Overview User

Collection
(See Core Model)

Role
(See User Model (Group and Roles))

Group
(See User Model (Group and Roles))

ManagedElement
(See Core Model)

Inheritance

Association
Association with WEAK reference
Aggregation
Aggregation with WEAK reference
Composition Aggregation

Equivalent to: 0..n

OrganizationalEntity
(See User Model (Organization))

Organization
(See User Model (Organization))

OrgUnit
(See User Model (Organization))

UserEntity
(See User Model (Person))

UserContact
(See User Model (Person))

Person
(See User Model (Person))

OtherOrganizationInformation
(See User Model (Organization))

OtherOrgUnitInformation
(See User Model (Organization))

OtherPersonInformation
(See User Model (Organization))

OtherRoleInformation
(See User Model (Group and Roles))

OtherGroupInformation
(See User Model (Group and Roles))

CIM_User.vsd:
Title : User Schema 2.35.0
Author : WBEM Infrastructure & Protocols WG
Date : 6 November 2012

Association

Aggregation

Aggregation with WEAK reference

Composition Aggregation

Equivalent to: 0..n

Composition Aggregation
Overview Security

CIM User vsd:
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Author: WBEM Infrastructure & Protocols WG
Date: 6 November 2012

ManagedElement (See Core Model)

Credential (See User Model (Credential))

Privilege (See User Model (Authorization))

Identity (See User Model (Identity))

SecuritySensitivity (See User Model (Authorization))

ManagedSystemElement (See Core Model)

Collection (See Core Model)

LogicalElement (See Core Model)

AccountGroup (E)

InstanceID: string [key]

Account (See User Model (Account))

AuthorizedPrivilege (See User Model (Authorization))

StorageHardwareID (See User Model (Identity))

RemoteIdentity (See User Model (Identity))

GatewayPathID (See User Model (Identity))

AuthorizedPrivilege (See User Model (Authorization))

SignedCredential (E)
(See User Model (PublicKey))

UnsignedCredential (E)
(See User Model (PublicKey))

SharedCredential (E)
(See User Model (SharedSecret))

KerberosCredential (E)
(See User Model (Kerberos))

NamedCredential (E)
(See User Model (SharedSecret))
Overview Services

**EnabledLogicalElement**
(See Core Model)

**Service**
(See Core Model)

**SecurityService**

**AuthorizationService**
(See User Model (Authorization Services))

**PrivilegeManagementService**
(See User Model (Authorization Services))

**CredentialManagementService**
(See User Model (Authentication Services))

**KerberosKeyDistributionCenter**
(See User Model (Kerberos))

**CertificateAuthority**
(See User Model (PublicKey))

**Notary**
(See User Model (Authentication Services))

**PublicKeyManagementService**
(See User Model (PublicKey))

**AccountManagementService**
(See User Model (AccountManagementService))

**LocalCredentialManagementService**
(See User Model (Authentication Services))

**SharedSecretService**
(See User Model (SharedSecret))

**OrgEntityManagementService** \{E\}

**IdentityManagementService**
(See User Model (Authentication Services))

**VerificationService**
(See User Model (Authentication Services))

**AuthenticationService**
(See User Model (Authentication Services))

**Iden
tity Management Service**
(See User Model (Authentication Services))

**ServiceAccessPoint**
(See Core Model)

**CredentialManagementSAP**
(See User Model (Authentication Services))

**StorageHardwareIDManagementService**
(See User Model (Identity))
Authentication Services

CIM_User.vsd:
Title: User Schema 2.35.0
Author: WBEM Infrastructure & Protocols WG
Date: 6 November 2012

ManagedElement
(See Core Model)

ManagedSystemElement
(See Core Model)

LogicalElement
(See Core Model)

EnabledLogicalElement
(See Core Model)

Service
(See Core Model)

System
(See Core Model)

ServiceAccessPoint
(See Core Model)

SecurityService
(See User Model (Overview Security))

ServiceUsesSecurityService

SecurityServiceForSystem

CredentialManagementSAP
URL: string

AuthenticationService

IdentityManagementService
(See User Model (Identity))

StorageHardwareIDManangementService
(See User Model (Identity))

VerificationService

CredentialManagementService
(See User Model (Account))

0..1 Trust Hierarchy

CertificateManagementService
(See User Model (PublicKey 2))

KeyBasedCredentialManagementService
(See User Model (PublicKey 2))

Notary
Comparators: uint16[ ] (enum)
SealProtocol: string
CharterIssued: datetime
CharterExpires: datetime

CertificateAuthority
(See User Model (PublicKey 1))

LocalCredentialManagementService
(See User Model (PublicKey 1))

PublicKeyManagementService
(See User Model (PublicKey 2))

KerberosKeyDistributionCenter
(See User Model (Kerberos))

SharedSecretService
(See User Model (SharedSecret))

AccountManagementService
(See User Model (Account))
Authorization Services

ServiceUsesSecurityService

Service

System

SecurityService

AuthorizationService

EnabledLogicalElement

System

ManagedElement

LogicalElement

ManagedSystemElement

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RoleBaseAuthorizationService

CreateRole

ModifyRole

DeleteRole

AssignRoles

ShowRoles

ElementCapabilities

PrivilegeManagementCapabilities

SharedPrivilegeSupported: boolean
ActivitiesSupported: uint16[] (enum)
ActivityQualifiersSupported: string[]
QualifierFormatsSupported: uint16[] (enum)
SupportedMethods: uint16[] (enum)
AccountManagement Service

CreateAccount

CreateUserContact

getAccount

getUserIdentity
  [IN] UserID: string, [OUT] UserContact : ref UserContact(); uint32 (enum)

ElementCapabilities

SettingsDefineCapabilities

AccountSettingData

PasswordHistoryDepth: uint16
MaximumPasswordExpiration: datetime
ComplexPasswordRulesEnforced: uint16
InactivityTimeout: datetime
MaximumSuccessiveLoginFailures: uint16
**CIM_User.vsd:**

Title       : User Schema 2.35.0  
Author      : WBEM Infrastructure & Protocols WG  
Date        : 6 November 2012

---

**ManagedElement**

(See Core Model)

---

**SecuritySensitivity**

- InstanceID: string [override, key]
- SecurityLevel: string
- SecurityCategories: string [E]
- LabelExpiration: datetime [9991231115959.999999-720, E]

---

**ElementSecuritySensitivity**

---

**Privilege**

- InstanceID: string [key]
- PrivilegeGranted: boolean [True]
- Activities: uint16 []
- ActivityQualifiers: string []
- QualifierFormats: uint16 []
- RepresentsAuthorizationRights: boolean [False]

---

**AuthorizedTarget**  
**AuthorizedSubject**  
**AuthorizedPrivilege**
Identity

CIM_User.vsd:
Title: User Schema 2.35.0
Author: WBEM Infrastructure & Protocols WG
Date: 6 November 2012

ManagedElement
(See Core Model)

Identity

InstanceID: string {key}
CurrentlyAuthenticated: boolean (False)

ManagedSystemElement
(See Core Model)

LogicalElement
(See Core Model)

Account
(See User Model)

Policy
(See Policy Model)

Collection
(See Core Model)

SystemSpecificCollection
(See Core Model)

PolicyRoleCollection
(See Policy Model)

PolicySet
(See Policy Model)

PolicySetInRoleCollection
(See Policy Model)

PolicySetApplies
ToElement

PolicyRule
(See Policy Model)

AuthenticationRule
(See Policy Model)

EnabledLogicalElement
(See Core Model)

Service
(See Core Model)

SecurityService
(See User Model)

AuthenticationService

IdentityContext

RemoteIdentity (E)
NameFormat: uint16
Name: uint8[]
OtherNameFormat: string

IPNetworkIdentity
IdentityType: uint16 (required)
IdentityValue: string {required}

ConcreteIdentity

AssignedIdentity

ElementInRoleCollection

IPNetworkIdentity

NameFormat: uint16
Name: uint8[]
OtherNameFormat: string

RemoteIdentity (E)

ConcreteIdentity

AssignedIdentity

ElementInRoleCollection

IPNetworkIdentity

NameFormat: uint16
Name: uint8[]
OtherNameFormat: string

RemoteIdentity (E)
Storage Identity

CIM_User.vsd:
- Title: User Schema 2.35.0
- Author: WBEM Infrastructure & Protocols WG
- Date: 6 November 2012

ManagedElement
- (See Core Model)
- Identity: IdentityContext
- AssignedIdentity: 0..1
- ElementSettingData

LogicalElement
- (See Core Model)
- ClientTypes: uint16[] (enum)
- OtherClientTypeDescriptions: string[]

EnabledLogicalElement
- (See Core Model)
- SettingData

Account
- (See User Model (Account))

StorageHardwareID
- StorageID: string
- IDType: uint16 (enum)
- OtherIDType: string

GatewayPathID
- GatewayID: string
- GatewayIDType: uint16
- GatewayOtherIDType: string

IdentityContext
- *

ConcreteIdentity
- *

InstanceID: string (key)
CurrentlyAuthenticated: boolean (False)

SettingData
- (See Core Model)

ManagedSystemElement
- (See Core Model)

Service
- (See Core Model)

SecurityService
- (See User Model (Overview Security))

AuthenticationService

IdentityManagementService

CreateStorageHardwareID
- [IN] ElementName: string,
- [IN] StorageID: string,
- [IN] IDType: uint16 (enum),
- [IN] OtherIDType: string,
- [IN] Setting: ref StorageClientSettingData,
- [OUT] HardwareID: ref StorageHardwareID: uint32 (enum)

DeleteStorageHardwareID
- [IN] HardwareID: ref StorageHardwareID: uint32 (enum)

CreateGatewayPathID
- [IN] ElementName: string,
- [IN] StorageID: string
- [IN] IDType: uint16 (enum),
- [IN] OtherIDType: string,
- [IN] GatewayID: string,
- [IN] GatewayIDType: uint16 (enum),
- [IN] OtherGatewayIDType: string
- [OUT] NewGatewayPathID: ref GatewayPathID: uint32 (enum)

CreateHardwareIDCollection
- [IN] ElementName: string,
- [IN] HardwareIDs: string[]
- [OUT] Collection: ref SystemSpecificCollection: uint32 (enum)

AddHardwareIDsToCollection
- [IN] HardwareIDs: string[]
- [IN] Collection: ref SystemSpecificCollection: uint32 (enum)
Account

System
(See Core Model)

Identity
(See User Model (Identity))

LogicalElement
(See Core Model)

EnabledLogicalElement
(See Core Model)

Service
(See User Model (Overview Security))

SecurityService
(See User Model (Overview Security))

IdentityManagementService

AccountManagementService

ManagedSystemElement
(See Core Model)

ConcreteIdentity
* *

ElementCapabilities
0..1

AccountCapabilities (E)

AccountMapsToAccount

AccountSettingData

PasswordHistory: uint16
MaximumPasswordAge: datetime
DisableOnInactivity: boolean
ComplexPasswordRulesEnforced: uint16

InactivityTimeout: datetime
MaximumSuccessiveLoginFailures: uint16
LastLogin: datetime

UserPasswordEncryptionAlgorithm: uint16 (Enum)
OtherUserPasswordEncryptionAlgorithm: string
UserPasswordEncoding: uint32 (Enum)

ManagedElement
(See Core Model)

Account

SystemCreationClassName: string [key]
SystemName: string [key]
CreationClassName: string [key]
Name: string [key]
UserID: string
ObjectClass: String []
Descriptions: string []
Host: string []
LocalityName: string []
OrganizationName: string []
OU: string []
SeeAlso: string []
UserCertificate: string [] (octetstring)
UserPassword: string [] (octetstring)
PasswordHistoryDepth: uint16
PasswordExpiration: datetime
ComplexPasswordRulesEnforced: uint16 [] (Enum)
InactivityTimeout: datetime
MaximumSuccessiveLoginFailures: uint16
LastLogin: datetime
UserPasswordEncryptionAlgorithm: uint16 (Enum)
OtherUserPasswordEncryptionAlgorithm: string
UserPasswordEncoding: uint32 (Enum)
Credential

Collection
(See Core Model)

CredentialStore
InstanceID: string
Usage: uint16 (enum)

Keystore
Usage: uint16 (enum)

CredentialContext

ManagedElement
(See Core Model)

ManagedSystemElement
(See Core Model)

LogicalElement
(See Core Model)

EnabledLogicalElement
(See Core Model)

Service
(See Core Model)

SecurityService
(See User Model (Overview Security))

AuthenticationService
(See User Model (Authentication Services))

CredentialManagementService
(See User Model (Authentication Services))

FingerprintImage (E)
CapturingType: uint16 (enum)
DPI: uint32
Grayscale: uint32
ImageFormat: uint16 (enum)
InstanceID: string (override, key)
OtherImageFormat: string
Image: uint8[] (OctetString)

FingerprintTemplate (E)
InstanceID: string (override, key)
OtherTemplateFormat: string
TemplateFormat: uint16 (enum)
Template: uint8[] (OctetString)

Credential
Issued: datetime
Expires: datetime
ValidFrom: datetime (E)

SupportMethods: uint16 (Enum)
CumulativePrivilegeMethodology: uint16 (Enum)

ElementCapabilities

Trust Hierarchy
0..1

Collection
(See Core Model)
ApplyDecodedCRL:
[IN] Issuer: string, [IN] SerialNumbers: string[], [IN] Keystore: ref CIM_Keystore,
[IN] CredentialContext: ref CIM_ManagedElement,
): uint32 (enum)

ApplyCRL:
[IN] Format: uint16 (enum), [IN] Keystore: ref CIM_Keystore,
[IN] CredentialContext: ref CIM_ManagedElement,
): uint32 (enum)

ApplyCRL:
[IN] Format: uint16 (enum), [IN] Keystore: ref CIM_Keystore,
[IN] CredentialContext: ref CIM_ManagedElement,
): uint32 (enum)

CertificateManagementService
(See Core Model)

AsymmetricKeyGeneration: boolean
InputFormatsSupported: uint16[] (enum)
KeyAlgorithmSupported: uint16[] (enum)
OutputFormatsSupported: uint16[] (enum)
SupportedMethods: uint16[] (enum)
SupportedSignatureAlgorithms: uint16[] (enum)

KeyBasedCredentialManagementService
CreateKeystore(
[IN] Keystore: string,
[IN] KeystoreUtilizers: ref CIM_Service[],
[OUT] Job: ref CIM_ConcreteJob,
[IN] NewKeystore: ref CIM_Keystore,
[IN] OwningSystem: REF CIM_System
): uint32 (enum)

ImportPublicKeyPair(
[IN] Usage: uint16,
[IN] PrivateKey: string[],
[IN] PublicKey: string[],
[IN] Keystore: ref CIM_Keystore,
[IN] CredentialContext ref CIM_ManagedElement,
[OUT] Job: ref CIM_ConcreteJob,
[IN] KeyStore ref CIM_Keystore,
[OUT] PPKPCCredential ref CIM_UnsignedCredential
): uint32 (enum)

ImportCertificates(
[IN] Certificates: string[], [IN] Keystore: ref CIM_Keystore,
[IN] CredentialContext: ref CIM_ManagedElement, [IN] Usage: uint16[] (enum),
[OUT] Job: ref CIM_ConcreteJob,
[OUT] NewCertificates: ref CIM_X509Certificate[]
): uint32 (enum)

ImportEncodedCertificates(
[IN] EncodedCertificates: string[], [IN] Format: uint16 (enum),
[IN] Keystore: ref CIM_Keystore, [IN] CredentialContext: ref CIM_ManagedElement,
[IN] Usage: uint16[] (enum), [OUT] Job: ref CIM_ConcreteJob,
[OUT] NewCertificates: ref CIM_X509Certificate[]
): uint32 (enum)

CreateSelfSignedCertificate(
[IN] Subject: string, [IN] AltSubject: string,
[IN] PublicKeyAlgorithm: uint16 (enum), [IN] PublicKeySize: uint16 (enum),
[IN] PublicKeyPair: ref CIM_UnsignedCredential,
[IN] ExtendedKeyUsageValue: string[], [IN] ExtendedKeyUsageType: string[] (enum),
[IN] SignatureAlgorithm: uint16 (enum), [IN] OutputFormat: uint16 (enum),
[OUT] Job: ref CIM_ConcreteJob, [OUT] CSR: string[]
): uint32 (enum)

CreateCertificateSigningRequest(
[IN] Subject: string, [IN] AltSubject: string,
[IN] PublicKeyAlgorithm: uint16 (enum), [IN] PublicKeySize: uint16 (enum),
[IN] PublicKeyPair: ref CIM_UnsignedCredential, [IN] Keystore: ref CIM_Keystore,
[IN] CredentialContext: ref CIM_ManagedElement, [IN] Usage: uint16 (enum),
[IN] SignatureAlgorithm: uint16 (enum),
[OUT] Job: ref CIM_ConcreteJob, [OUT] CSR: string[]
): uint32 (enum)

CreateSelfSignedCertificate(
[IN] Subject: string, [IN] AltSubject: string,
[IN] PublicKeyAlgorithm: uint16 (enum), [IN] PublicKeySize: uint16,
[IN] PublicKeyPair: ref CIM_UnsignedCredential, [IN] Keystore: ref CIM_Keystore,
[IN] CredentialContext: ref CIM_ManagedElement, [IN] Usage: uint16 (enum),
[IN] SignatureAlgorithm: uint16 (enum),
): uint32 (enum)

ImportEncodedCertificates(
[IN] EncodedCertificates: string[], [IN] Format: uint16 (enum),
[IN] Keystore: ref CIM_Keystore, [IN] CredentialContext: ref CIM_ManagedElement,
[IN] Usage: uint16[] (enum), [OUT] Job: ref CIM_ConcreteJob,
[OUT] NewCertificates: ref CIM_X509Certificate[]
): uint32 (enum)

ImportCertificates(
[IN] Certificates: string[], [IN] Keystore: ref CIM_Keystore,
[IN] CredentialContext: ref CIM_ManagedElement, [IN] Usage: uint16[] (enum),
[OUT] Job: ref CIM_ConcreteJob,
[OUT] NewCertificates: ref CIM_X509Certificate[]
): uint32 (enum)

ExportEncodedCertificates(
[IN] CertificatesToExport: ref CIM_X509Certificate[], [IN] Format: uint16 (enum),
[OUT] Job: ref CIM_ConcreteJob, [OUT] EncodedCertificates: string[]
): uint32 (enum)

CertificationsManagementService
(See User Model (Publickey 2))

ElementCapabilities
0..1

CertificateManagementCapabilities

CredentialManagementService

ApplyDecodedCRL:
[IN] Issuer: string, [IN] SerialNumbers: string[], [IN] Keystore: ref CIM_Keystore,
[IN] CredentialContext: ref CIM_ManagedElement,
): uint32 (enum)
ManagedElement
(See Core Model)

Credential
(See User Model
(Credential))

ManagedSystemElement
(See Core Model)

LogicalElement
(See Core Model)

EnabledLogicalElement
(See Core Model)

Service
(See Core Model)

SecurityService
(See User Model
(Overview Security))

AuthenticationService
(See User Model
(Authentication Services))

CredentialManagementService
(See User Model
(Authentication Services))

LocalCredentialManagementService
(See User Model
(Authentication Services))

SharedSecretService

Algorithm: string
Protocol: string

InstanceID: string (key)
RemoteID: string
Secret: string
Algorithm: string
Protocol: string

SharedCredential

NamedCredential

InstanceID: string (key)
LocalIdentity: string
LocalIdentityType: uint16
PeerIdentity: string
PeerIdentityType: uint16
SharedSecretName: string

ServiceAffectsElement

Trust Hierarchy

0..1

CIM_User.vsd:
Title: User Schema 2.35.0
Author: WBEM Infrastructure & Protocols WG
Date: 6 November 2012
Dependency (from Core)
Antecedent: ref ManagedElement (*)
Dependent: ref ManagedElement (*)

CAHasPublicCertificate
Antecedent: ref PublicKeyCertificate (*)
Dependent: ref CertificateAuthority (*)

TrustHierarchy
Antecedent: ref CredentialManagementService {0..1}
Dependent: ref CredentialManagementService (*)

CredentialContext
ElementInContext: ref Credential {key, *}
ElementProvidingContext: ref ManagedElement {key, *}
Usage: uint16
**CIM_User.vsd:**

**Title:** User Schema 2.35.0

**Author:** WBEM Infrastructure & Protocols WG

**Date:** 6 November 2012

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**OrgStructure**

Parent: ref OrganizationalEntity {0..1}
Child: ref OrganizationalEntity {'*'}

---

**MemberOfCollection (from Core)**

Collection: ref Collection {'*'}
Member: ref ManagedElement {'*'}

---

**AccountOnSystem**

GroupComponent: ref System {1}
PartComponent: ref Account {weak, '*'}

---

**SystemComponent (from Core)**

GroupComponent: ref System {'*'}
PartComponent: ref ManagedSystemElement {'*'}

---

**CollectionInOrganization**

Parent: ref OrganizationalEntity {0..1}
Child: ref Collection {'*'}

---

**CollectionInSystem**

Parent: ref System {0..1}
Child: ref Collection {'*'}

---

**Collection**

ref Collection {'*'}

---

**Member**

ref ManagedElement {'*'}

---

**Parent**

ref OrganizationalEntity {0..1}
ref OrganizationalEntity {'*'}

---

**Child**

ref Collection {'*'}
ref Collection {'*'}
* AccessControlInformation (D)

  CreationClassName: string (key)
  Name: string (key)
  SecurityClassification: string
  AccessType: string[]
  AccessQualifier: string[
  Permission: string[

* HostedACI (D)

* AuthorizedUse (D)

ManagedElement
(See Core Model)

ManagedSystemElement
(See Core Model)

LogicalElement
(See Core Model)

EnabledLogicalElement
(See Core Model)

System
(See Core Model)

Service
(See Core Model)

SecurityService
(See User Model
(Overview Security))

AuthorizationService
(See User Model
(Authorization Services))

AuthorizationTarget (D)

AuthorizationSubject (D)
Deprecated Authentication

CIM_User.vsd:
Title: User Schema 2.35.0
Author: WBEM Infrastructure & Protocols WG
Date: 6 November 2012
Deprecated UserAccess

CIM_User.vsd:
Title: User Schema 2.35.0
Author: WBEM Infrastructure & Protocols WG
Date: 6 November 2012
Antecedent: ref CertificateAuthority {1}
Dependent: ref PublicKeyCertificate {W, *}

SerialNumber: string
Signature: uint8[ ] (octetstring)
Expires: datetime (D)
CRLDistributionPoint: string

Antecedent: ref ManagedElement (*)
Dependent: ref ManagedElement (*)

Dependency (from Core)

ManagedCredential (D)
Antecedent: ref CredentialManagementService {0..1}
Dependent: ref Credential {*}

CASignsPublicKeyCertificate (D)
Antecedent: ref CertificateAuthority {1}
Dependent: ref PublicKeyCertificate {W, *}

Antecedent: ref CredentialManagementService {0..1}
Dependent: ref Credential {*}

LocalManagedPublicKey (D)
Antecedent: ref PublicKeyManagementService {1}
Dependent: ref UnsignedPublicKey {W, *}

Antecedent: ref ManagedElement (*)
Dependent: ref ManagedElement (*)

IKESecretsIsNamed (D)
Antecedent: ref SharedSecretService {1}
Dependent: ref NamedSharedIKESecret {W, *}

KDCIssuesKerberosTicket (D)
Antecedent: ref KerberosKeyDistributionCenter {1}
Dependent: ref KerberosTicket {W, *}

IKESecretsIsNamed (D)
Antecedent: ref SharedSecretService {1}
Dependent: ref NamedSharedIKESecret {W, *}

SharedSecretsIsShared (D)
Antecedent: ref SharedSecretService {1}
Dependent: ref SharedSecret {W, *}

Antecedent: ref ManagedElement (*)
Dependent: ref ManagedElement (*)

Dependency (from Core)