

dc:title: Level of Trust Assessment Ontology for Continuum Computing
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classDiagram
    class org_Membership {
        org:role
        org:organization
        org:member
    }
    class org_Role {
    }
    class foaf_Person {
        foaf:givenName xsd:string
        foaf:lastName xsd:string
    }
    class org_Organization {
        dct:identifier xsd:string
    }
    class lotaf_User {
        dct:identifier xsd:string
        lotaf:request xsd:string
    }
    class lotaf_NetworkAdministrator {
        dct:identifier xsd:string
    }
    class lotaf_NetworkStatus {
        dct:identifier xsd:string
        lotaf:connectionStatus xsd:string
        lotaf:qos xsd:string
    }
    class lotaf_NetworkService {
        dct:identifier xsd:string
        lotaf:scope xsd:string
        lotaf:lot xsd:float
    }
    class lotaf_Intent {
        dct:identifier xsd:string
        lotaf:type xsd:string
        lotaf:target xsd:string
    }
    class lotaf_TrustLevelAgreement {
        dct:identifier xsd:string
        lotaf:consumerID xsd:string
        lotaf:providerID xsd:string
        lotaf:requirements xsd:string
        lotaf:violationDescription xsd:string
        lotaf:penalties xsd:string
    }
    class lotaf_Punishment {
        dct:identifier xsd:string
        lotaf:value xsd:float
        lotaf:actions xsd:string
        lotaf:countermeasures xsd:string
    }
    class lotaf_Reward {
        dct:identifier xsd:string
        lotaf:value xsd:float
        lotaf:actions xsd:string
    }
    class lotaf_LevelOfTrust {
        dct:identifier xsd:string
        lotaf:trustor xsd:string
        lotaf:trustee xsd:string
        lotaf:lot xsd:float
        lotaf:tlalD xsd:string
        lotaf:starTime xsd:date
        lotaf:stopTime xsd:date
    }
    class lotaf_Indicators {
    }
    class lotaf_ObjectiveIndicators {
        lotaf:stability xsd:float
        lotaf:reliability xsd:float
        lotaf:scalability xsd:float
        lotaf:availability xsd:float
    }
    class lotaf_SubjectiveIndicator {
        lotaf:credibility xsd:float
        lotaf:feedback xsd:float
    }
    class lotaf_Cloud {
        dct:identifier xsd:string
        lotaf:description xsd:string
        lotaf:properties xsd:string
    }
    class lotaf_Edge {
        dct:identifier xsd:string
        lotaf:description xsd:string
        lotaf:properties xsd:string
    }
    class lotaf_FarEdge {
        dct:identifier xsd:string
        lotaf:description xsd:string
        lotaf:properties xsd:string
    }
    class lotaf_CloudContinuum {
        dct:identifier xsd:string
        lotaf:description xsd:string
        lotaf:properties xsd:string
    }
    class lotaf_CloudEdgeContinuum {
        dct:identifier xsd:string
        lotaf:description xsd:string
        lotaf:properties xsd:string
    }
    class lotaf_AccesRule {
        dct:identifier xsd:string
    }
    class lotaf_Permission {
        dct:identifier xsd:string
    }
    class lotaf_Asset {
        dct:identifier xsd:string
        lotaf:type xsd:string
    }
    class lotaf_Service {
        lotaf:capacity xsd:string
        lotaf:endpoint xsd:anyURI
    }
    class lotaf_Subservice {
        dct:identifier xsd:string
        lotaf:parameters xsd:list
        lotaf:metrics xsd:list
        lotaf:operations xsd:list
    }
    class lotaf_Resource {
        lotaf:capacity xsd:string
        lotaf:endpoint xsd:anyURI
    }
    class lotaf_Infrastructure {
        dct:identifier xsd:string
        lotaf:type xsd:string
        lotaf:capacity xsd:string
        lotaf:endpoint xsd:anyURI
    }
    class lotaf_Symptom {
        dct:description xsd:string
    }
    class lotaf_HealthStatus {
        lotaf:currentStatus xsd:string
        dct:identifier xsd:string
        lotaf:connectionStatus xsd:String
        lotaf:Symptoms xsd:ListOfString
    }
    class lotaf_HealthScore {
        lotaf:value xsd:integer
    }

    org_Membership --> org_Role : org:role
    org_Membership --> org_Organization : org:organization
    org_Membership --> foaf_Person : org:member
    foaf_Person <|-- lotaf_User
    lotaf_User <|-- lotaf_NetworkAdministrator
    lotaf_NetworkAdministrator --> lotaf_NetworkStatus : lotaf:monitors/owns
    lotaf_NetworkStatus --> lotaf_NetworkService : lotaf:hasStatus
    lotaf_Intent --> lotaf_NetworkService : lotaf:hasService
    lotaf_Intent --> lotaf_TrustLevelAgreement : lotaf:hasAgreement
    lotaf_TrustLevelAgreement --> lotaf_Punishment : lotaf:issue
    lotaf_Punishment --> lotaf_LevelOfTrust : lotaf:punishment
    lotaf_Reward --> lotaf_LevelOfTrust : lotaf:reward
    lotaf_LevelOfTrust --> lotaf_Indicators : lotaf:gathers
    lotaf_Indicators <|-- lotaf_ObjectiveIndicators
    lotaf_Indicators <|-- lotaf_SubjectiveIndicator
    lotaf_ObjectiveIndicators <|-- lotaf_SubjectiveIndicator
    lotaf_Cloud --> lotaf_NetworkService : lotaf:offer
    lotaf_Edge --> lotaf_NetworkService : lotaf:offer
    lotaf_FarEdge --> lotaf_NetworkService : lotaf:offer
    lotaf_CloudContinuum --> lotaf_NetworkService : lotaf:offer
    lotaf_CloudEdgeContinuum --> lotaf_NetworkService : lotaf:offer
    lotaf_AccesRule --> lotaf_Permission : lotaf:grants
    lotaf_Permission --> lotaf_Asset : lotaf:access
    lotaf_Service --> lotaf_Asset : lotaf:contains
    lotaf_Subservice --> lotaf_Asset : lotaf:contains
    lotaf_Resource --> lotaf_Service : lotaf:has
    lotaf_Infrastructure --> lotaf_Resource : lotaf:has
    lotaf_Symptom --> lotaf_HealthStatus : lotaf:has
    lotaf_HealthStatus --> lotaf_HealthScore : lotaf:hasHS
    lotaf_TrustLevelAgreement --> lotaf_LevelOfTrust : lotaf:hasLoT
    lotaf_NetworkService --> lotaf_LevelOfTrust : lotaf:hasLoT
    lotaf_LevelOfTrust --> lotaf_Indicators : lotaf:hasLoT
    lotaf_Indicators -.-> lotaf_Symptom : lotaf:typeOf
    lotaf_AccesRule --> lotaf_AccesRule : lotaf:follow
    lotaf_AccesRule --> lotaf_Permission : lotaf:grants
    lotaf_Permission --> lotaf_Asset : lotaf:access
    lotaf_Service --> lotaf_Subservice : lotaf:contains
    lotaf_Resource --> lotaf_Subservice : lotaf:has
    lotaf_Infrastructure --> lotaf_Resource : lotaf:has
    lotaf_Symptom --> lotaf_HealthStatus : lotaf:has
    lotaf_HealthStatus --> lotaf_HealthScore : lotaf:hasHS
    lotaf_TrustLevelAgreement --> lotaf_LevelOfTrust : lotaf:hasLoT
    lotaf_NetworkService --> lotaf_LevelOfTrust : lotaf:hasLoT
    lotaf_LevelOfTrust --> lotaf_Indicators : lotaf:hasLoT
    lotaf_Indicators -.-> lotaf_Symptom : lotaf:typeOf
    lotaf_AccesRule --> lotaf_AccesRule : lotaf:follow
    lotaf_AccesRule --> lotaf_Permission : lotaf:grants
    lotaf_Permission --> lotaf_Asset : lotaf:access
    lotaf_Service --> lotaf_Subservice : lotaf:contains
    lotaf_Resource --> lotaf_Subservice : lotaf:has
    lotaf_Infrastructure --> lotaf_Resource : lotaf:has
    lotaf_Symptom --> lotaf_HealthStatus : lotaf:has
    lotaf_HealthStatus --> lotaf_HealthScore : lotaf:hasHS
  
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