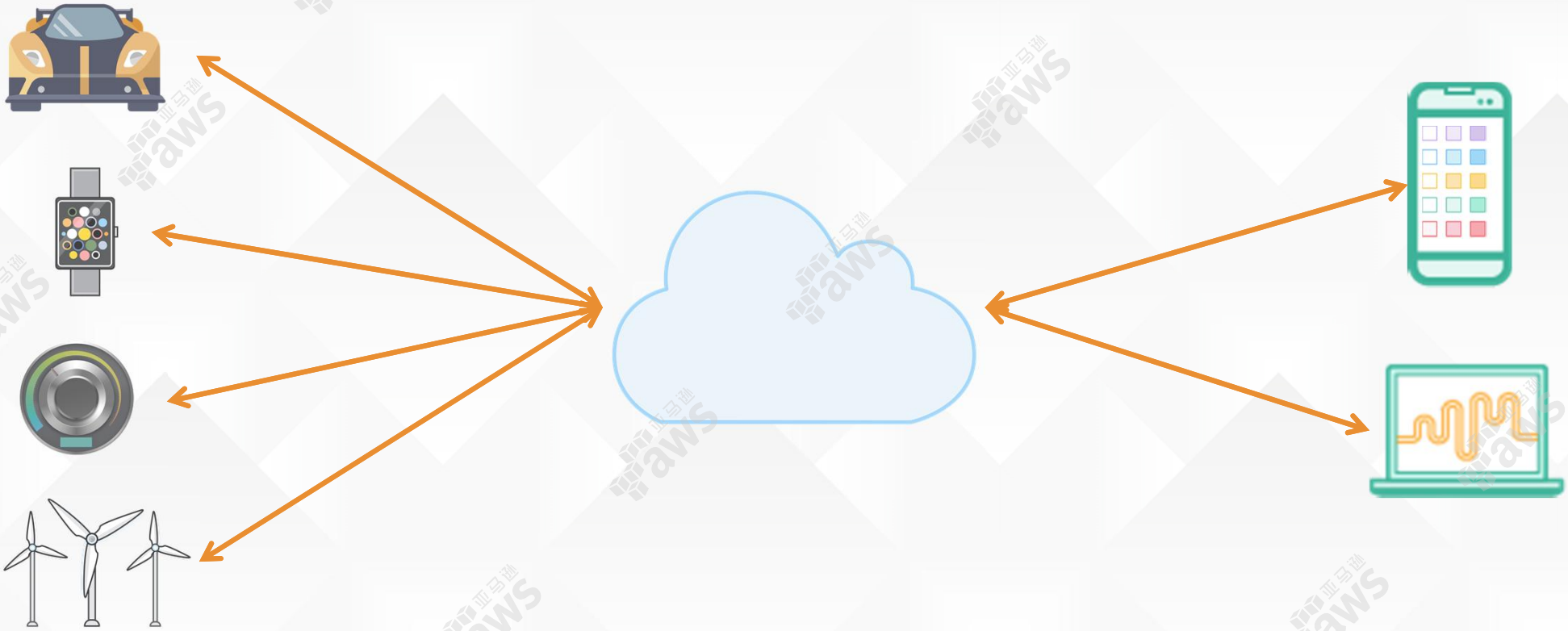

AWS Summit
AWS技术峰会2015 · 上海
亚马逊
aws

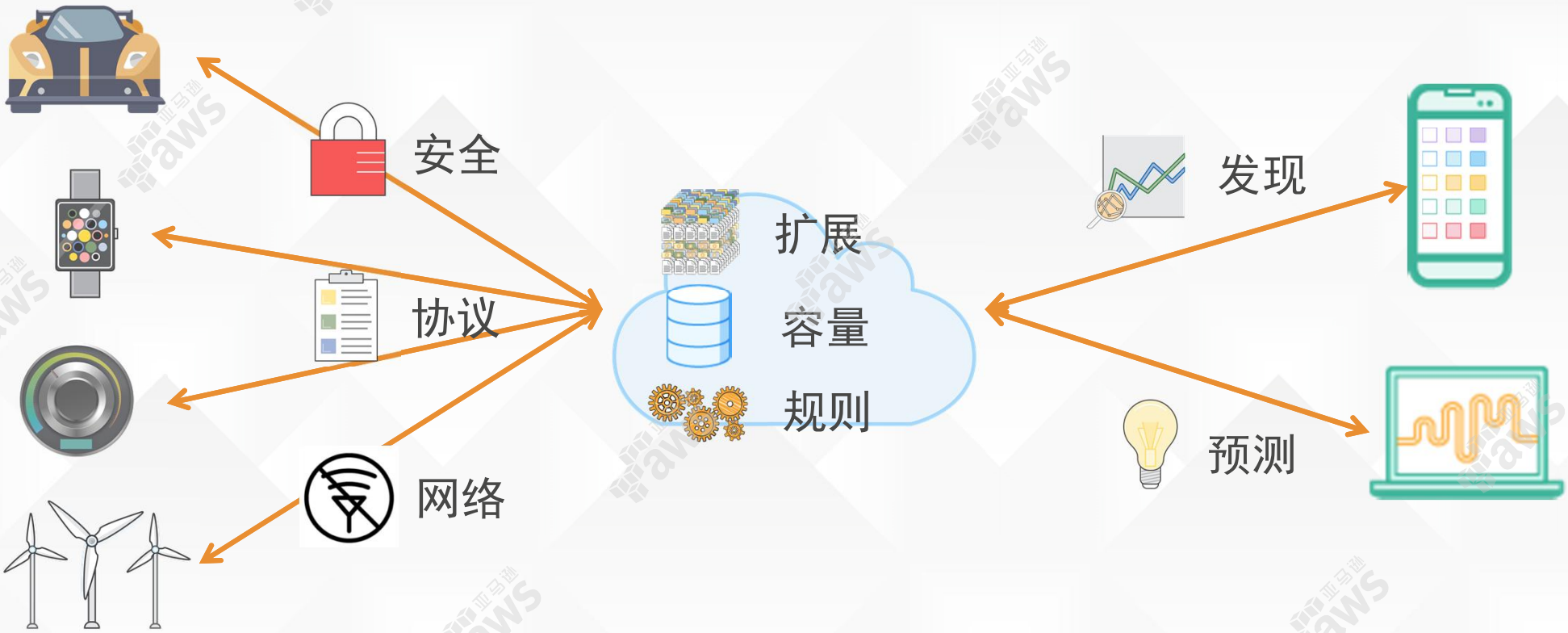
AWS IoT 助力工业革命4.0

Zhao Fei

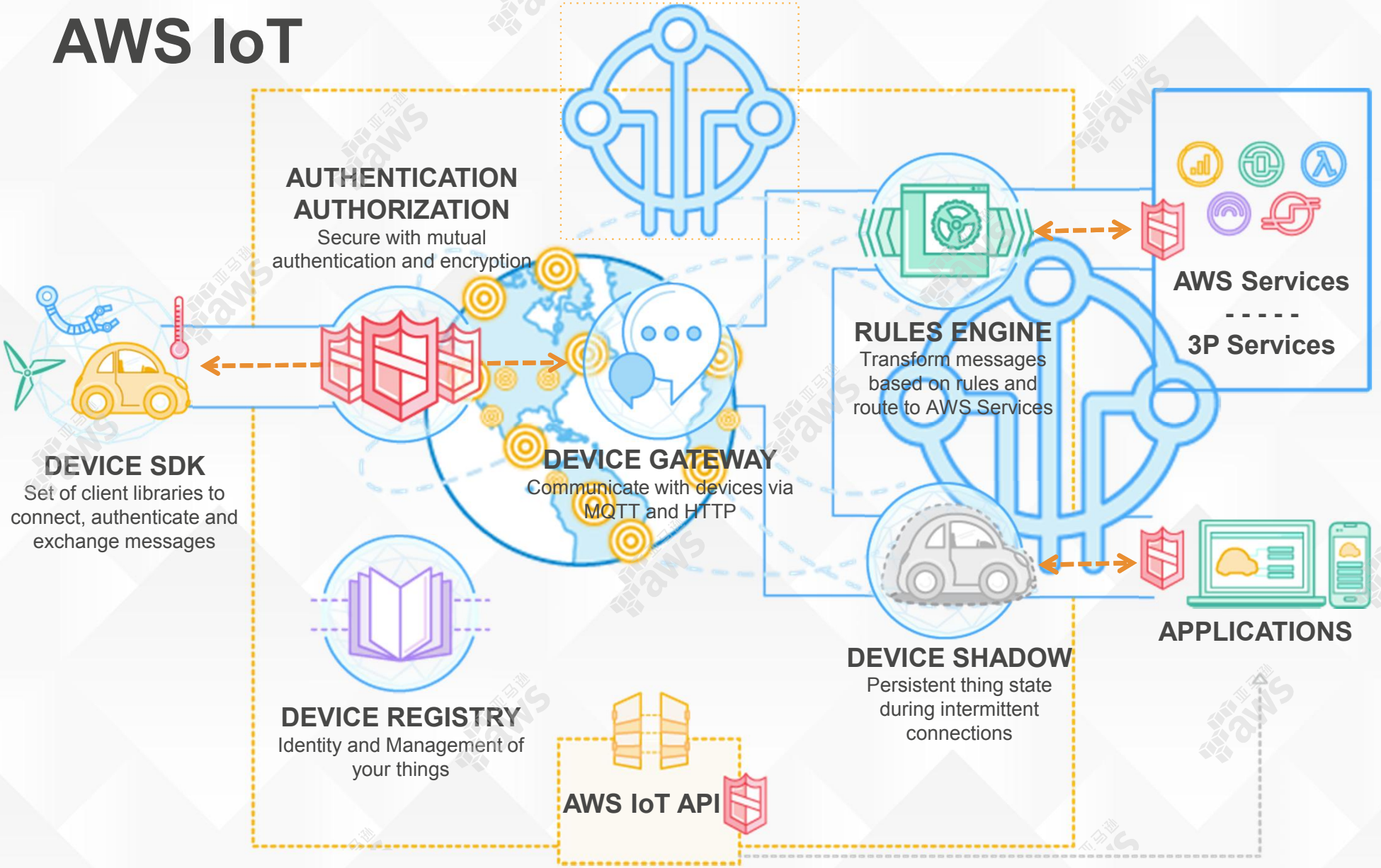
物联网是简单的？



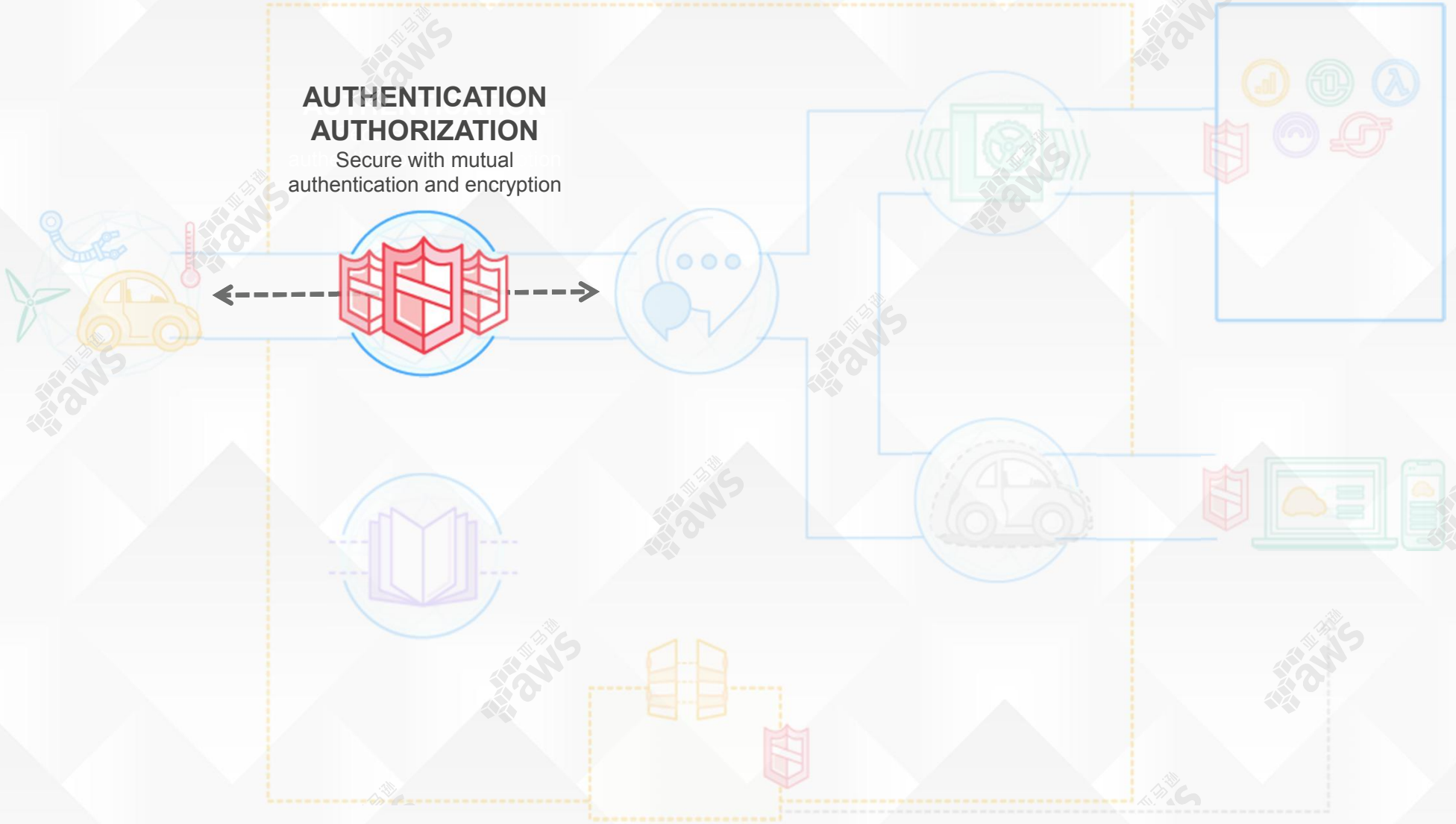
其实它很复杂



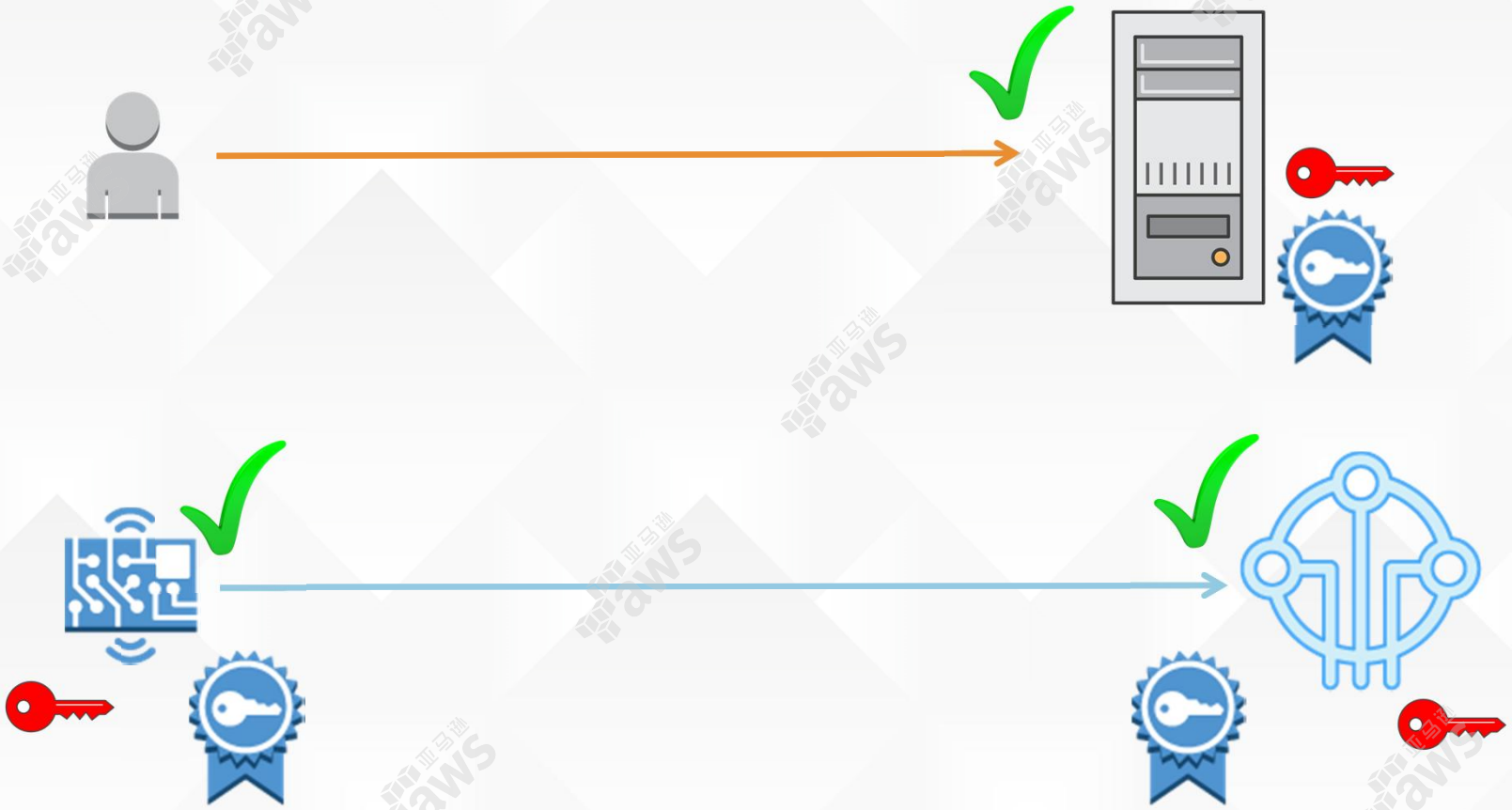
AWS IoT


AUTHENTICATION
AUTHORIZATION
Secure with mutual authentication and encryption
RULES ENGINE
Transform messages based on rules and route to AWS Services
AWS Services
- - - - -
3P Services
DEVICE SDK
Set of client libraries to connect, authenticate and exchange messages
DEVICE GATEWAY
Communicate with devices via MQTT and HTTP
APPLICATIONS
DEVICE SHADOW
Persistent thing state during intermittent connections
DEVICE REGISTRY
Identity and Management of your things
AWS IoT API

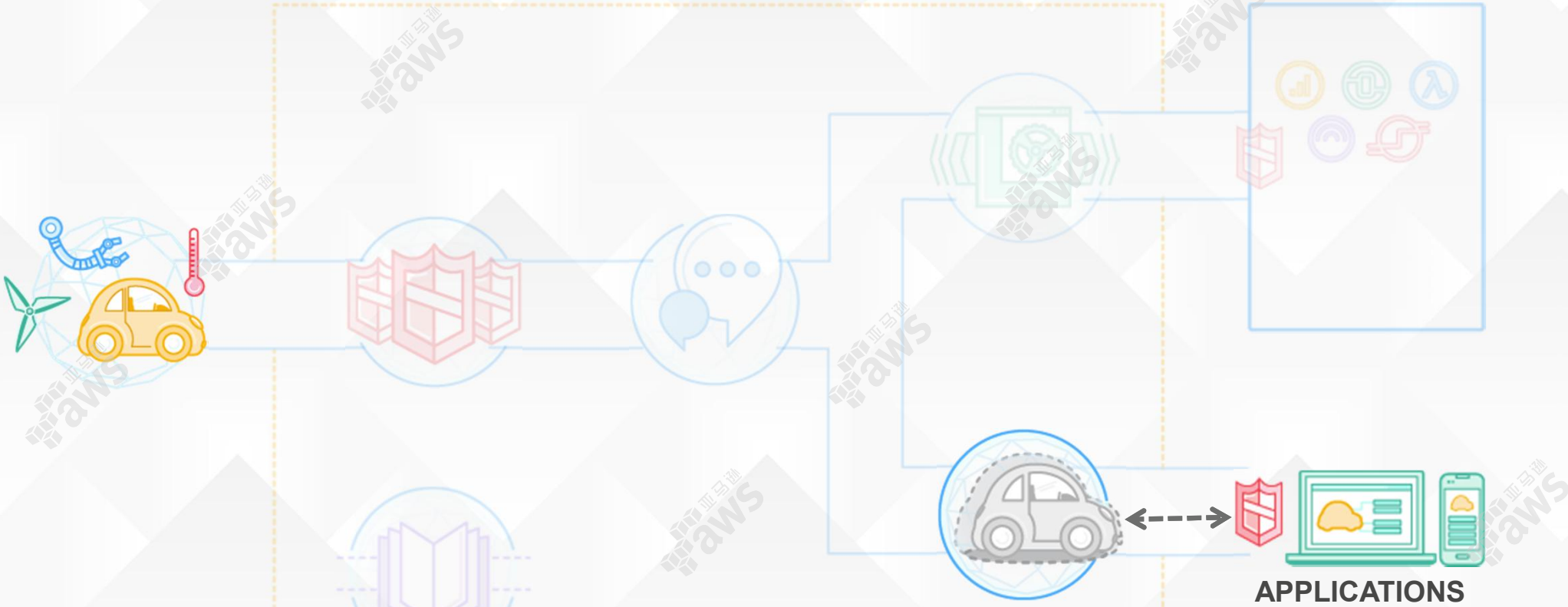
AWS IoT 安全: 认证与鉴权



Mutual Auth TLS

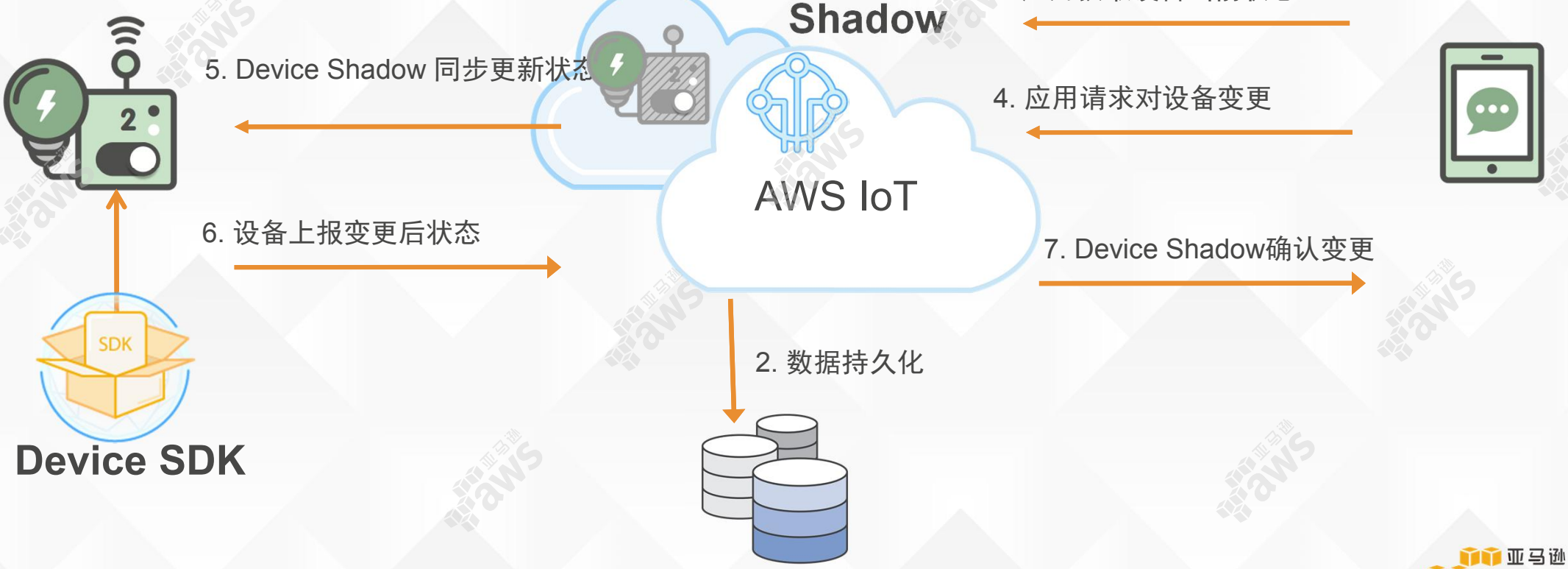


AWS IoT Thing Shadow



SHADOW
Persistent thing state during intermittent connections

AWS IoT Shadow基本工作流程



AWS IoT Device Shadow - Simple Yet Powerful

Thing

Report its current state to one or multiple shadows
Retrieve its desired state from shadow

Shadow

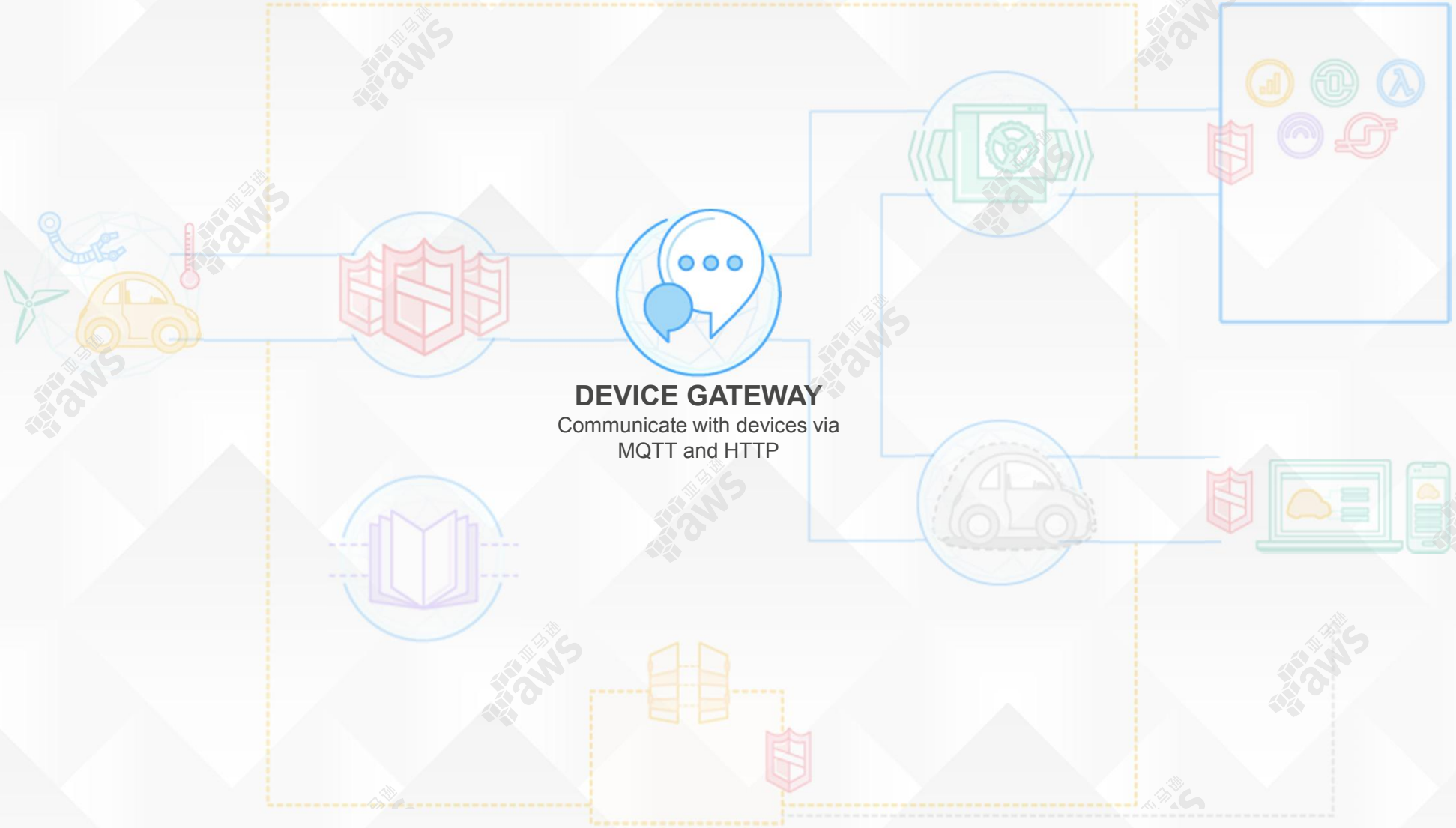
Shadow reports delta, desired and reported states along with metadata and version

Mobile App

Set the desired state of a device
Get the last reported state of the device
Delete the shadow

```
{
"state" : {
        “desired" : {
            "lights": { "color": "RED" },
            "engine" : "ON"
        },
        "reported" : {
            "lights" : { "color": "GREEN"  },
        "engine" : "ON"
        },
        "delta" : {
            "lights" : { "color": "RED"  }
        } },
"version" : 10
}
```

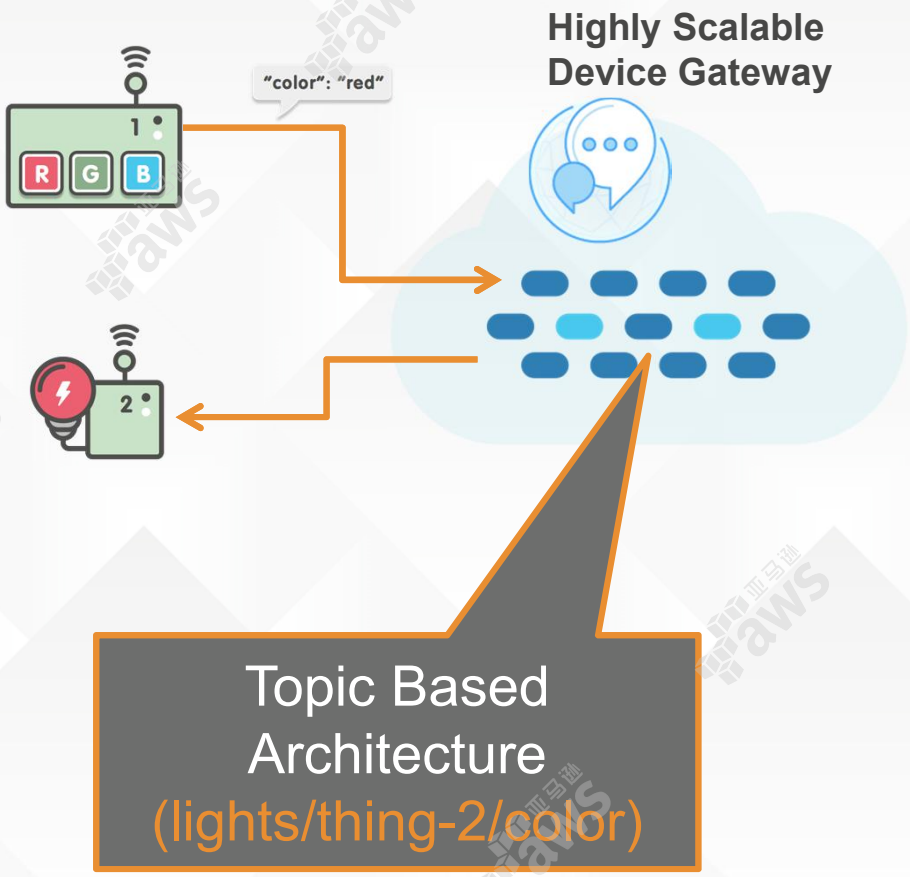
AWS IoT Message Broker



DEVICE GATEWAY

Communicate with devices via
MQTT and HTTP

AWS IoT Device Gateway



支持标准协议 (no lock-in)

Millions of devices and apps can connect over any protocol starting with MQTT and HTTP 1.1

强大的支持双向通信的Pub/Sub Broker

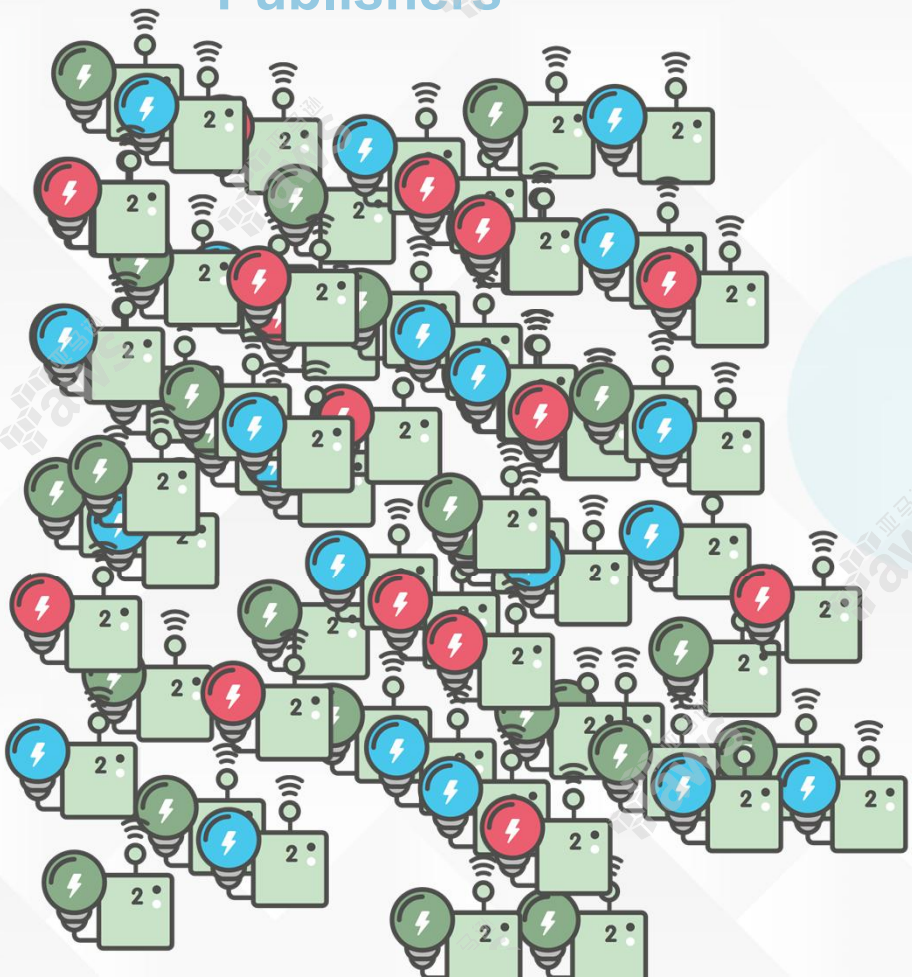
Clients (Devices and Apps) can receive commands and control signals from the cloud

安全

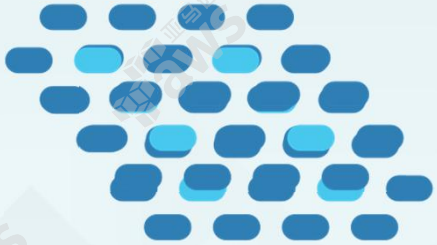
Connect securely via X509 Certs and TLS 1.2 Client Mutual Auth

AWS IoT Message Broker : Managed Service

Publishers

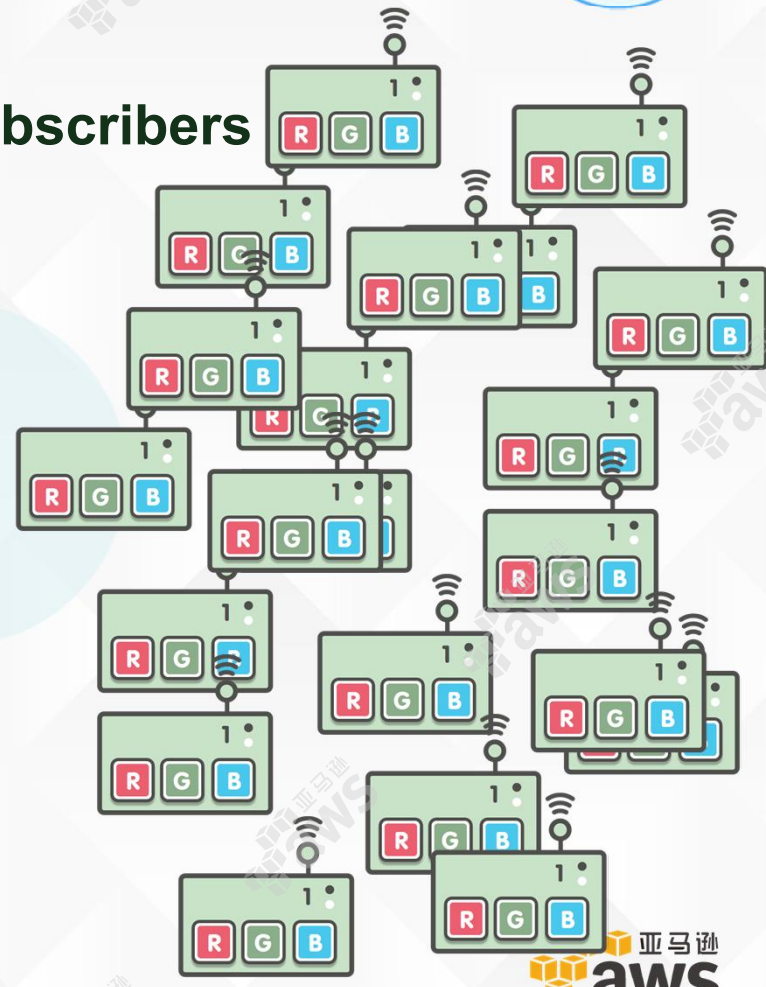


Highly Scalable
Device Gateway

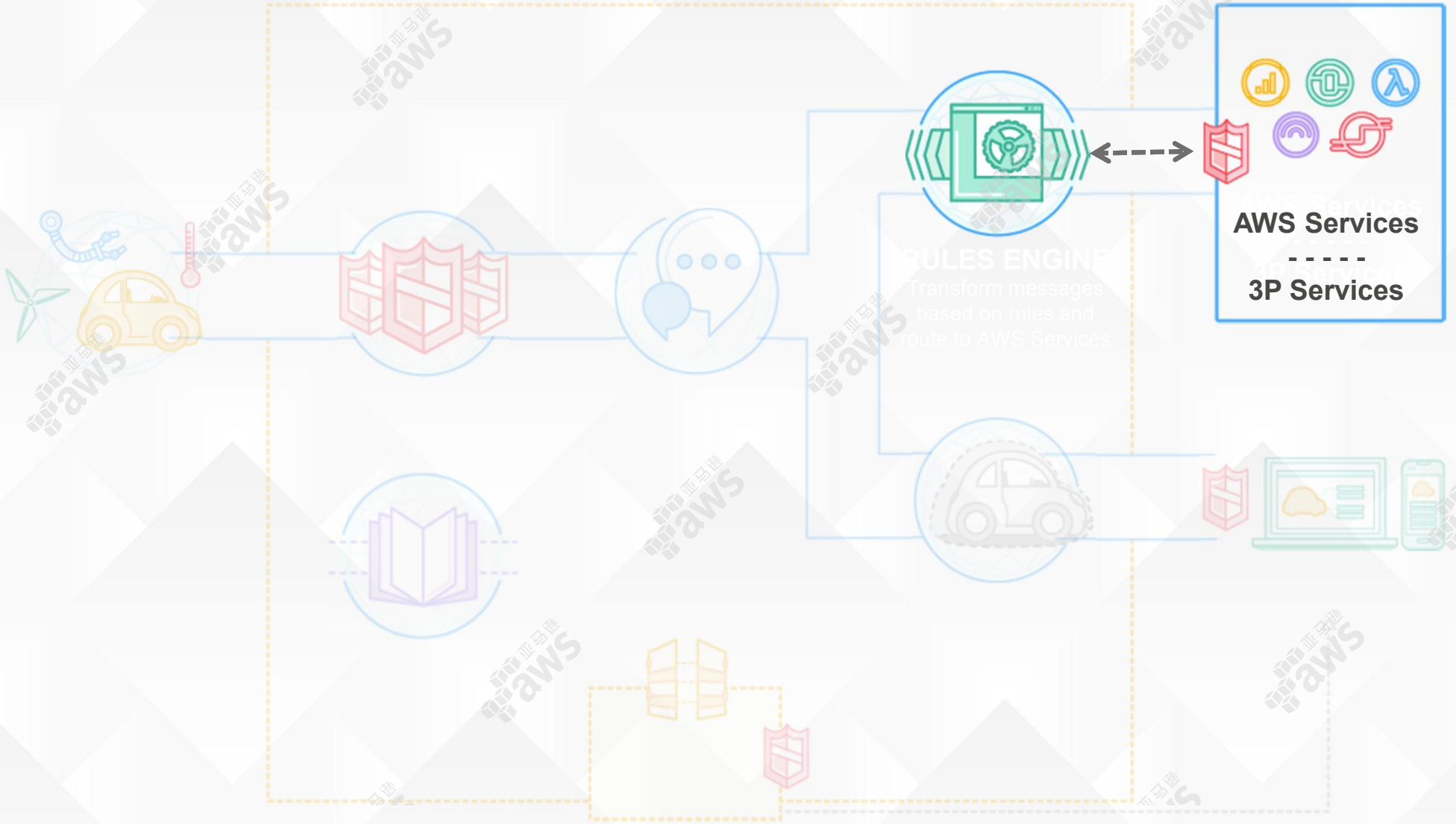


Millions of devices
sending billions of
messages

Subscribers



AWS IoT Rules Engine Actions

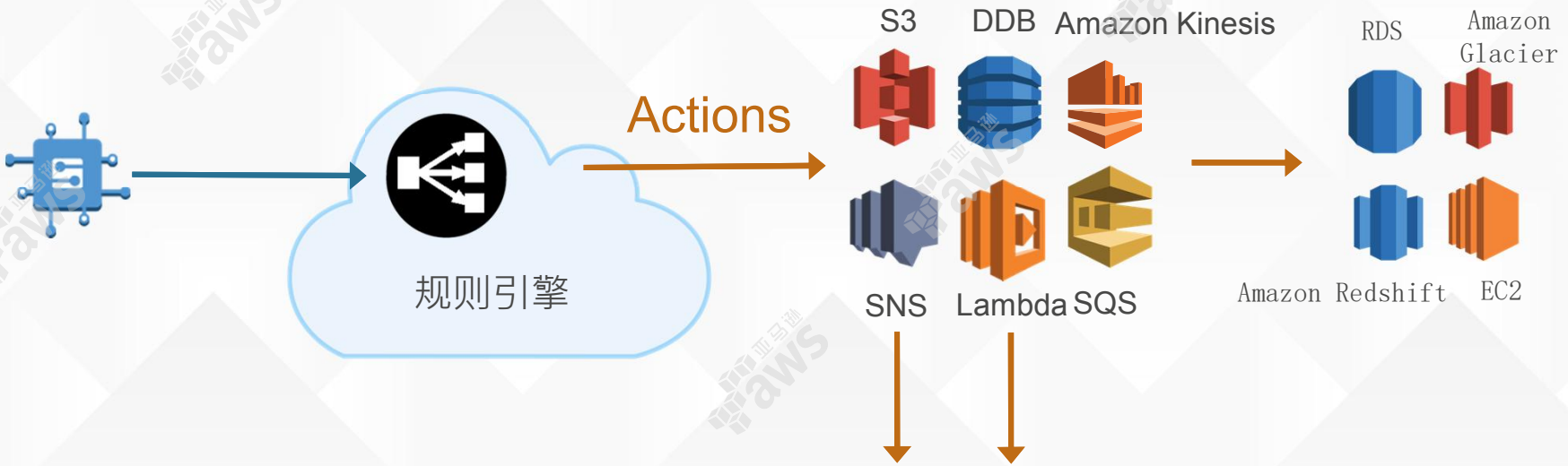


AWS物联网规则引擎

规则引擎连接AWS物联网外部端点和AWS服务。

1. AWS 服务
(已直接整合)

2. AWS其他的服务
(通过Amazon Kinesis, Lambda, S3, and more)



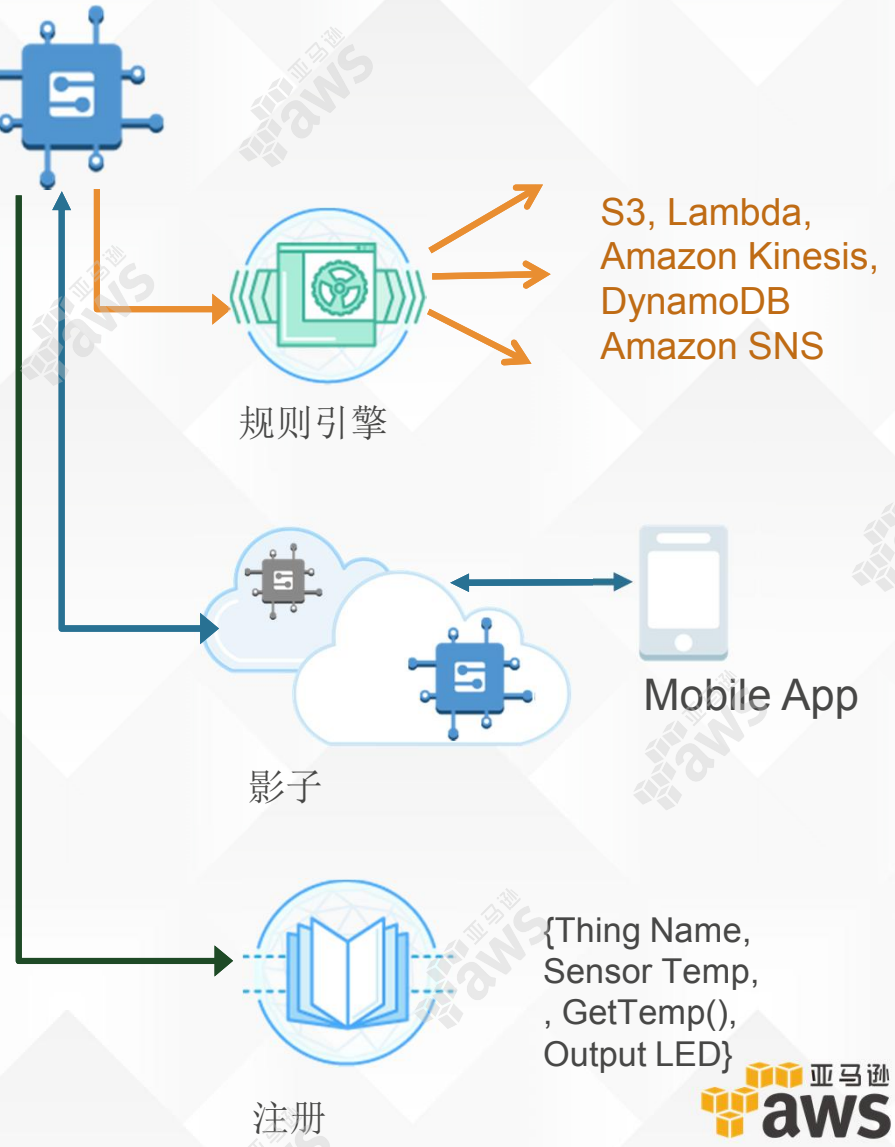
3. 外部端点
(通过Lambda and SNS)

AWS物联网：AWS的入口

注册
建立设备的身分认证和元数据，如该设备的属性

影子
应用程序与设备间可以透过 “RESTful” API 同步彼此的状态

规则和操作
匹配样式并采取操作将数据发送到其他AWS服务或重新发布

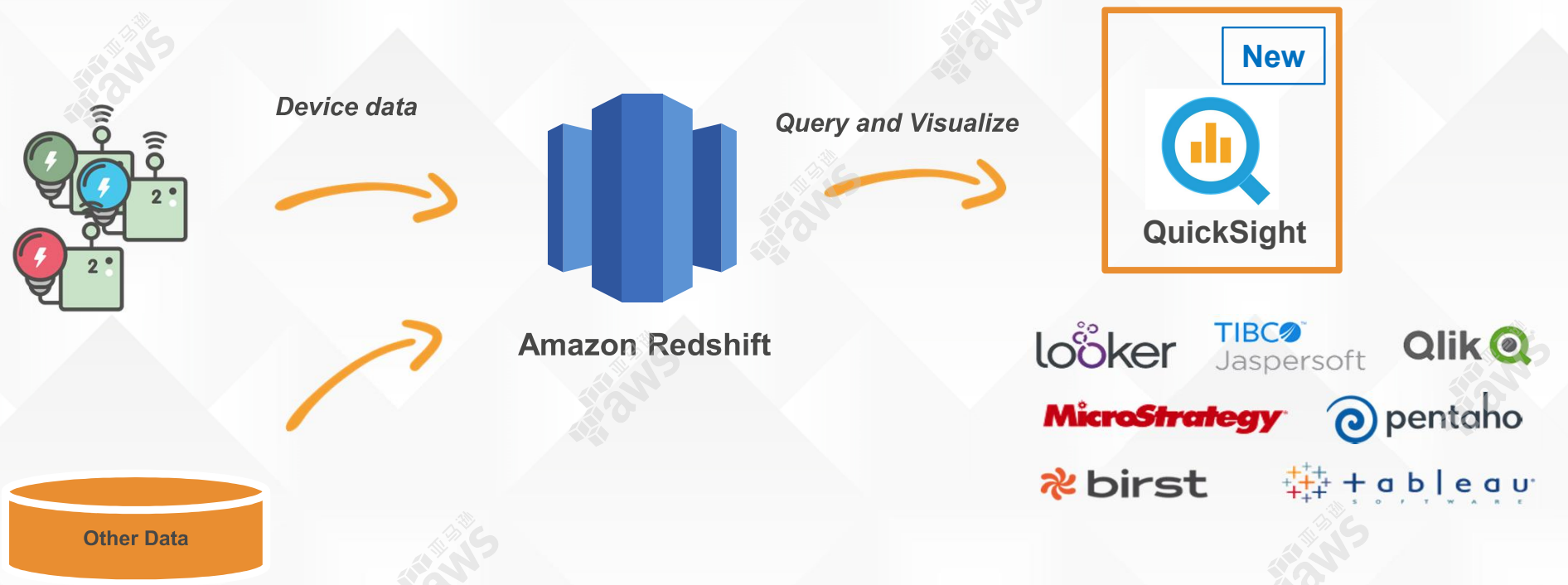


Export to Amazon Redshift

AWS IoT

Amazon Redshift

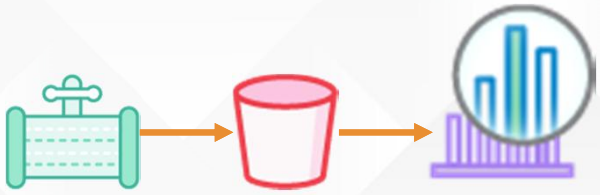
Easy to Query and Visualize



更多的可预测性和效率意味着减少浪费

温度传感器的阵列传输数据

AWS的物联网的连接进行验证

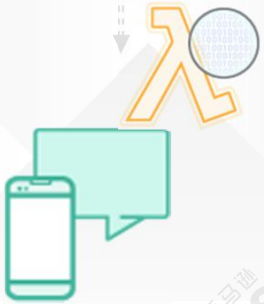


传感器数据传输到亚马逊kinesis，存储在S3和分析了亚马逊机器学习

AWS物联网处理数据的设备的到来，触发根据规则的动作。

AWS的物联网的连接进行验证

设备被置于待机状态，以防止损坏。



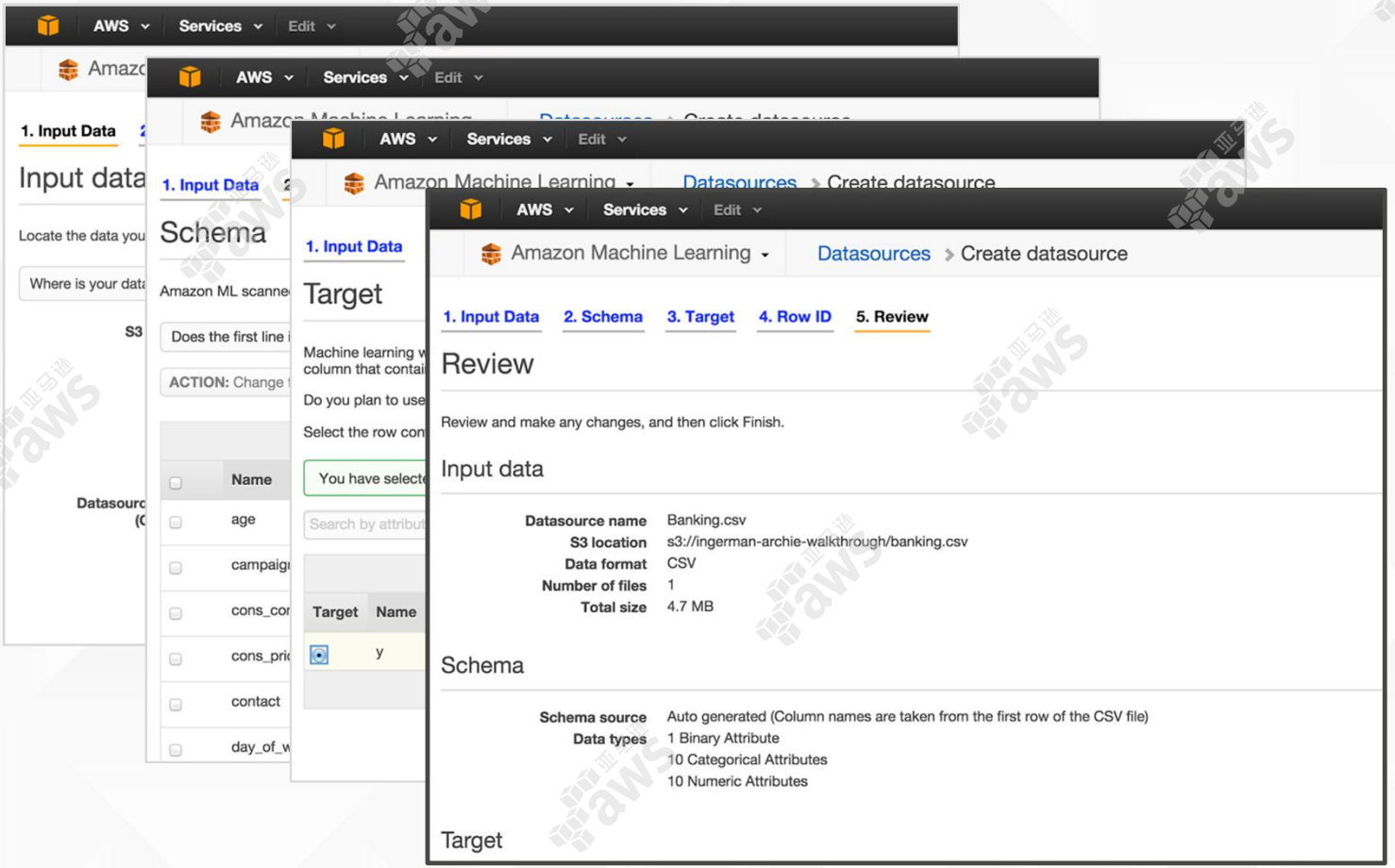
必要的运维报警

通过Amazon ML建立可预见性的应用

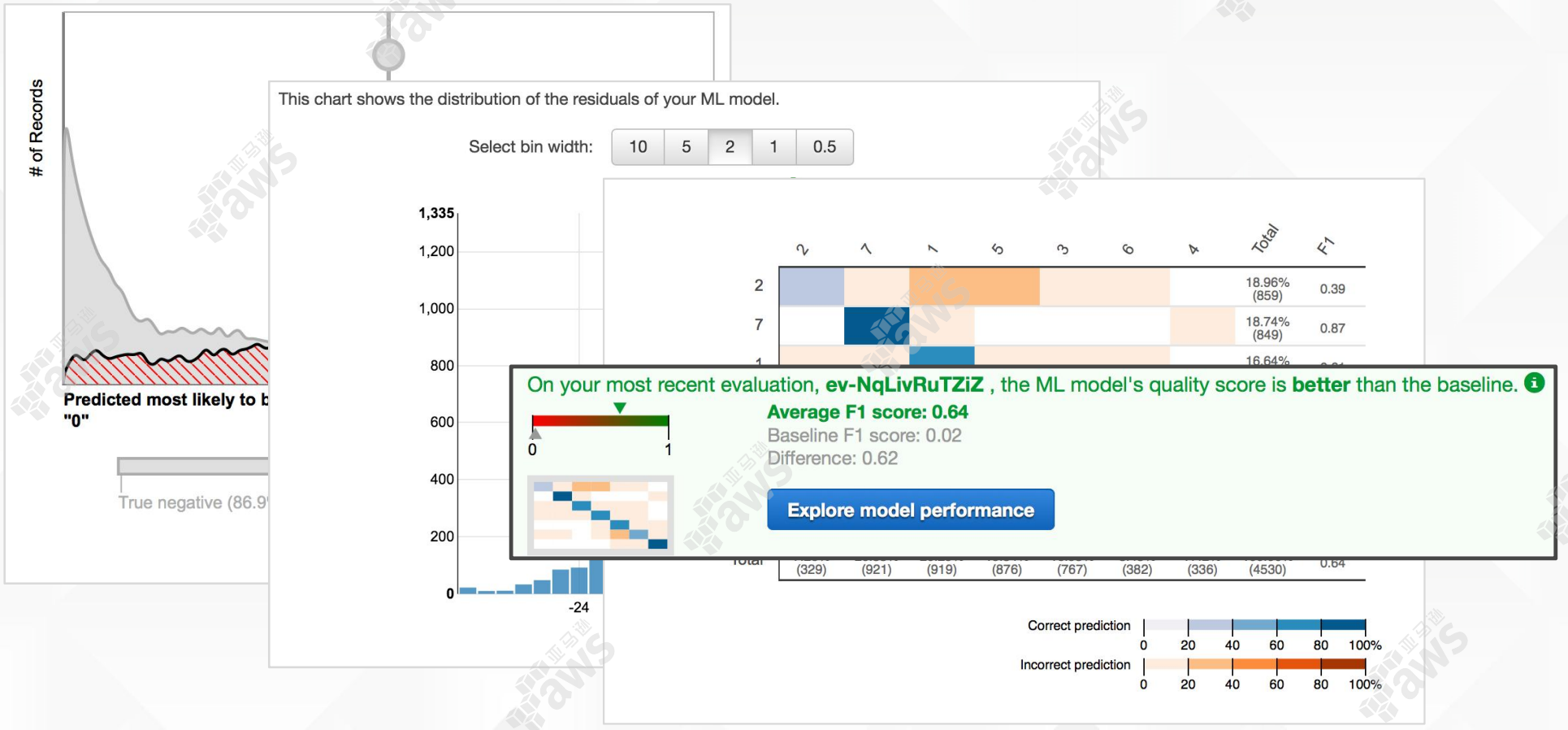
AWS IoT

Amazon Machine Learning

Build Amazon ML Models with a Few Clicks

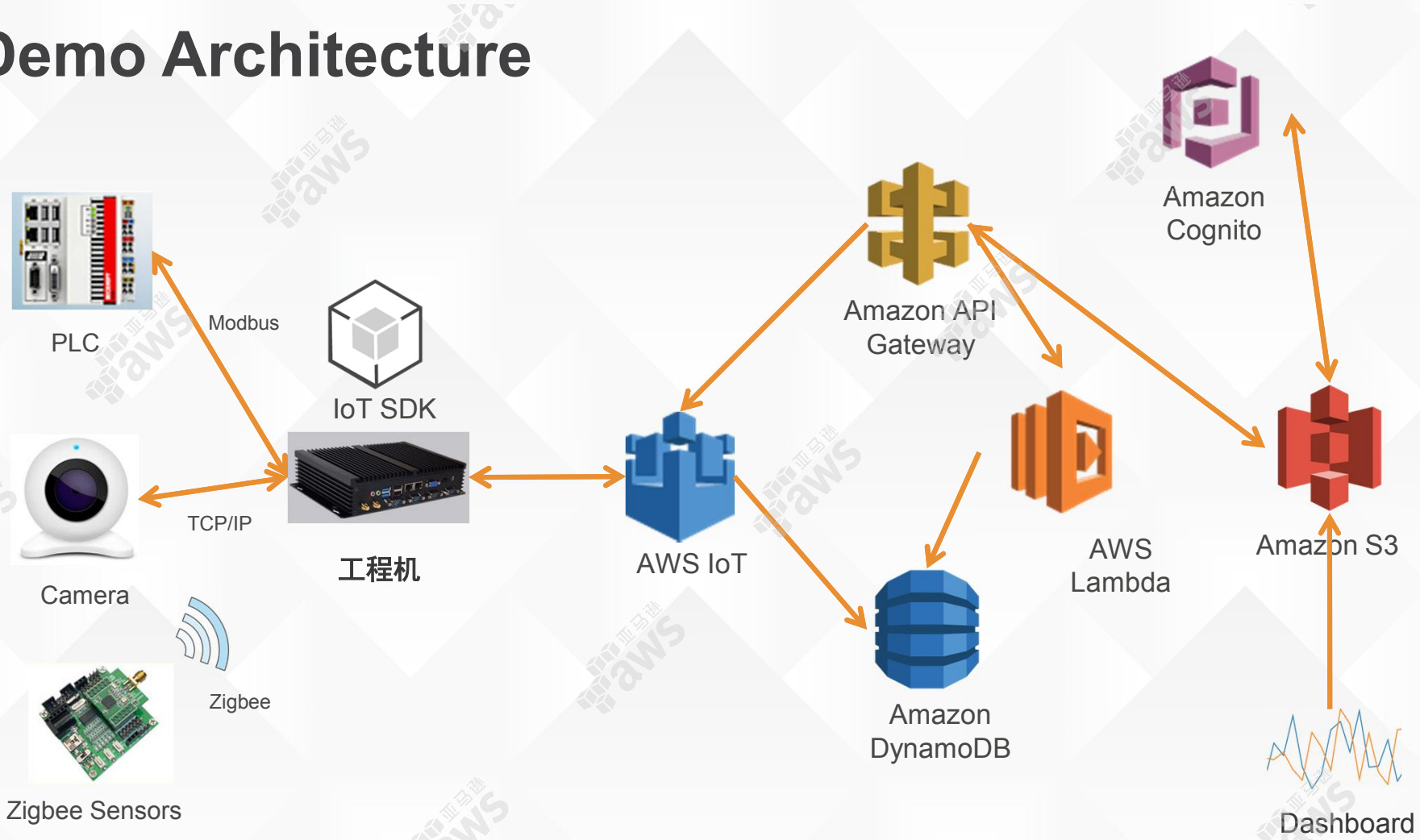


Explore Model Quality



Demo

Demo Architecture



Thank You