composability, interoperability, and real-time insight. Designed on leading industry standards and leveraging modern integration patterns, the UNS App acts as the semantic backbone of your manufacturing ecosystem bridging Operational and Information Technology with full context and traceability. Unlike conventional brokers or middleware tools, the UNS App offers out-of-the-box support for broker onboarding, configuration auditing, topic inspection, tag hierarchy management, and message transformation. This enables manufacturing organizations to rapidly scale from a single line or facility to global multi-site deployments without losing visibility or control.

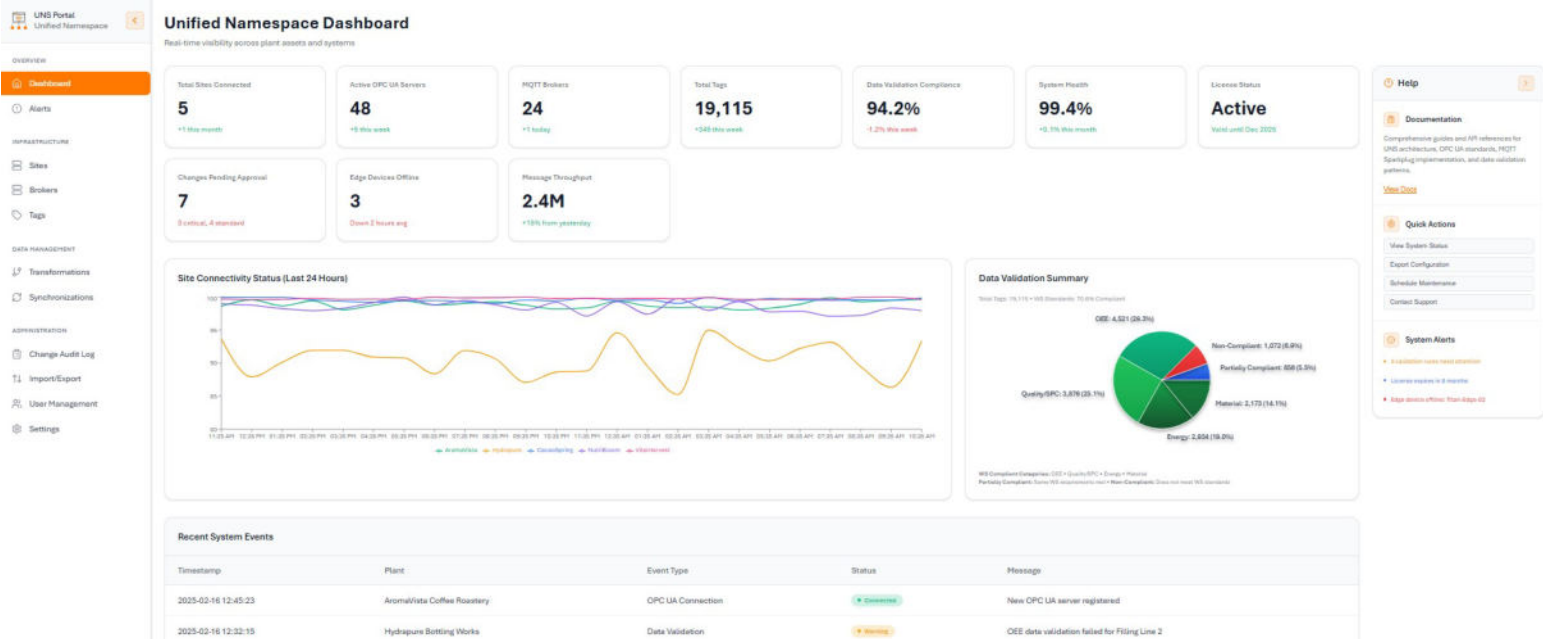
From shopfloor devices such as smart sensors, programmable controllers or human machine interfaces to business systems such as enterprise resource planning tools, the UNS App forms the event-driven digital twin of your plants. Whether you are rolling out predictive quality monitoring, enterprise-wide energy dashboards, or integrating with cloud data lakes, the UNS App empowers standardization of namespace, unify sources of truth, and unlock cross-layer collaboration between engineering, operations, and business teams.

Eliminate Rework by Enabling Real-Time Insight

The UNS App reduces engineering burden by eliminating the need to remap data streams for each use case. Instead of modifying OT infrastructure or rewriting interface logic, organizations can configure topic paths, broker connections, and data transformations from a single organizing layer.

- Publish once, subscribe many
- Normalize legacy data structures
- Route to Kafka, Snowflake, cloud, or between MES apps
- Instantly apply access rules and audit trails
- Visualize topic health and throughput across all sites

“UNS gave us clarity at the source. No more guessing what a tag means or where it comes from.”
Digital Transformation Lead, Global Beverage Group

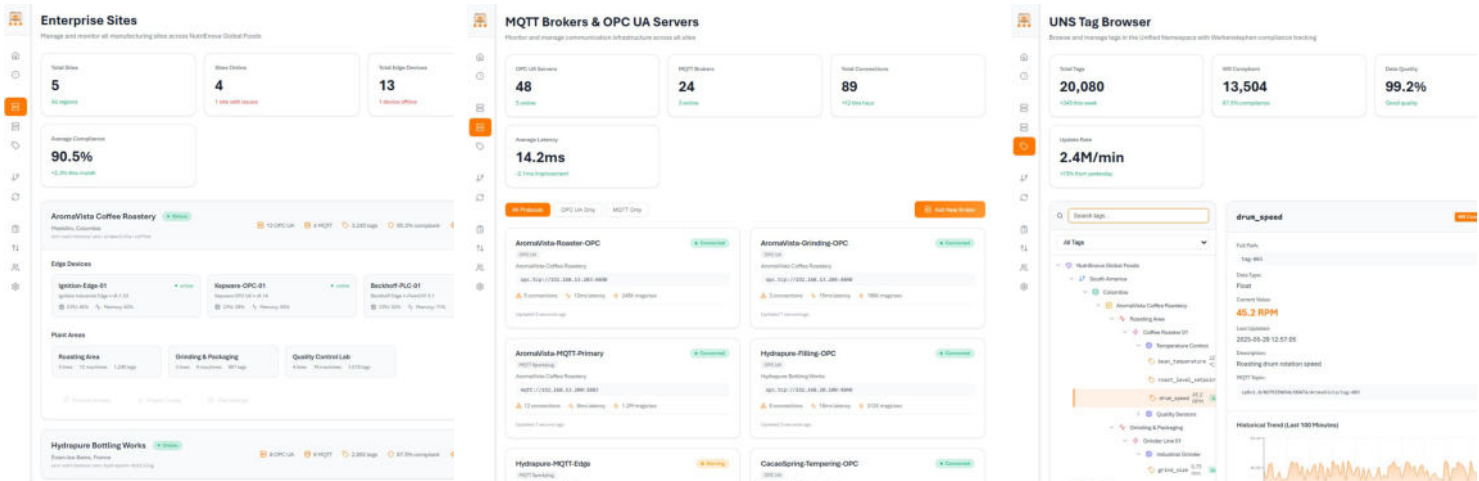


From Tag Chaos to Semantic Clarity

Data doesn't just move, it arrives with meaning.

The UNS App enforces tag naming, topic structure, and data validation standards using ISA-95 alignment, Sparkplug B and custom compliance rules such as Weihenstephan Standards. The UNS App includes full topic browser and compliance scorecard, collision detection and conflict resolution, fully integrated with Node-RED for transformation logic, as well as provides RBAC by user, site, or domain. Whether on-premise or cloud-connected, the UNS App ensures your data pipelines carry clean, context-rich payloads that scale.

The UNS App, developed for the Ignition® platform, enables effortless integration with the complete suite of LOGICAL SYSTEMS applications.



Maintain UNS Control

Standardization, Orchestration, Federation

The LOGICAL SYSTEMS UNS App enables manufacturers to architect, deploy, and govern Unified Namespace strategies that scale. Its orchestration engine allows users to define structured topic templates using nested ISA-95-aligned paths, apply Sparkplug B for standardized payloads, and embed tag metadata directly within the namespace.

Legacy integrations are preserved while new systems are connected through event-driven message routing. From low-latency flows across MQTT brokers to cloud ingestion via Kafka or REST, the platform adapts flexibly without sacrificing structure.

Messages can be transformed, renamed, or filtered using conditional logic, with built-in collision detection and auto-resolution mechanisms that maintain semantic integrity across sites. Users gain real-time visibility into protocol throughput, stale tag detection, and compliance metrics. This makes the UNS not just a messaging layer, but a system of record for structured industrial data.

Federated but Governed

The UNS App supports multi-site deployments with a hybrid model of centralized governance and local flexibility. Sites can maintain their own brokers, while the enterprise sets global topic models, compliance rules, and validation logic. This ensures that each deployment adheres to organizational standards while allowing for site-level or regional extensions and device specific structures.

Operational teams can monitor broker activity, topic alignment, and latency across plants from a central dashboard. Namespace changes can be rolled out in stages using CI/CD workflows, ensuring that updates are validated, routed for approval, and version controlled before reaching production. With this loosely coupled, tightly integrated, federated architecture, manufacturers can scale digital infrastructure confidently, maintaining oversight without micromanaging every endpoint.

Unified Interoperability

Designed for seamless integration across the LOGICAL SYSTEMS ecosystem of Ignition® Perspective based Apps, the UNS App acts as the digital backbone for seamless coordination between applications. It ties together event sources and consumers in a consistent, semantic layer. Data captured in Electronic Forms can be published to the namespace via Sparkplug B, while SPC applications subscribe to those topics for real-time control charting and rule validation. MI dashboards pull from compliant topics to populate KPIs and performance trends across lines, sites or regions.

To close the loop, UNS integrates with the fully featured Ignition® Alarm Management system, routing violations of validation rules or loss-of-connectivity events into real-time notifications via email or SMS. This system-wide coherence transforms fragmented operational data into a synchronized digital twin that's actionable, reliable, and ready to support high-trust decision-making at any scale.

Data Transformations

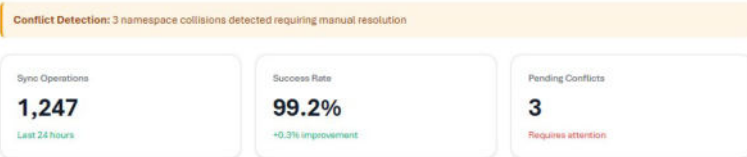
Design data logic and validation flows



Validation Rules						Create Rule
Rule Name	Type	Target Tags	Status	Success Rate	Last Run	
Coffee Roasting Temperature Control	Temperature	145	Active	99.1%	1 minute ago	
Bottling Line Throughput Monitor	OEE	287	Warning	84.7%	5 minutes ago	
Chocolate Tempering Quality	Quality	89	Active	97.8%	30 seconds ago	
Infant Formula Contamination Check	Safety	156	Active	99.9%	2 minutes ago	
Plant Protein Extraction Efficiency	Energy	234	Active	98.9%	45 seconds ago	

Topic Collisions & Resolution

Detect and resolve tag naming conflicts and duplicate topic structures



Synchronization Status						Resolve Conflicts
Source	Target	Status	Last Sync	Records	Conflicts	
AromaVista Enterprise UNS	Global UNS	Synced	3 minutes ago	3,245	0	
Hydrapure Site UNS	Regional UNS	Conflict	1 hour ago	2,892	3	
CacaoSpring Local UNS	Enterprise UNS	Synced	5 minutes ago	1,456	0	
NutriBloom Processing UNS	Global UNS	Synced	2 minutes ago	987	0	
VitalHarvest Lab UNS	Regional UNS	Synced	4 minutes ago	1,789	0	

Change Audit Log

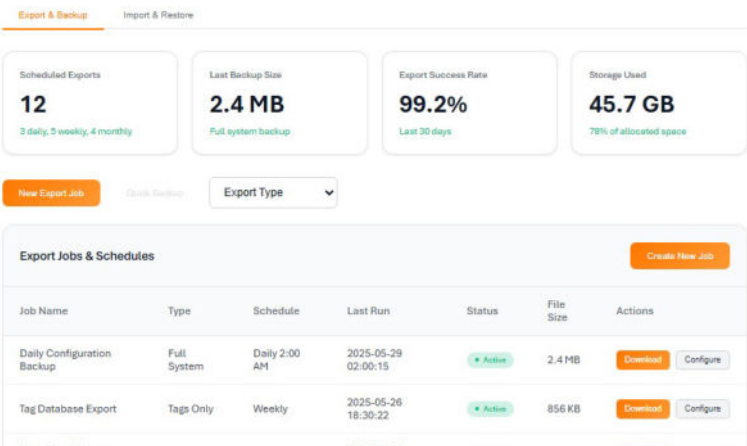
Review and approve configuration changes



Recent Changes						Report Log
Timestamp	User	Action	Resource	Change Details	Status	
2025-05-29 14:23:15	j.martinez@aromavista.com	UPDATE	Roaster Temperature Sensor	Temperature threshold changed from 220°C to 230°C	Applied	
2025-05-29 14:15:42	s.chen@hydrapure.com	CREATE	Bottle Quality Monitoring	New cap torque monitoring rule for Filling Line 2	Pending	
2025-05-29 13:45:33	r.williams@cacaospring.com	DELETE	Chocolate Tempering Process	Removed deprecated sensor: /tempering/legacy/temp_old	Applied	
2025-05-29 13:22:18	m.johnson@nutribloom.com	UPDATE	Powder Mixing Speed	Production rate limit increased from 500 to 650 kg/hour	Applied	

Import & Export Management

Flexible deployment configurations with Docker-ready CI/CD workflows and TLS security





Key Features and Benefits

Features

- Unlimited ISA-based tag and topic hierarchy with compliance checking
- Broker-agnostic onboarding and MQTT client monitoring
- Visual Tag Browser with live values, compliance status, and data quality metrics
- Integrated transformations such as renaming, mapping, aggregating, filtering, and routing payloads
- Real-time audit log, change history, and change approval workflow for propagation governance
- Multi-site visibility with site health, latency, throughput, and validation stats
- Built-in collision detection and topic standardization enforcement
- Low-code logic engine for event workflows
- User and Role Management with RBAC and site-level restrictions
- Theme management, quick export tools, and CI/CD-ready deployment options

Benefits

- Reduces point-to-point integration costs across OT and IT
- Enables scalable and governed multi-site architectures
- Bridges visibility gaps between operational and business systems
- Enhances data quality through standardization and validation
- Shortens time-to-insight for apps like SPC, MI, Forms, Tasks, Workflow, Batch, ERP Integration and MES
- Supports digital twin and predictive analytics
- Ensures compliance and traceability across all data flows
- Empowers teams with self-service diagnostics

Technical Requirements

System Requirements

Ignition® (8.1.+), Core Modules, Quad-core processor, 16 GB RAM, 10 GB free disk space

Supported Operating Systems

Windows Server 2019/2022/2025, Windows 10/11, macOS (X, 10.16+), Linux (Ubuntu, CentOS, RHEL)

Supported Protocols

MQTT, OPC UA / OPC DA, REST API (JSON Payloads), Kafka (via connector), Snowflake (via pipeline, data bridge)

Supported Databases

Microsoft SQL Server, Oracle, MySQL, MariaDB, PostgreSQL, any database with JDBC driver

Supported Browsers

Chrome, Firefox, Safari, Microsoft Edge

LOGICAL SYSTEMS Unified Namespace

The semantic backbone of your digital enterprise.

LOGICAL SYSTEMS UNS App is much more than a messaging layer. Combined with the UNS Portal, it provides a governed, real-time infrastructure that brings structure to industrial data chaos. It bridges siloed systems, enforces naming consistency, and enables event-driven workflows across every level of your operation, from shopfloor to cloud, from sensors to business intelligence.

Whether deployed for a single line or across global sites, the UNS App empowers teams to act on clean, contextual, and connected data in real time. We simplify organizing, standardizing, and routing industrial data across your entire manufacturing ecosystem.

LOGICAL SYSTEMS
AUTOMATION & INTEGRATION SERVICES

Specialists in Automation & Digitalization for Manufacturing Industries

www.logicalsistemas.io | info@logicalsistemas.io

Copyright © 2025 LOGICAL SYSTEMS and its subsidiaries. All rights reserved.
All product names mentioned are the trademarks of their respective holders.