UCO Version 0.6.0 Release Notes

Focus:

UCO Version 0.6.0 is primarily focused on adding several community needed classes (URLHistory, refactoring Contact, OnlineService, Profile, etc) and properties, refactoring and cleaning up Address subclass structure, adding specific subclasses of ObservableObject, renaming of non-observable namespace Facet subclasses to include "Facet" at the end, clarifying and normalizing all class definitions to make the ontology more robust and complete, and cleanup of several minor issues and bugs.

Focus Exceptions:

Changes (these are changes to ontologies, classes or properties in the preexisting ontology)

Breaking Changes *(these are changes to ontologies, classes or properties in the preexisting ontology that make the new release non-backward-compatible)*

- uco-observable: modified name of observable:screenName to observable:displayName Issue OC-24
- uco-observable: modified name of observable:contactInfo to observable:registrantContactInfo Issue OC-24
- uco-observable: modified name of observable:address to be observable:geolocationAddress Issue OC-24
- uco-observable: modified observable:BluetoothAddressFacet to be a subclass of observable:MACAddressFacet Issue OC-25
- uco-observable: modified observable:EmailAddressFacet to be a subclass of observable:DigitalAddressFacet Issue OC-25
    - modified property restriction for observable:value to be observable:addressValue Issue OC-25
- uco-observable: modified observable:IPv4AddressFacet to be a subclass of observable:IPAddressFacet Issue OC-25
    - modified property restriction for observable:value to be observable:addressValue Issue OC-25
- uco-observable: modified observable:IPv6AddressFacet to be a subclass of observable:IPAddressFacet Issue OC-25
    - modified property restriction for observbale:value to be observable:addressValue Issue OC-25
- uco-observable: modified observable:MACAddressFacet to be a subclass of observable:DigitalAddressFacet Issue OC-25
    - modified property restriction for observable:value to be observable:addressValue Issue OC-25
- uco-observable: modified observable:WifiAddressFacet to be a subclass of observable:MACAddressFacet Issue OC-25
- uco-core: modified core:ExternalReference to be a simple class rather than a subclass of Facet Issue OC-28
- uco-observable: modified name of observable:region_end_address to be observable:regionEndAddress Issue OC-40
- uco-action, uco-core, uco-observable, uco-types, uco-vocabulary: modified the prefix of "vocab:" to be "vocabulary:" within the vocabulary namespace Issue OC-48
- uco-core: modified name of core:createdTime to be core:objectCreatedTime and modified the class definition to distinguish it from observable:observableCreatedTime Issue OC-54
- uco-observable: modified name of observable:createdTime to be observable:observableCreatedTime and modified the class definition to distinguish it from core:objectCreatedTime Issue OC-54
- uco-observable: added the "Facet" suffix to the remaining Facet subclasses within the UCO ontology Issue OC-66

Deprecated Subclass Name	New Subclass Name
action:ActionArgument	action:ActionArgumentFacet
action:ActionEstimation	action:ActionEstimationFacet
action:ActionFrequency	action:ActionFrequencyFacet
action:ActionReferences	action:ActionReferencesFacet
core:Confidence	core:ConfidenceFacet
core:ExternalReference	core:ExternalReferenceFacet
identity:Address	identity:AddressFacet
identity:Affiliation	identity:AffiliationFacet
identity:BirthInformation	identity:BirthInformationFacet
identity:CountriesOfResidence	identity:CountriesOfResidenceFacet
identity:Events	identity:EventsFacet

identity:Identifier	identity:IdentifierFacet
identity:Identity	identity:IdentityFacet
identity:Languages	identity:LanguagesFacet
identity:Nationality	identity:NationalityFacet
identity:Occupation	identity:OccupationFacet
identity:OrganizationDetails	identity:OrganizationDetailsFacet
identity:PersonalDetails	identity:PersonalDetailsFacet
identity:PhysicalInfo	identity:PhysicalInfoFacet
identity:Qualification	identity:QualificationFacet
identity:RelatedIdentity	identity:RelatedIdentityFacet
identity:SimpleName	identity:SimpleNameFacet
identity:Visa	identity:VisaFacet
location:GPSCoordinates	location:GPSCoordinatesFacet
location:LatLongCoordinates	location:LatLongCoordinatesFacet
location:SimpleAddress	location:SimpleAddressFacet
tool:Build	tool:BuildFacet
tool:ToolConfigurationType	tool:ToolConfigurationTypeFacet

Range Changes *(these are changes to the "range" of a property that are not breaking changes: typically these are broadening in the scope of the range)*

- uco-observable: modified range of observable:contactInfo from observable:WhoisContactType to observable:ObservableObject Issue OC-24
- uco-observable: modified range of observable:url to be observable:ObservableObject Issue OC-24
- uco-observable: modified range of observable:contactOrganization from identity:Identity to identity:Organization Issue OC-24
- uco-observable: modified range of observable:byteOrder from xsd:string to vocabulary:EndiannessTypeVocab Issue OC-17
- uco-observable: modified the range of the following properties from xsd:long to xsd:integer Issue OC-19

Properties affected by Issue 19
observable:availableRam
observable:bitRate
observable:diskSize
observable:duration
observable:entryID
observable:exitCode
observable:exitStatus
observable:freeSpace
observable:maxRunTime
observable:partitionLength
observable:partitionOffset
observable:port

observable:rangeSize
observable:sectorSize
observable:sizeInBytes
observable:spaceLeft
observable:spaceUsed
observable:storageCapacityInBytes
observable:timesExecuted
observable:totalRam
observable:totalSpace

Changes *(these are general changes to the preexisting ontology that are not breaking or range changes)*

- uco-observable: added/modified a bunch of property restrictions for observable:ContactFacet Issue OC-24
    - observable:contactID (0..1)
    - identity:namePrefix (0..1)
    - observable:firstName (0..1)
    - observable:middleName (0..1)
    - observable:lastName (0..1)
    - identity:nameSuffix (0..1)
    - identity:namePhonetic (0..1)
    - identity:nickname (0..*)
    - observable:displayName (0..1)
    - observable:contactAffiliation (0..*)
    - identity:birthdate (0..1)
    - observable:contactAddress (0..*)
    - observable:contactPhone (0..*)
    - observable:contactEmail (0..*)
    - observable:contactMessaging (0..*)
    - observable:contactURL (0..*)
    - observable:contactProfile (0..*)
    - observable:contactSIP (0..*)
    - observable:numberTimesContacted (0..1)
    - observable:lastTimeContacted (0..1)
    - observable:contactGroup (0..*)
    - observable:contactNote (0..*)
    - onservable:sourceApplication (0..1)
- uco-observable: removed all domain assertions within observable.ttl and placed them in observable-da.ttl Issue OC-38

Deprecations/Deletions (classes or properties that were deprecated from the ontology)

- uco-observable: removed observable:phoneNumbers Issue OC-24
- uco-observable: removed observable:phone Issue OC-24
- uco-observable: removed observable:contactType Issue OC-24
- uco-observable: removed observable:contactName Issue OC-24
- uco-observable: removed observable:WhoisContactType Issue OC-24
- uco-observable: removed all domain assertions for observable:addressValue Issue OC-25
- uco-observable: removed all domain assertions for observable:value Issue OC-25
- uco:core: removed the domain assertion to the Investigation namespace for core:endTime as the Investigation namespace is no longer part of UCO Issue OC-83

Additions

Class Additions (classes that were added)

- uco-observable: added the class observable:URLHistory as a subclass of observable:ObservableObject Issue OC-15
- uco-observable: added the class observable:URLHistoryFacet as a subclass of Facet within the Observable namespace Issue OC-15
- uco-observable: added the class observable:URLHistoryEntry as a class within the Observable namespace Issue OC-15
- uco-observable: added the class observable:URLVist as a subclass of observable:ObservableObject Issue OC-15
- uco-observable: added the class observable:URLVisitFacet as a subclass of Facet within the Observable namespace Issue OC-15
- uco-observable: added the class observable:ContactList as a subclass of observable:ObservableObject Issue OC-24
- uco-observable: added the class observable:ContactListFacet as a subclass of Facet within the Observable namespace Issue OC-24
- uco-observable: added the class observable:Contact as a subclass of observable:ObservableObject Issue OC-24
- uco-observable: added the class observable:ContactAffiliation as a class within the Observable namespace Issue OC-24
- uco-observable: added the class observable:ContactAddress Issue OC-24
- uco-observable: added the class observable:ContactPhone Issue OC-24
- uco-observable: added the class observable:ContactEmail Issue OC-24
- uco-observable: added the class observable:ContactMessaging Issue OC-24
- uco-observable: added the class observable:ContactURL Issue OC-24
- uco-observable: added the class observable:ContactProfile Issue OC-24
- uco-observable: added the class observable:ContactSIP Issue OC-24
- uco-observable: added the class observable:WhoisContactFacet Issue OC-24
- uco-observable: added the class observable:DigitalAddressFacet as a subclass of Facet within the Observable namespace Issue OC-25
- uco-observable: added the class observable:InstantMessagingAddressFacet as a subclass of observable:DigitalAddressFacet Issue OC-25
- uco-observable: added the class observable:IPAddressFacet as a subclass of observable:DigitalAddressFacet Issue OC-25
- uco-osbervable: added the class observable:SIPAddressFacet as a subclass of observable:DigitalAddressFacet Issue OC-25
- uco-observable: added the class observable:ProfileFacet as a subclass of Facet within the Observable namespace Issue OC-26
- uco-observable: added the class observable:TwitterProfileFacet as a subclass of Facet within the Observable namespace Issue OC-26
- uco-observable: added the class observable:OnlineServiceFacet as a subclass of Facet within the Observable namespace Issue OC-27
- uco-core: added the class core:AttributedName as a subclass of core:UcoObject Issue OC-29
- uco-observable: added the following classes as subclasses of observable:ObservableObject and improved class definitions to mimic the completeness and clarity of those mentioned in Issue OC-18 Issue OC-65

New ObservableObject Subclasses and Their Observed Hierarchy

ObservableObject (Parent)

- GenericObservableObject
- Account
  - DigitalAccount
    - ApplicationAccount
    - EmailAccount
    - MobileAccount
    - PhoneAccount
    - UNIXAccount
    - UserAccount
    - WindowsAccount
    - WindowsActiveDirectoryAccount

- Address
  - DigitalAddress
    - EmailAddress
    - InstantMessagingAddress
    - IPAddress
      - IPv4Address
      - IPv6Address
    - MACAddress
      - BluetoothAddress
      - WifiAddress
    - SIPAddress
  - SocketAddress
- API
- Application
- ARPCache
- ARPCacheEntry
- Audio
- AutonomousSystem
- BotConfiguration
- BrowserBookmark
- BrowserCookie
- Calendar
- CalendarEntry
- Code
- ComputerSpecification
- Contact
- ContentData
- CookieHistory
- Credential
- CredentialDump
- Device
  - Appliance
    - NetworkAppliance
    - SecurityAppliance
  - MobileDevice
  - SIMCard
- DigitalSignatureInfo
- Disk
- DiskPartition
- DNSCache
- DNSRecord
- DomainName
- Event
- EventLog

- FileSystemObject
  - BlockDeviceNode
  - CharacterDeviceNode
  - Directory
  - ReparsePoint
  - File
    - ArchiveFile
    - NTFSFile
    - PDFFile
    - RasterPicture
    - UNIXFile
    - WindowsPEBinaryFile
  - Junction
  - NamedPipe
  - Snapshot
  - Socket
  - SymbolicLink
- FileSystem
- GeoLocationEntry
- GeoLocationLog
- GeoLocationTrack
- GUI
- Hostname
- Image
- IPNetmask
- Library
- Memory
- Message
  - EmailMessage
  - ForumPost
  - ForumPrivateMessage
  - Post
  - SMSMessage
  - Tweet
- MessageThread
- Mutex
- NetworkConnection
  - HTTPConnection
  - ICMPConnection
  - TCPConnection
  - WirelessNetworkConnection
- NetworkFlow
- NetworkInterface
- NetworkProtocol
- NetworkRoute
- NetworkSubnet
- Note
- OnlineService
- OperatingSystem
- PhoneCall
- Pipe
- Process
  - UNIXProcess
  - WindowsProcess
- Profile
- PaymentCard

- Semaphore
- ShopListing
- SIPAddress
- SQLiteBlob
- Software
- Thread
  - WindowsThread
- URL
- URLHistory
- URLVisit
- UserSession
- Volume
- WebPage
- Whois
- Wiki
- WikiArticle
- WindowsComputerSpecification
- WindowsCriticalSection
- WindowsEvent
- WindowsFilemapping
- WindowsHandle
- WindowsHook
- WindowsMailslot
- WindowsNetworkShare
- WindowsPrefetch
- WindowsRegistryHive
- WindowsRegistryKey
- WindowsService
- WindowsSystemRestore
- WindowsTask
- WindowsWaitableTime
- X509Certificate
  - X509V3Certificate

Property Additions (properties that were added)

- uco-observable: added the following properties to support the classes created in Issue OC-15 Issue OC-15
  - observable:URLHistoryFacet
    - observable:browserInformation
    - observable:urlHistoryEntry
  - observable:URLHistoryEntry
    - observable:url
    - observable:referrerUrl
    - observable:pageTitle
    - observable:browserUserProfile
    - observable:firstVisit
    - observable:lastVisit
    - observable:visitCount
    - observable:manuallyEnteredCount
    - observable:keywordSearchTerm
  - observable:URLVisitFacet
    - observable:visitTime
    - observable:visitDuration
    - observable:fromURLVisit
    - observable:urlTransitionType
- uco-observable: added the property observable:contact with a range of observable:ObservableObject Issue OC-24

- uco-observable: added the following property restrictions for observable:ContactListFacet class Issue OC-24
    - observable:contact (1..*)
    - observable:sourceApplication (0..1)
- uco-observable: added the property identity:namePrefix with a range of xsd:string Issue OC-24
- uco-observable: added the property identity:nameSuffix with a range of xsd:string Issue OC-24
- uco-observable: added the property identity:namePhonetic with a range of xsd:string Issue OC-24
- uco-observable: added the property identity:nickname with a range of xsd:string Issue OC-24
- uco-observable: added the property observable:organizationPosition with a range of xsd:string Issue OC-24
- uco-observable: added the property observable:organizationDepartment with a range of xsd:string Issue OC-24
- uco-observable: added the property observable:organizationLocation with a range of observable:ContactAdress Issue OC-24
- uco-observable: added the property observable:contactAffiliation with a range of observable:ContactAffiliation Issue OC-24
- uco-observable: added the following property restrictions to the observable:ContactAffiliation class Issue OC-24
    - observable:contactOrganization (1)
    - observable:organizationPosition (0..1)
    - observable:organizationDepartment (0..1)
    - observable:organizationLocation (0..*)
    - observable:contactPhone (0..*)
    - observable:contactEmail (0..*)
    - observable:contactMessaging (0..*)
    - observable:contactURL (0..*)
    - observable:contactProfile (0..*)
- uco-observable: added the property observable:contactAddress with a range of observable:ContactAddress Issue OC-24
- uco-observable: added the property observable:contactAddressScope with a range of owl:unionOf [xsd:string ContactAddressScopeVocab] Issue OC-24
- uco-observable: added the following property restrictions to the observable:ContactAddress class Issue OC-24
    - observable:contactAddressScope (0..1)
    - observable:geolocationAddress (0..1)
- uco-observable: added the property observable:contactPhone with a range of observable:ContactPhone Issue OC-24
- uco-observable: added the property observable:contactPhoneScope with a range of owl:unionOf [xsd:string ContactPhoneScopeVocab] Issue OC-24
- uco-observable: added the property observable:contactPhoneNumber with a range of observable:ObservableObject (PhoneAccount) Issue OC-24
- uco-observable: added the following property restrictions to the observable:ContactPhone class Issue OC-24
    - observable:contactPhoneScope (0..1)
    - observable:contactPhoneNumber (0..1)
- uco-observable: added the property observable:contactEmail with a range of observable:ContactEmail Issue OC-24
- uco-observable: added the property observable:contactEmailScope with a range of owl:unionOf [xsd:string ContactEmailScopeVocab] Issue OC-24
- uco-observable: added the following property restrictions to the observable:ContactEmail class Issue OC-24
    - observable:contactEmailScope (0..1)
    - observable:emailAddress (0..1)
- uco-observable: added the property observable:contactMessaging with a range of observable:ContactMessaging Issue OC-24
- uco-observable: added the property observable:contactMessagingPlatform with a range of observable:ObservableObject (OnlineService) Issue OC-24
- uco-observable: added the property observable:messagingAddress with a range of observable:ObservableObject (InstantMessagingAddress) Issue OC-24
- uco-observable: added the following property restrictions to the observable:ContactMessaging class Issue OC-24
    - observable:contactMessagingPlatform (0..1)
    - observable:messagingAddress (0..1)
- uco-observable: added the property observable:contactURL with a range of observable:ContactURL Issue OC-24
- uco-observable: added the property observable:contactURLScope with a range of owl:unionOf [xsd:string ContactURLScopeVocab] Issue OC-24
- uco-observable: added the following property restrictions to the observable:ContactURL class Issue OC-24
    - observable:contactURLScope (0..1)
    - observable:url (0..1)
- uco-observable: added the property observable:contactProfile with a range of observable:ContactProfile Issue OC-24
- uco-observable: added the property observable:contactProfilePlatform with a range of owl:unionOf [xsd:string ContactProfileScopeVocab] Issue OC-24
- uco-observable: added the property observable:profile with a range of observable:ObservableObject (Profile) Issue OC-24

- uco-observable: added the following property restrictions to the observable:ContactProfile class Issue OC-24
  - observable:contactProfilePlatform (0.1)
  - observable:profile (0..1)
- uco-observable: added the property observable:contactSIP with a range of observable:ContactSIP Issue OC-24
- uco-observable: added the property observable:contactSIPScope with a range of owl:unionOf [xsd:string ContactSIPScopeVocab] Issue OC-24
- uco-observable: added the property observable:sipAddress with a range of observable:ObservableObject (SIPAddress) Issue OC-24
- uco-observable: added the following property restrictions to the observable:ContactSIP class Issue OC-24
  - observable:contactSIPScope (0..1)
  - observable:sipAddress (0..1)
- uco-observable: added the property observable:numberTimesContacted with a range of xsd:integer Issue OC-24
- uco-observable: added the property observable:lastTimeContacted with a range of xsd:integer Issue OC-24
- uco-observable: added the property observable:contactGroup with a range of xsd:string Issue OC-24
- uco-observable: added the property observable:contactNote with a range of xsd:string Issue OC-24
- uco-observable: added the property observable:sourceApplication with a range of observable:ObservableObject (Application) Issue OC-24
- uco-observable: added the property observable:whoisContactType with a range of owl:unionOf [xsd:string WhoisContactTypeVocab] Issue OC-24
- uco-observable: added observable:whoisContactType (0..1) as a property restriction for the observable:WhoisContactFacet class Issue OC-24
- uco-observable: added the following property restrictions to the observable:DigitalAddressFacet class Issue OC-25
  - observable:addressValue (1)
  - observable:displayName (0..1)
- uco-observable: added the following property restrictions for the observable:ProfileFacet class Issue OC-26
  - observable:profileService (0..1)
  - observable:profileAccount (0..1)
  - observable:profileIdentity (0..1)
  - observable:profileWebsite (0..1)
  - observable:profileLanguage (0..*)
  - observable:profileCreated (0..1)
  - observable:location (0..*)
  - observable:displayName (0..1)
  - observable:contactAddress (0..*)
  - observable:contactPhone (0..*)
  - observable:contactEmail (0..*)
  - observable:contactMessaging (0..*)
  - observable:contactURL (0..*)
- uco-observable: added the following property restrictions for the observable:TwitterProfileFacet class Issue OC-26
  - observable:favoritesCount (0..1)
  - observable:followersCount (0..1)
  - observable:friendsCount (0..1)
  - observable:profileIsProtected (0..1)
  - observable:profileIsVerified (0..1)
  - observable:listedCount (0..1)
  - observable:profileBackgroundHash (0..*)
  - observable:profileBackgroundLocation (0..1)
  - observable:profileBannerHash (0..*)
  - observable:profileBannerLocation (0..1)
  - observable:profileImageHash (0..*)
  - observable:profileImageLocation (0..1)
  - observable:statusesCount (0..1)
  - observable:twitterHandle (0..1)
  - observable:twitterID (1)
  - observable:userLocationString (0..1)
- uco-observable: added the property observable:favoritesCount with a range of xsd:integer Issue OC-26
- uco-observable: added the property observable:followersCount with a range of xsd:integer Issue OC-26
- uco-observable: added the property observable:friendsCount with a range of xsd:integer Issue OC-26

- uco-observable: added the property observable:profileIsProtected with a range of xsd:boolean Issue OC-26
- uco-observable: added the property observable:profileIsVerified with a range of xsd:boolean Issue OC-26
- uco-observable: added the property observable:listedCount with a range of xsd:integer Issue OC-26
- uco-observable: added the property observable:profileAccount with a range of observable:ObservableObject Issue OC-26
- uco-observable: added the property observable:profileBackgroundHash with a range of types:hash Issue OC-26
- uco-observable: added the property observable:profileBackgroundLocation with a range of observable:ObservableObject Issue OC-26
- uco-observable: added the property observable:profileBannerHash with a range of types:hash Issue OC-26
- uco-observable: added the property observable:profileBannerLocation with a range of observable:ObservableObject Issue OC-26
- uco-observable: added the property observable:profileImageHash with a range of types:hash Issue OC-26
- uco-observable: added the property observable:profileImageLocation with a range of observable:ObservableObject Issue OC-26
- uco-observable: added the property observable:statusesCount with a range of xsd:integer Issue OC-26
- uco-observable: added the property observable:twitterHandle with a range of xsd:string Issue OC-26
- uco-observable: added the property observable:twitterID with a range of xsd:string Issue OC-26
- uco-observable: added the propter observable:userLocationString with a range of xsd:string Issue OC-26
- uco-observable: added the property observable:inetLocation with a range of observable:ObservableObject Issue OC-27
- uco-observable: added the following property restrictions to the observable:OnlineService class Issue OC-27
  - core:name (0..1)
  - observable:inetLocation (0..*)
  - observable:location (0..*)
- uco-core: added the ObjectProperty core:externalReference with a range of core:ExternalReference Issue OC-28
- uco-core: added core:externalReference (0..*) as a property restriction to core:UcoObject Issue OC-28
- uco-core: added the DatatypeProperty core:namingAuthority with a range of xsd:string Issue OC-29
- uco-core: added core:namingAuthority (0..1) as a property restriction to core:AttributedName Issue OC-29

Vocabulary Additions/Changes (vocabularies that were added or modified)

- uco-observable: added the vocabulary vocabulary:URLTransitionTypeVocab to support the observable:URLVisitFacet class Issue OC-15
- uco-vocabulary: added the vocabulary vocabulary:ContactAddressScopeVocab Issue OC-24
- uco-vocabulary: added the vocabulary vocabulary:ContactSIPScopeVocab Issue OC-24
- uco-vocabulary: added the vocabulary vocabulary:ContactPhoneScopeVocab Issue OC-24
- uco-vocabulary: added the vocabulary vocabulary:ContactEmailScopeVocab Issue OC-24
- uco-vocabulary: added the vocabulary vocabulary:ContactURLScopeVocab Issue OC-24

Annotation Changes

- all namespaces: improved class definitions for ALL of the UCO Classes to make them more complete, clear and consistent Issue OC-18
- uco-observable: modified definition for observable:contactID to generalize it away from whois Issue OC-24
- uco-observable: modified definition for observable:displayName to abstract it from only Contacts Issue OC-24
- uco-observable: modified definition for observable:firstName to abstract it from only Contacts Issue OC-24
- uco-observable: modified definition for observable:middleName to abstract it from only Contacts Issue OC-24
- uco-observable: modified definition for observable:lastName to abstract it from only Contacts Issue OC-24
- uco-action: modified the rdfs:label for action:arugmentName from "name" to "argumentName" Issue OC-36
- uco-observable: modified the rdfs:label for observable:region_end_address from "region_end_address" to "regionEndAddress" Issue OC-40
- uco-observable: modified the definition for observable:clockSetting to change "… processes." to "… processed." Issue OC-41
- uco-identity: modified the rdfs:label for identity:RelatedIdentity from "Related Identity" to "RelatedIdentity" Issue OC-77
- uco-observable: modified the definition for observable:messageType to make it more clear of what the property conveys Issue OC-78