

Security and Privacy Modeling and Implementation with XACML/ALFA and Fabric

Meeting Date: February 18, 2022.

Start Time: 10:00 AM

End Time: 11:00 AM

Attendees: Dr. Yue, Siddhartha Illa, Venkata Naga Bhaavagni Maddi, Farhana Shaik Begum, Sripada Vallabh Kaparathi, Ganesh Nyaupane, Preethi Vuchuru, Madhuri Koduru

Prepared By: Venkata Naga Bhaavagni Maddi

Items Discussed:

1) Sripadh (Working on Requirements Document)

Feedback on scope and requirements document.

Dr. Yue.

A) We do not convert the security policies to XACML. Also, BCAsset data Model is evolving for every iteration.

2) Ganesh (Working on CA and MSP)

Do we need to store the attributes in database?

Dr. Yue.

A) Please refer to the article link that describes the data about where the credentials are stored in database. Easier to manage and more secure when we use database rather than storing data on the files. Study about what kind of CA attributes we are having, what kind of attributes will be stored when a user is registered.

3) Farhana and Bhaavagni (Working on Smart Contracts)

Gave updates on the work which is being done, explained about the errors (Configuration errors) faced.

Dr. Yue

A) Do not use Fabcar application even for reference, make use of ABACAsset model for developing smart contracts as it is more simple and easy to understand.

5) Sidharth (Working on Minifab Configuration)

Asked whether the policies can be stored on the same node or different node?

Dr. Yue

A) Security policies are implemented in smart contracts, enforcement policy is implemented inside the smart contracts. Explained about the smart contract algorithm. Every smart contract will be executed on node. If the Security check is not passed, we return NO_PRIVILEGE_ERROR.

Are the Security policies part of the same chain code?

Dr. Yue

A) Identify the security policies in ALFA. Also, ALFA policies are not executed directly, they serve as a specification. You would need to implement the security policies in smart contracts. You need to figure out how the attributes are stored, registering the fabric. Some business logic has to be implemented to update the assets in the smart contracts.

Dr. Shah asked for the updates regarding the critical tasks which are assigned, where the application-specific attributes are stored and retrieved programmatically.

Items for next week:

- 1) Understanding MiniFab and CA.
- 2) Researching how the attributes are stored and retrieved from CA.
- 3) Implement a sample Application.
- 4) Work on Smart Contracts.
- 5) Understanding BPMN diagram, gathering the requirements.