

CYCLONE Security Middleware: Enabling Security infrastructure for Multi-Cloud Applications, Deployment Automation and Compliance

This poster presents results of the ongoing development of the Intercloud Security Framework (ICSF), that is a part of the Intercloud Architecture Framework (ICAF), and provides an architectural basis for building security infrastructure services for multi-cloud applications.

The poster refers to general use case of the data intensive applications that indicate need for multi-cloud applications platforms that will require corresponding multi-cloud security services. The poster presents analysis of the general multi-cloud use case that helps eliciting the general requirement to ICSF and identifying the security infrastructure functional components that would allow using distributed cloud based resources and data sets. The poster defines the main ICSF services and functional components, and explains importance of consistent implementation of the Security Services Lifecycle Management in cloud based applications.

The poster describes the middleware components and deployment of the security middleware infrastructure in the CYCLONE project that implements federated identify management, secure logging service, and multi-domain Attribute Based Access Control, security services lifecycle management. The poster describes implementation of the Trust Bootstrapping Protocol as an important mechanism to ensure consistent security in the virtualised inter-cloud environment.

The CYCLONE cloud automation toolkit allows automated deployment of multicloud security infrastructure using Slipstream defined recipes. This also includes configuring trust relations between application components and security infrastructure bootstrapping.

The poster explains the importance of consistent compliance framework and describes main components of the cloud compliance assessment framework, it refers to related compliance standards and their role in ensuring security in heterogeneous multi-cloud environment.

Topic Area

Security, trust and identity

Type of abstract

Poster

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