LANTERN

DATASHEET

Lantern Software

Enabling the cloud native edge

A dominant cloud native theme is the ability to accelerate time to market of new products and services through lean development and continuous integration/continuous delivery (CI/CD) practices. Companies such as Uber demonstrated this by moving from concept to release within weeks and sometimes even days.

For many industrial use cases, a core barrier to transformation has been legacy systems and a monolithic approach to software development and infrastructure. Adding new data or protocols tend to require significant development in multiple areas. Edge environments further introduce additional constraints of connectivity, limited compute, and potentially harsh and hazardous conditions.

Lantern Software is a flexible, API-first cloud native software framework built on microservices, containerization and open standards. It brings lean development and CI/CD to industrial use cases. At its core is a robust set of base services for:

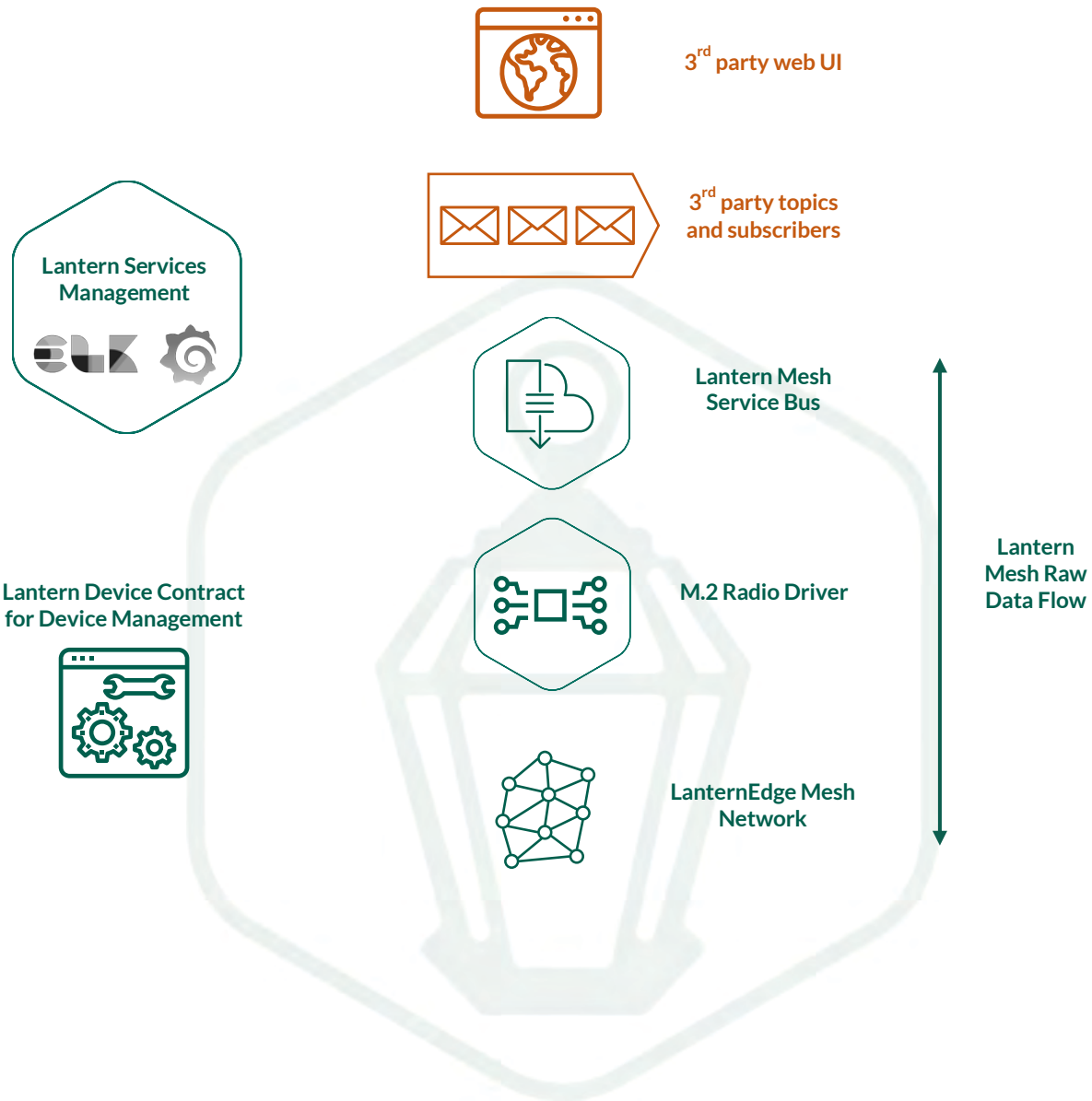
- Data collection through various protocols and devices
- Hardware provisioning and management
- Containerized system drivers for 100% container-based platform
- Complete microservice architecture for scalability and rapid enhancement
- Multiple database architecture, relational and NoSQL to support structured and unstructured data
- Data analysis and presentation through Kibana/Grafana
- Mapping and spatial visualization of sensors through OpenStreetMaps
- System health monitoring through Grafana
- Kubernetes software enabling industry standard scaling and management of the containers

Utilizing Lantern Software, users can rapidly build out new solutions and introduce new data or protocols without the significant effort that is required with today's current platforms.

The containerized architecture of Lantern Software has optimized cloud, on-prem or edge deployments. The software can run standalone on premise and be scaled to operate across multiple independent sites or hosted on public cloud.

Lantern Software can be utilized for multiple architectures, if can drive middleware development allowing users to develop their own front end to suit operational needs or used with its own native UI allowing quick application development for proof of concepts and production ready solutions.

Lantern Software middleware approach



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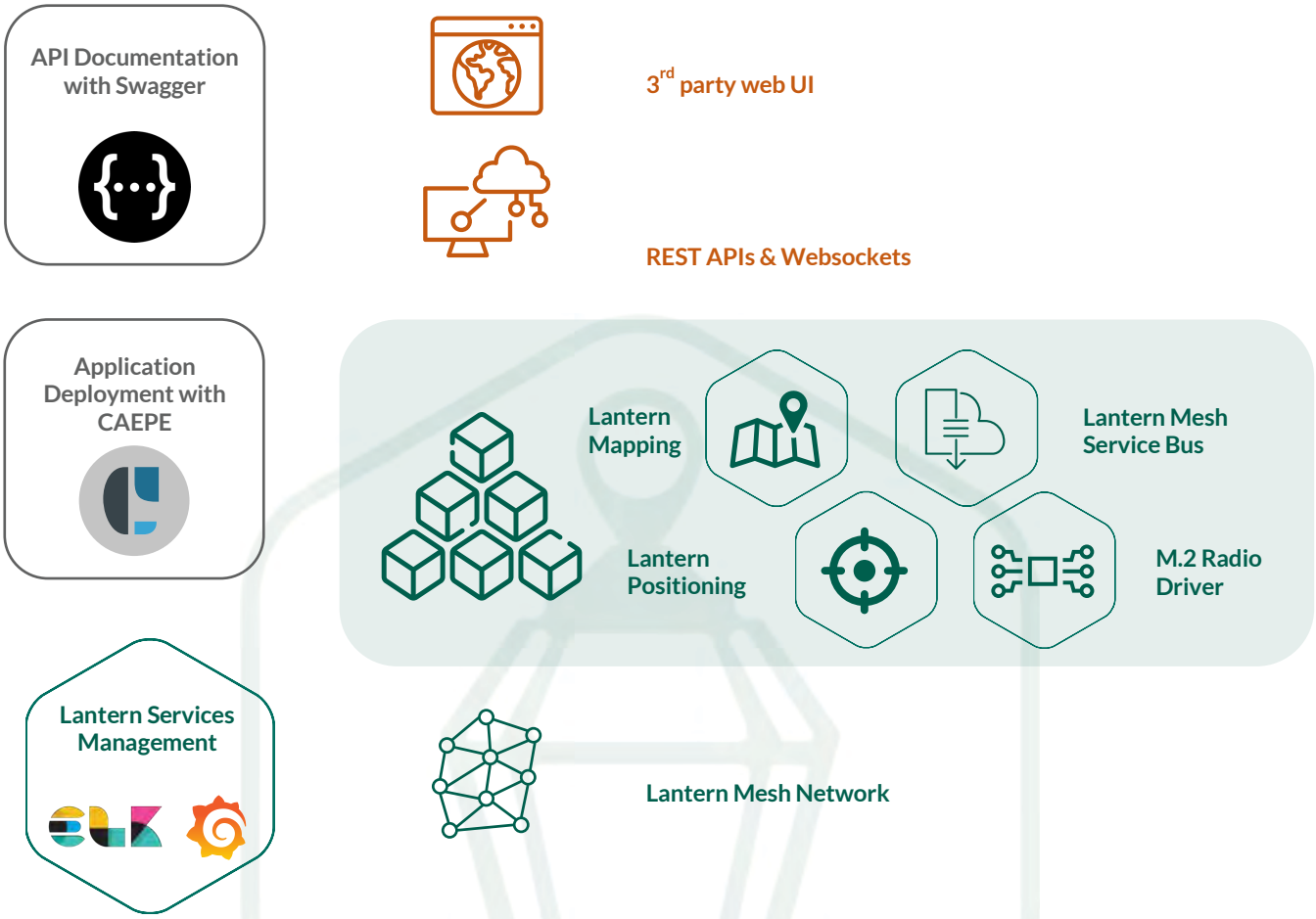

Software Features

Architecture	Microservice
Database support	Relational and NoSQL
Self-hosted SSL certifications	Self-hosted SSL certifications & provisioning
QR code device provisioning	Yes
Containerized device drivers	Yes
Data & log management	Elasticsearch / Logstash / Kibana (ELK)
Analytics & monitoring	Grafana
Geolocation and visualisation support	Open Street Maps
Directory services	LDAP
Messaging protocol	MQTT
Alarms and notifications	Yes
Operating systems	CentOS Linux / Red Hat Enterprise Linux
Kubernetes distributions	K8s/K3s
Programming languages	React / Node JS
API	RESTful / Swagger
CI/CD	GoCD/CAEPE

Hardware management

Sensor firmware over the air updates:	Yes
HarshPro™ Router / HazPro™ Router firmware over the air updates:	Yes
Secure server-device wireless communications:	AES 128 Encryption
Device telemetry data reporting:	Yes
Mesh network diagnostic tools:	Yes
Desktop support:	Chrome browser
Mobile device support	iOS/Android OS – Chrome browser