

The Metrology Cloud: WP2 „Secure Cloud Reference Architecture“

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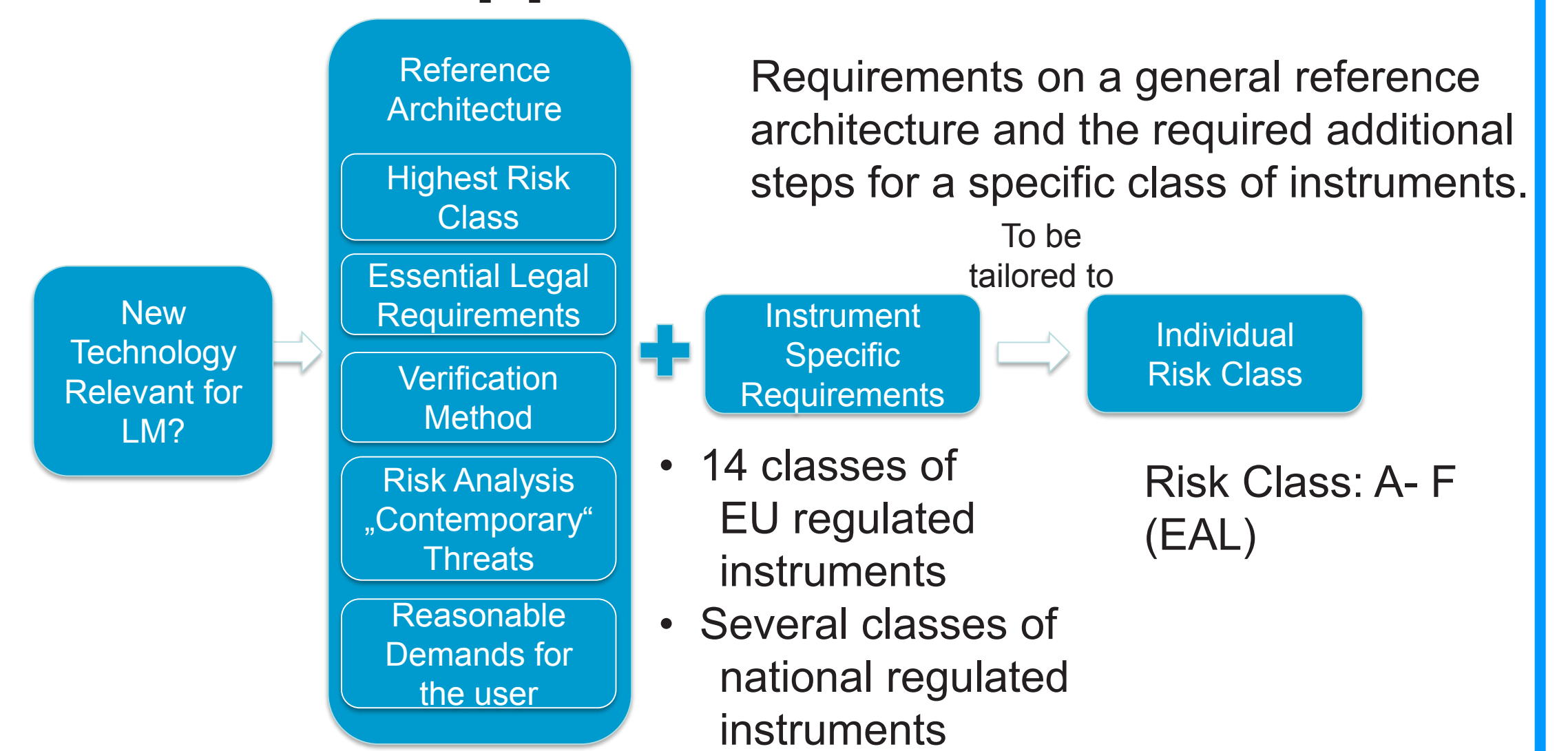
Reference Architectures Requirements

Objectives

- ❖ Acceptable Solution.
- ❖ Adequate Security
- ❖ Simple Verification Method
- ❖ Risk Analysis



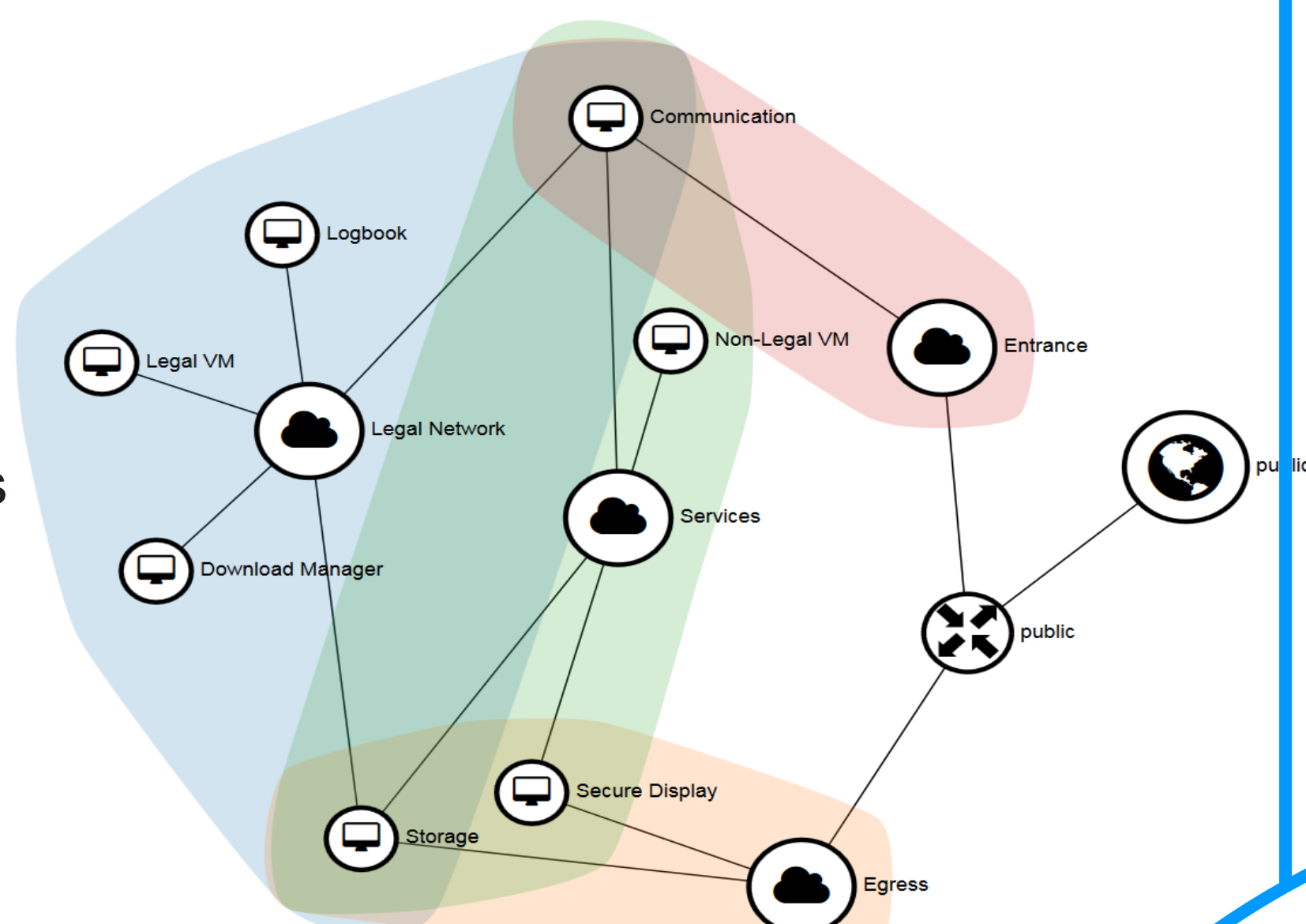
General Approach



Secure Cloud Reference Architecture

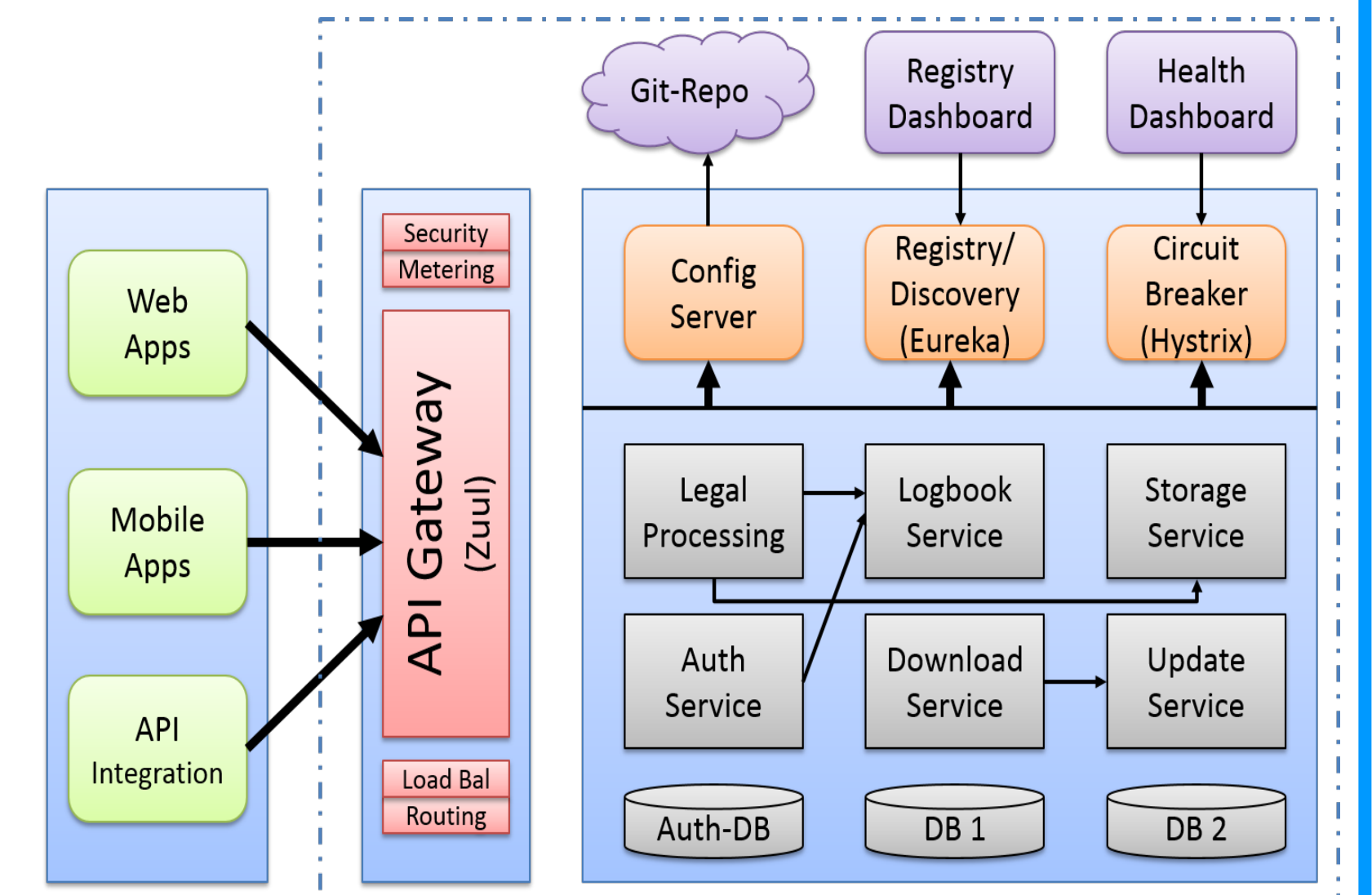
Infrastructure as a Service

- ❖ Low level separation
- ❖ Virtual Machines for important tasks
- ❖ Security via sub networks



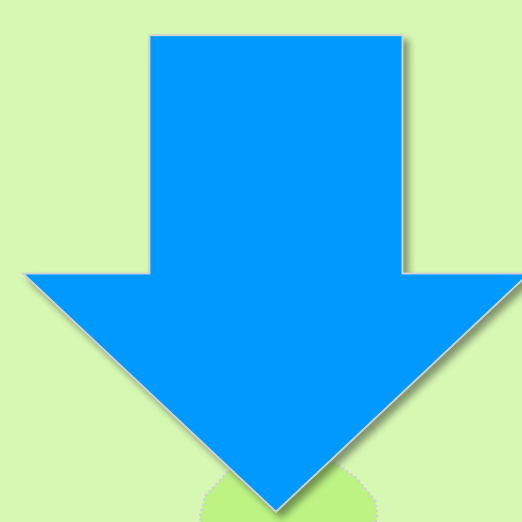
Platform as a Service

- ❖ High level separation
- ❖ Each service focus on one task
- ❖ Security via microservices



- ❖ Fulfillment of essential requirements
- ❖ Simple inspection method
- ❖ Adequate risk analysis
- ❖ General architecture applicable for specific instruments
- ❖ Knowledge transfer

Avoid **manipulation** of data
Avoid **spying** on data
Increase **security** of data



Homomorphic Encryption



Microservices

Risk Assessment

- ❖ Identification of threats
- ❖ Provides an adequate level of security
- ❖ Improves the quality and security of Instruments



Verification Monitor as a Service

- ❖ Easy verification method
- ❖ Improves acceptance for market surveillance
- ❖ Provides a consistent level of quality and security

