Cheatography

Attribute-Based Access Control (ABAC) Cheat Sheet

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Introduction

ABAC is “an access control method where subject requests to perform operations on objects are granted or denied based on assigned attributes of the subject, assigned attributes of the object, environmental conditions, and a set of policies that are specified in terms of those attributes and conditions. ”

These policies can be represented as a set of relationships or rules; however, at a minimum, they must reflect the allowable set of operations the subject may perform upon the object if, and only if, the subject’s attributes and the environmental conditions meet those required for authorization given the object’s attributes

https://www.ise.gov/sites/default/files/DigitalPolicyFramework-ABAC.pdf

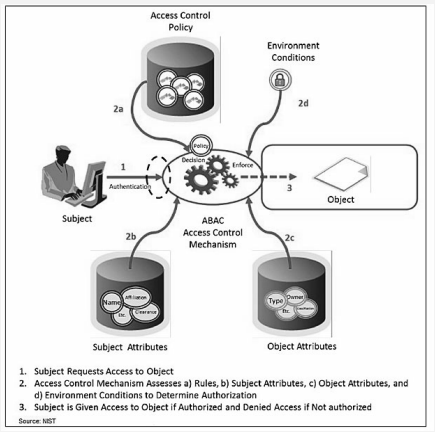
Principles for attribute-based access control

- Establish a business case for implementation
- Understand the operational requirements and overall enterprise architecture.
- Create or refine business processes to support ABAC
- Develop and acquire an interoperable set of capabilities
- Operate with efficiency.

Description

Resources may receive their attributes either directly from their creator or as a result of automated scanning tools. The object owner creates an access control rule to govern the set of allowable operations; for example, all nurse practitioners in the cardiology department can view the medical records of heart patients. By making the process more flexible, attributes and their values may then be modified throughout the lifecycle of subjects, objects and attributes without modifying every subject-object relationship. NIST says this process provides a more dynamic access control capability because access decisions can change between requests when attribute values change.. ABAC enables administrators to apply access control policy without prior knowledge of a specific subject and for an unlimited number of subjects that might require access.

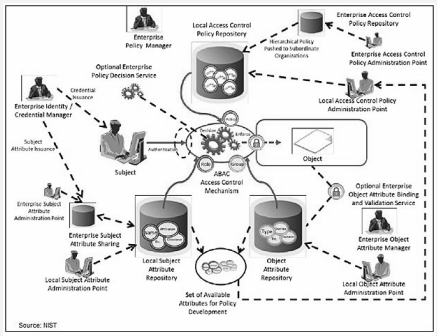
Attribute Access Based Control



Management Support Functions

The enterprise must support management functions for enterprise policy development and distribution; enterprise identity and subject attributes; subject attribute sharing; enterprise object attributes; authentication; and access control mechanism deployment and distribution. The development and deployment of these capabilities require the careful consideration of a number of factors that will influence the design, security and interoperability of an enterprise ABAC solution.

abac



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Published 1st June, 2016.
Last updated 1st June, 2016.