Glossary and Terminology

This page includes a list of terminology and acronyms, both industry-standard terms and terminology specific to Litmus Automation.

Acronym List

While many acronyms have become part of our common language, with their meanings well known to people in the industry, it can be entertaining to review the origin or decoded version of an acronym. The following list includes a sampling of terminology found in Litmus Automation product documentation.

Acronym	Decoded	Description
ACL	Access Control List	Lists the users and permissions for system access.
AES	Advanced Encryption Standard	This security algorithm encrypts and decrypts data using the same encryption key. Loop uses this standard to enforce privacy controls on each device and connection.
AMQP	Advanced Message Queuing Protocol	Open standard for business application messaging.
BPM	Business Process Management	This business solution focuses on optimization of business processes and workflows.
CDN	Content Delivery Network	Network nodes and content are located closer to the end user than with typical network configurations.
CIDR	Classless Inter-Domain Routing	The standard for creating unique identifiers for networks and individual devices.
CNC	Computer Numerical Control	This pre-programmed sequences of commands enables automation of machine tools.
CoAP	Constrained Application Protocol	Web-transfer protocol for IoT constrained nodes and networks; designed for machine-to-machine (M2M applications.
CRM	Customer Relationship Management	This software manages a database of interactions with customers and potential customers.
CSR	Certificate Signing Request	Send this encoded file to a certificate authority for creation of an SSL certificate.
DTC	Diagnostic Trouble Code	Engine control systems in vehicles issue DTCs for problems and failures. For example, a DTC triggers the check engine light in an automobile.
DTLS	Datagram Transport Layer Security	Protocol for secure communications for datagram-based applications (UDP transport protocol).
ERP	Enterprise Resource Planning	This software integrates and manages core business functions/units in a shared database.
ETL	Extract, Transform, and Load	This data warehousing term refers to a process of extracting data from one source, transforming the data, and then storing it in another database.
HID	Human Interface Device	USB-connected devices, such as barcode scanners. In LoopEdge, an HID remains disconnected because HIDs send data only when there is data to send.

IoT and IIoT	Internet of Things and Industrial Internet of Things	Communication among a large variety of devices and protocols, along with the collection of data from those devices, enables data analysis and efficient management and planning.
IPC	Industrial PC	PC-based computing platform for industrial applications.
IPSO	Internet Protocol for Smart Objects	This security standard for data transmission (RFC 1108) promotes IoT device interoperability to enable "smart object" capabilities. See IPSO Object Reference Guide and DeviceHub OMA Binding.
LwM2M	Lightweight Machine to Machine	The lightweight IoT device management protocol from the Open Mobile Alliance (OMA) is designed for sensor networks. See OMA LightweightM2M (LwM2M) Object and Resource Registry.
MES	Manufacturing Execution System	This system tracks the processes, data, and outcomes–from raw materials to finished goods–of a manufacturing process. This includes such things as materials tracking, management of overall equipment effectiveness (OEE), and resource scheduling.
MQTT	Message Queuing Telemetry Transport	This lightweight messaging protocol uses a publish-subscribe method for connecting to sensors and devices.
NATS	Neural Autonomic Transport System	This messaging platform provides a text-based publish-subscribe protocol. This NATS name compares its functions with a central nervous system. See DeviceHub Add a Tag and DataHub Nodes.
NTP	Network Time Protocol	Devices, including LoopEdge devices, use NTP for time synchronization.
OAuth	Open Authorization	OAuth 2.0, an open standard for authorization and authentication, can be configured in LoopCloud. Other authorization methods supported in LoopCloud, include: • Query Auth (a method of signing API requests with a key) • Header Auth (HTTP authorization header) See Poll Model to Transform Data.
OEE	Overall Equipment Effectiveness	The standard for improving manufacturing productivity.
OMA	Open Mobile Alliance	The standards organization defines specifications for IoT machine-to-machine communication. See DeviceHub OMA Binding.
OMNA	Open Mobile Alliance Naming Authority	The operational naming authority handles registration of assigned names and numbers to ensure interoperability of devices and software using OMA technology.
OPC	Open Platform Communications	Standard interface used to communicate with industrial devices. Legacy solutions used this standard for accessing devices. As manufacturing systems evolved, a new interoperability standard, OPC UA, was developed by the OPC Foundation.
OPC UA	Open Platform Communications Unified Architecture	This machine-to-machine protocol for industrial automation supports a Service-Oriented Architecture (SOA).
OTA	Over-the-Air	Over-the-Air updates facilitate device firmware updates. OTA refers to the methods for distributing software, configuration settings, and even updating encryption keys. See LoopEdge IIoT Security.
PaaS	Platform as a Service	Litmus Automation offers LoopCloud, a cloud platform (PaaS) that provides connectivity with IoT systems to collect data that enables device monitoring and management.
PLC	Programmable Logic Controller	A specialized small computer with a built-in optimized operating system used in industrial machines and sensors.
RBAC	Role-Based Access Control	Enables customization of access control lists, which define who can access data, based on their assigned roles.

REST	Representational State Transfer	REST provides a web service for exchanging messages between devices. Application programming interfaces (APIs) can be used to glean essential information from JSON over HTTP (refer to REST API with JSON). Users can use REST APIs to develop their own interfaces.
SCADA	Supervisory Control and Data Acquisition	An architecture for industrial control systems that includes sensors, control relays, PLCs, computers, and applications that directly interface with managed systems. The SCADA HMI (Human-Machine Interface) enables interactivity with devices.
SOA	Service-Oriented Architecture	This approach to building systems focuses on business processes for which services need to be developed and supported. This is a departure from the development of systems that focus on hardware, software, and networking resources.
SOAP	Simple Object Access Protocol	SOAP provides a web service that defines a standard communication protocol for exchanging messages between devices.
SSL	Secure Socket Layer	Protocol for secure communication over a network. See Protocols for Device Connectivity and Certificates.
TFA	Two Factor Authentication	Adds an extra layer of security for user logins. See Two-Factor Authentication.
TLS	Transport Layer Security	Protocol for secure communication over a network. See LDAP and AD Authentication.
WSDL	Web Services Description Language	XML language used to describe web services functions. See OMA WSDL Packages and Poll Model to Transform Data.

Protocols for Device Connectivity

Refer to the list in LoopCloud Ports and Protocols.

Litmus Automation Features and Terminology

This list contains the terminology specific to Litmus Automation products.

Product	Term	Description
LoopCloud	Company	The **Company** enforces domain-level isolation with a separate Role-based Access Control (RBAC) and an Access Control List (ACL). • If you are a **system integrator**, a Company can be one of your clients. • If you are an **end user**, a Company can be your own corporation. • If you are a **large corporation**, a Company can be an individual business unit. See Companies and Company Teams.
LoopCloud	Project	A **Project** is isolated in LoopCloud with a separate Role-based Access Control (RBAC) and an Access Control List (ACL). • If you are a **system integrator**, a Project can be one of your client company's products. • If you are an **end user**, a Project can be your own IoT initiative. • If you are a **large corporation**, a Project can be an individual business unit's IoT initiative. See Create a Project for a Company.

LoopCloud	Model	A **Model** defines the protocol and configuration used to connect to devices. Create a **Device**, based on a Model, to manage devices in LoopCloud. • Models and Devices are specific to a Project. • The device model identifies how devices will communicate with Loop systems—that is, the protocol. • Device models dictate a device's configuration. Model types include: HTTP, HTTPS, MQTT, MQTTS, LWM2M, LWM2M with DTLS. See also, Device Connectivity Protocols. • Device models can also have custom data blocks. See LoopCloud Device Management.
LoopEdge	Cloud Connector	In DataHub, the Cloud Connector gets configured using the JSON file that was created from a LoopCloud model and device configuration. This JSON file populates the required cloud connectivity parameters. See Configure LoopCloud Connectivity.
LoopEdge	DataHub	DataHub enables *local* connections to the cloud using the MQTT protocol. DataHub monitors the connection state every second. The data is buffered and if the connection drops out, no data is ever lost. To visualize and troubleshoot these connections, use Loop Flows. See DataHub Overview and LoopEdge Flows.
LoopEdge	Device Hub	• DeviceHub enables data collection from a physical device and sends the data to the cloud using the LWM2M protocol. • DeviceHub's main purpose is to collect data from PLCs (Programmable Logic Controller), classify it by adding OMA tagging, and publish to a Message Broker subject for further distribution. See DeviceHub Overview.
LoopEdge	Loop Flows	Flows enable you to visualize the data flow between nodes, which can be especially useful when troubleshooting connectivity. It provides a browser-based flow editor that makes it easy to wire together flows using the wide range of nodes in the palette. Flows then can be deployed to the run-time software in a single click. See LoopEdge Flows.