Iskratel Intelligent Applications Platform for Energy (IAPE)

Interoperable data movement platfrom

Key features

- **Support for open protocols** (HTTP/S, JMS/JCA, REST, MQTT, AMQP, Websockets)
- **Robust, scalable** and **highly available deployment**
- **Logging** and **auditing**
- **Administration** and **management**
- **Monitoring**

Iskratel's INGESTOR delivers open and interoperable data movement backbone, which allows integrating different IT/OT systems and applications to communicate through reliable and secure message exchange using enterprise service bus (ESB) technology framework.

ESB, as such, incorporates all the features required to implement a service-oriented architecture (SOA).

ENTERPRISE MESSAGING

INGESTOR as an integral part of the Iskratel's IAPE is the basic component of the information and communication infrastructure, which provides the operations for parallel processing related to receiving, aggregating, forwarding and exchanging messages from various systems that are connecting to the platform, possibly using different:

- **Open protocols;** HTTP/S, JMS/JCA, REST, MQTT, AMQP, Websockets
- **Message patterns;** Pub/Sub, Request/Reply, Streaming, Persistent, Queuing
- **Qualities of service;** Best effort, non-persistent, assured, guaranteed, persistent

AGNOSTIC DEPLOYMENT

INGESTOR as a component of the Iskratel's IAPE could be deployed on both private or public IaaS and PaaS infrastructure. Moreover, INGESTOR could easily work as a hybrid solution with on/off premises deployment at the same time, acting as a truly data movement backbone.

INTEROPERABLE INTEGRATION

When integrating different IT/OT systems via remote communication, these systems likely use different languages, technologies and platforms, perhaps because they were developed over time by independent teams, so a lot of legacy code exists within such system.

Through a special purpose adapter we have the ability to route, aggregate, filter, enrich, divide, receive and send messages in any format and transform it into a CIM compliant format, enabling platform and vendor independent integrations.

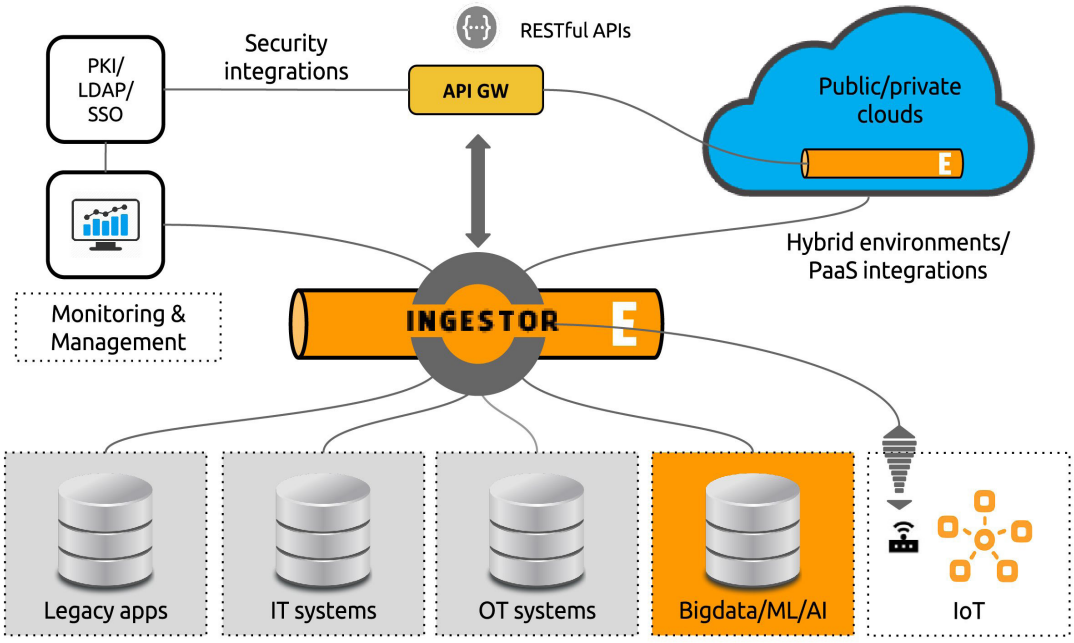
OPERATIONAL ADD-ON FEATURES

With some of the functionalities, INGESTOR wants to provide more comprehensive solution to be used with integration projects:

- **Logging & auditing;** to collect data on events occurring in INGESTOR deployed software bundles, beneath framework itself as well as services running in it
- **Administration management tool;** for ease of INGESTOR operations and management of deployed services

Why Iskratel INGESTOR?

- **Easy deployment** on private or public IaaS and PaaS platforms
- **Extension** with the Iskratel's **API GW** solution
- **Integration** with existing **security infrastructure** (PKI, LDAP, SSO)
- **Robust** and **scalable** solution
- **Easy integration** with existing environment, operating system **independent**
- Based on **open source** software components
- Possible extension with **big data pipelines** (eg. Kafka)



- **Monitoring;** visualization of the time series events for INGESTOR or all deployed services for possible SLA assurance
- **Robustness, scalability and high availability;** INGESTOR could be deployed as clustered solution, assuring proper replication mechanisms for deployed configurations and services, therefore ready also for failure scenarios

SECURITY INTEGRATIONS

With integrating different systems through the INGESTOR backbone there are always questions on how to connect and communicate with the integrated systems in a securely manner. Different options are available:

- **TLS**
- **Webservices security (WS-*)**

INGESTOR could be as well easily integrated with existing security environment:

- **PKI/LDAP** (AD/ADFS, FreeIPA or other IdPs)
- **SSO**

EXTENSION WITH THE API GATEWAY

By upgrading INGESTOR with Iskratel's API GW solution, it enables us to facade services deployed within INGESTOR and expose them in a simple and uniform access method. We want to offer 3rd party users/ developers better approach towards using INGESTOR's deployed services with:

- Offering easy and secure access to selective **RESTful APIs** data services for development of next-gen applications
- **Hide** possible **complexity** of infrastructure and services beneath
- Enabling **proper API** usage by introducing throttling, circuit breaker, retry logic and other API GW functionalities

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