

PROJECT ALVARIUM

Technical Overview

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Overview

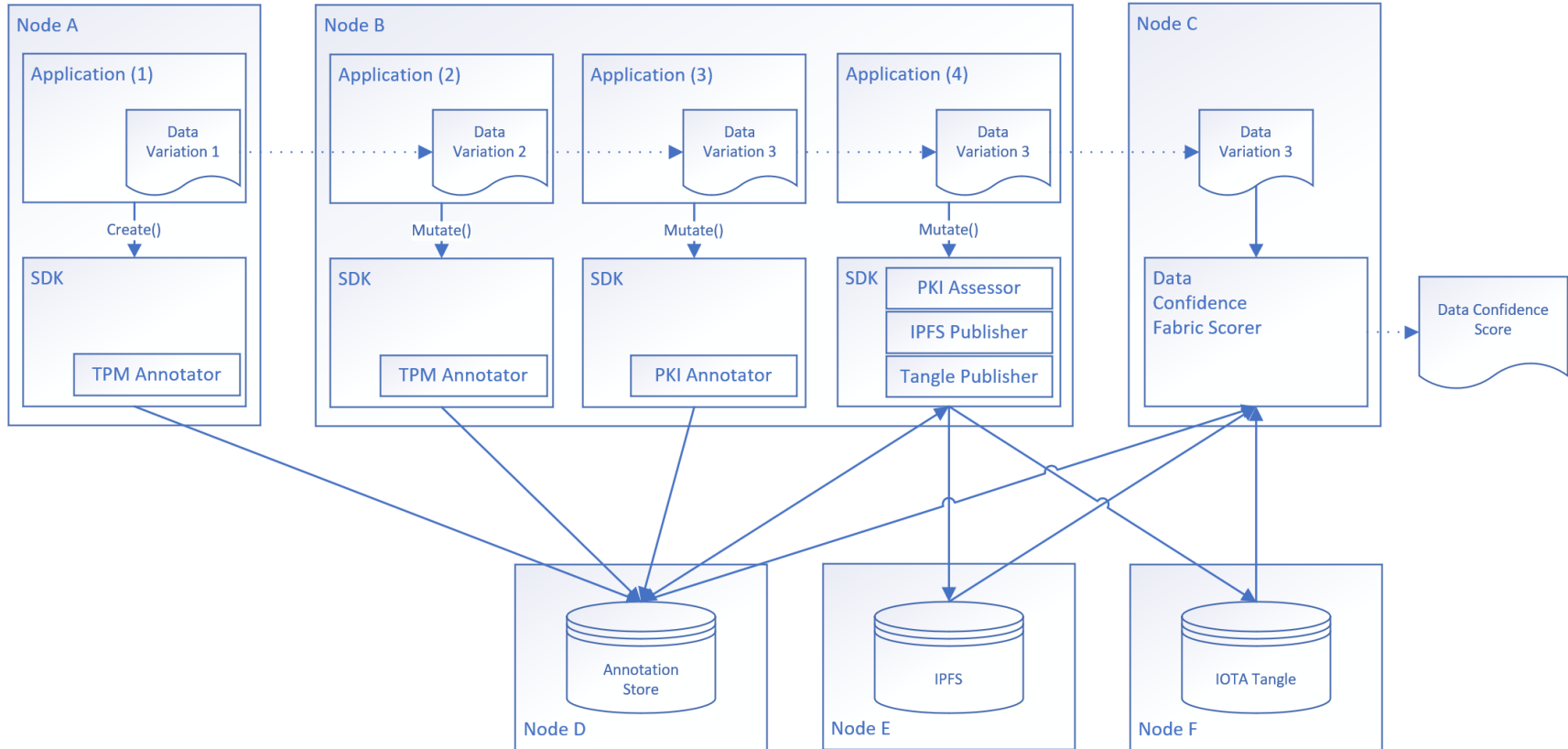
- The SDK provides a framework that:
 - Tracks data provenance across mutations;
 - Derives related annotations from data;
 - Assesses previously created annotations; and
 - Publishes annotations to external systems.
- The SDK does not provide data confidence scoring
 - Scoring implementation would leverage the annotations created by SDK (direct annotations, assessment results, and publisher results)

SDK API

- Written in Golang
- Minimal API surface

```
func New(annotators []annotator.Contract) *instance  
  
func (sdk *instance) Create(data []byte) []*status.Contract  
  
func (sdk *instance) Mutate(oldData, newData []byte) []*status.Contract  
  
func (sdk *instance) Close()
```

High-level SDK Use Case Example



Annotators

- Central abstraction
- The mechanism to extend SDK functionality
- Annotators can
 - Evaluate data to create annotations
 - Retrieve and assess existing annotations to create assessments (which themselves may become annotations)
 - Retrieve and publish existing annotations (the result of which may become annotations)

Implemented Annotators

- Public Key Infrastructure Annotators
 - PKI Signer (uses RSA's PKCS and x.509 private key)
 - TPM Signer (uses hardware-based Trusted Platform Module)
- Assess Annotators
 - PKI Assessor (uses RSA's PKCS and x.509 public key)
- Publish Annotators
 - InterPlanetary File System (IPFS) – <https://ipfs.io/>
 - IOTA Tangle – <https://www.iota.org/research/meet-the-tangle>

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Title and content

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