

# IoT Testing Methodology

## COMPLEXITIES OF IOT SYSTEM COMPONENTS

### Sense

- Large data volume
- Varying latency
- Maintaining accuracy

### Connect

- Variety of Protocols
- Elasticity of Edge
- Variance in Network speeds/QoS

### Ingest

- Device Twin
- Multi-message patterns
- Rules-based message fan-out

### Analyse

- Data Contextualization
- Complex Event Processing
- Real-time alerts

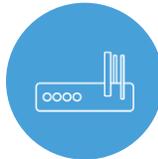
### Store

- Multi-modal storage
- Automated data workflows
- Low latency

### Interface

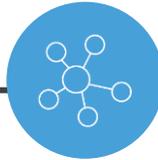
- 3rd-party subsystems & components
- Diverse data access: UI, API, Files etc.
- Interactive Visualization

### IoT Testing Imperatives...



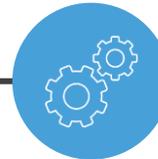
**EDGE TESTING**

- Device management
- Device connectivity



**PLATFORM TESTING**

- API and Microservices testing
- Data storage testing



**IMPLEMENTATION & ROLLOUT TESTING**

- Functionality testing
- Extensibility testing
- Scalability testing



**PERFORMANCE**

- Service Failover
- Performance under load
- Performance of Microservices and APIs



**SECURITY**

- Device Authentication
- Data encryption
- Security and Governance of APIs

