HL7 v2.5.1 Object Identifiers (OIDs) and Attributes

For SoftLab 4.0.7 and Related Interfaces

Reference guide

1st Ed, Rel. November 2013

SCC
Soft Computer

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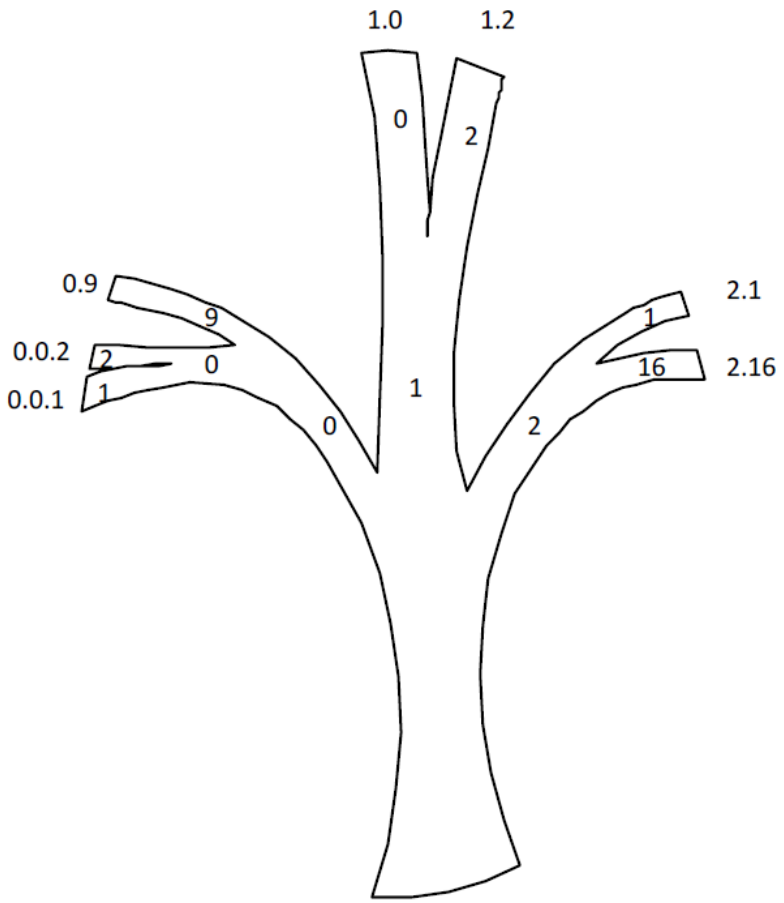
HL7 v2.5.1 Object Identifiers (OIDs) and Attributes

This document contains information and material directly taken from "HL7 Implementation Guidance for Unique Object Identifiers, Release 1," edited by Boone, Beebe, Dolin, et al., and provided by Health Level Seven International.

The term OID stands for "Object Identifier." The value of an OID is created by a registration authority, in accordance with the ISO 9834 series of standards. OIDs are used utilized in HL7 documents and messages in order to ensure that identifiers used within the document are globally unique. Vocabulary terminology systems are also identified by OIDs. An OID is produced and managed by the use of a few simple rules. Two OIDs are considered equivalent to one another if they match each other character for character.

As is evident in this figure, the structure of an OID is similar to that of a tree. The branches originating from each fork in the tree are labeled with a non-negative integer. With the exception of the first junction, an unlimited number of branches can originate at each junction. The size of the number that is used to label each branch is also unlimited.

In order to "write out" the path through the tree, the numbers of the branch are listed in order, and separated by periods. Only one path exists to each position in the tree, and there is only one way to write out a label, ensuring the uniqueness of each OID string. The decimals represent the branches of the tree. These branches can be owned by a registration authority; normally known in HL7 vernacular as an "Assigning Authority." If two strings produced by this method are identical, this means the two OIDs are identical.



Provided by Health Level Seven Int.

According to the ISO/IEC specification, there is no limit on the length of an OID, or the size of the numbers used in it. There are, however, a few limitations. The DICOM standard refers to an OID as a UID. It also limits OIDs to 64 characters. There is also a limit on the internal OID representation. The digit sequences between the

decimal points are not bound by the standard, but some implementations of the OID data type use integers incorrectly to represent each branch. This creates a limit of 2^{31}-1 (slightly over 2 billion) for each branch label.

The following pages contain information regarding OIDs used by SCC.

- **Sending Application (MSH-3)**
  - **Purpose**
    Outbound, this OID consists of specific values that represent SoftLab, SoftMic, SoftBank, SoftPath and SoftGene modules. These values are consistent at all clients, and in all interfaces. It is provided by SCC and is assigned for each product in SCC's OID database.
    Inbound, it is an identifier of the software that is sending ADT and orders, and is provided by the HIS or EMR vendor.
    The Sending Application is the logical opposite of the Receiving Application in MSH-5, so similar values will be used inbound in MSH-3 and outbound in MSH-5.

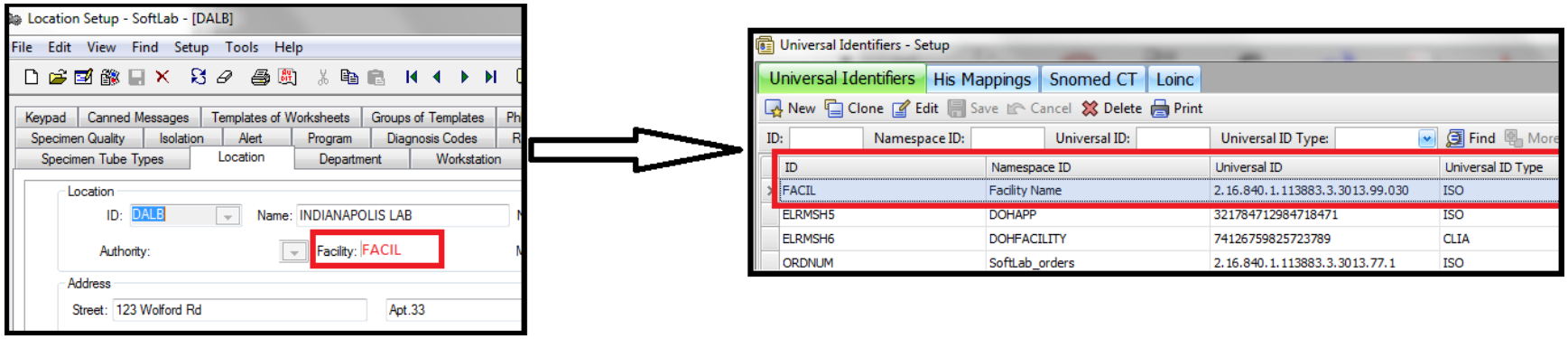
  - **Outbound Setup**
    Defined through the fixed translation table in SIE.

  - **Inbound Setup**
    None in SCC systems. SCC does not use or store this data. However, the sender should identify all possible values that might be sent.

- ## Sending Facility (MSH-4)
  - ### Purpose
    Outbound, this OID is an identifier of the facility, which is considered to be a lab, and is provided by the client. A single client may have several facilities (labs).
    Inbound, it is provided by the HIS or EMR vendor, and is an identifier of the facility sending SCC the message. SCC will use the Namespace ID as the HIS# in Multisite tables. SCC uses this OID to derive the Multisite Depot.
    The Sending Facility is the logical opposite of the Receiving Facility in MSH-6, so similar values will be used inbound in MSH-4 and outbound in MSH-6.

  - ### Outbound Setup
    A facility code is defined in Location setup and the same code is entered as the "ID" in the UID table along with its OID attributes.

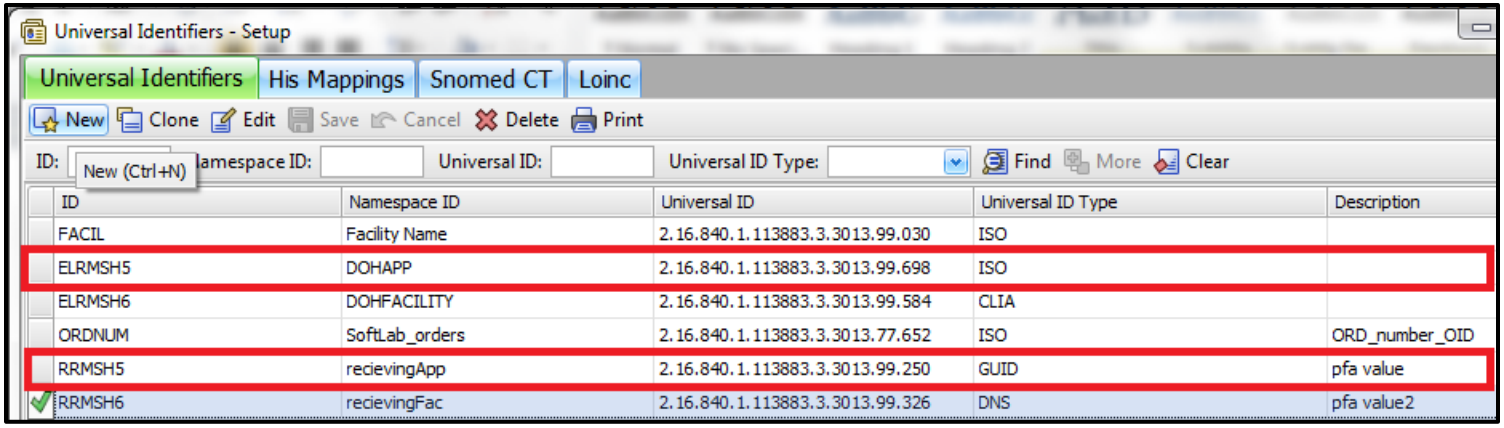
  - ### Inbound Setup
    The same code is to be used as the HIS# in Multisite Account Setup and Test Setup tables.



- ## Receiving Application (MSH-5)
  - ### Purpose
    Outbound, this OID identifies the destination software/recipient of the message. Each interface has a single "target" application. If the destination includes multiple systems, then the third party engine is the logical target application. The engine can then substitute new values per output. It is provided by the other vendor, the engine operator, or the client.
    Inbound, it is always a single set of OID attributes representing the SoftLab application, or a standalone module if SoftLab is not installed. It is provided by SCC, a constant value for each product.
    For SoftLab, the Namespace ID is “SoftLab” and the OID is “2.16.840.1.113883.3.3013.77.1”.
    The Receiving Application is the logical opposite of the Sending Application in MSH-3, so similar values will be used inbound in MSH-5 and outbound in MSH-3.

  - ### Outbound Setup
    For RR setup, configure the Result Reporting interface output for a single code like "RR1MSH5". Then define this code as the "ID" in the UID table along with its OID attributes.
    For ELR setup, define the code "ELRMSH5" as the "ID" along with its OID attributes in the UID table.

  - ### Inbound Setup
    SCC does not use or store this data, so there is no inbound setup process. However, SCC will provide and document a set of values representing SoftLab (or similar product) for the sender to use.



- ## Receiving Facility (MSH-6)
  - ### Purpose

    Outbound, this OID identifies the destination facility/recipient of the message. Each interface has a single "target" facility. If the destination includes multiple facilities, then the third party engine is the logical target application. The engine can then substitute new values per output. It is provided by the other vendor, the engine operator, or the client.

    Inbound, it is a value representing the "target" facility (lab) for the message, provided by the client. Messages from different HIS systems may target different facilities in a multisite scenario.

    The Receiving Facility is the logical opposite of the Sending Facility in MSH-4, so similar values will be used inbound in MSH-6 and outbound in MSH-4.

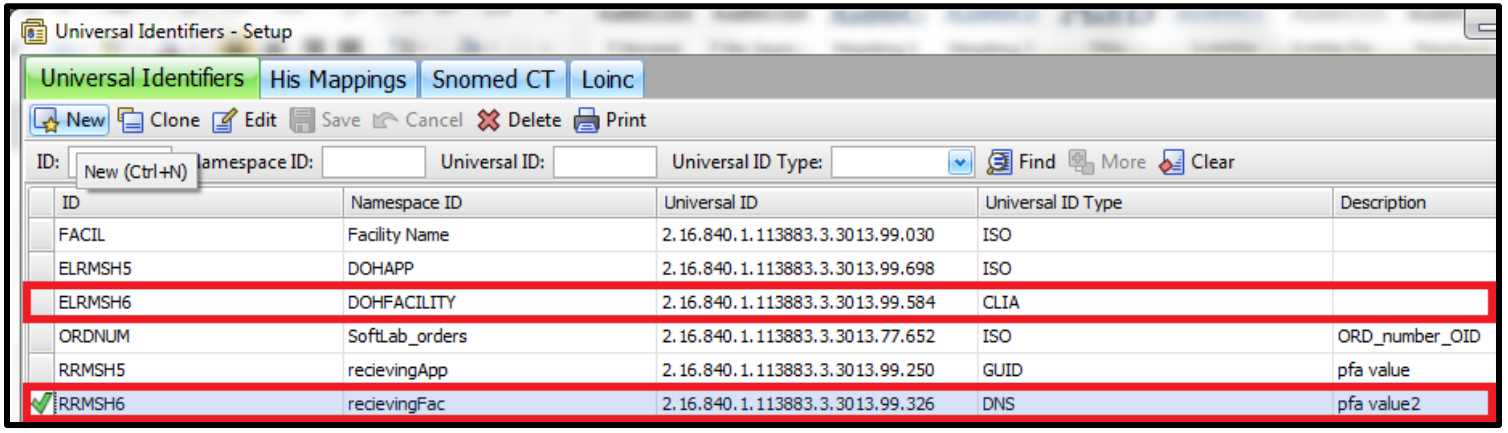
  - ### Outbound Setup

    For **RR setup**, configure the Result Reporting interface output for a single code like "RR1MSH6". Then define this code as the "ID" in the UID table along with its OID attributes.

    For **ELR setup**, define the code "ELRMSH6" as the "ID" along with its OID attributes in the UID table.

  - ### Inbound Setup

    SCC does not use or store this data, so there is **no inbound setup** process. However, since the values sent here should logically be the same as the values SCC will send in MSH-4, the client should provide a value or values for the sending system(s) to use based on their definitions for MSH-4 in outbound messages.



- ## Message Profile Identifier (MSH-21)
  - ### Purpose
    This OID identifies the specific message profile that governs the structure of the HL7 message. This is a single value for the interface. For outbound messages, this consists of the same values used in Meaningful Use certification, assigned by default.
    Inbound, this is provided by the HIS or EMR vendor.

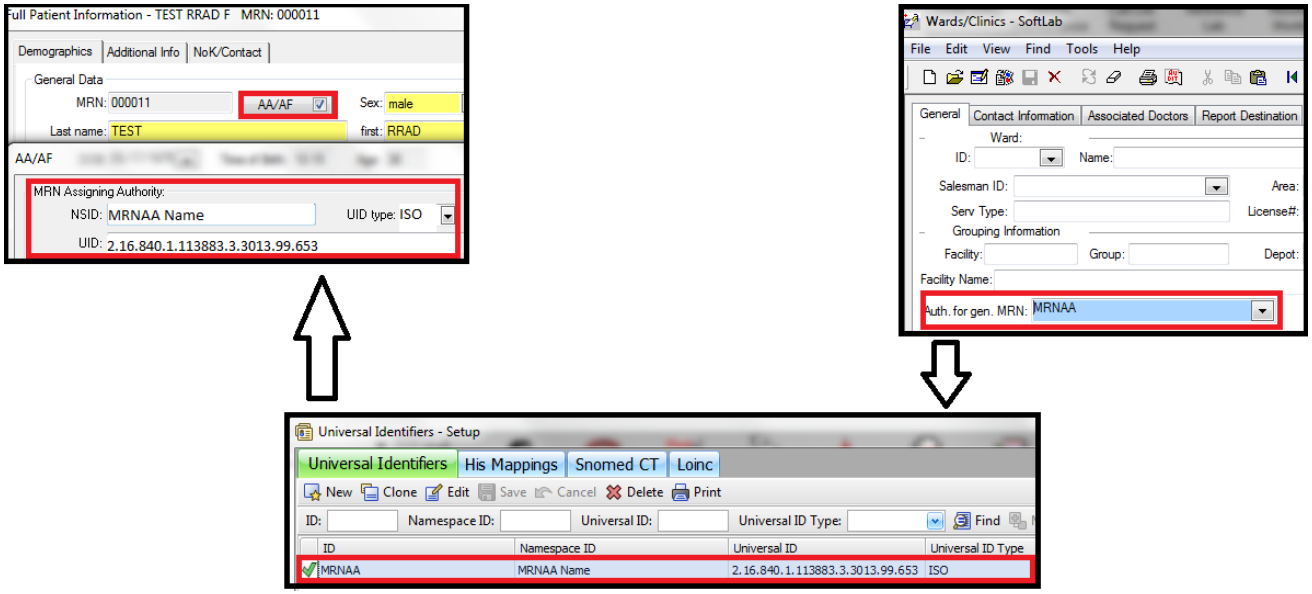
  - ### Outbound Setup
    SCC will define all attributes (subfields) in SIE.

  - ### Inbound Setup
    None. SCC does not use or store this data. The sending system should provide such elements, if a message profile is applicable.

- ## Patient ID Assigning Authority (PID-3.4)
  - ### Purpose
    This OID describes what authority assigned/created the MRN. It is provided by the HIS or EMR for HIS patients and the client for X-MRN patients.

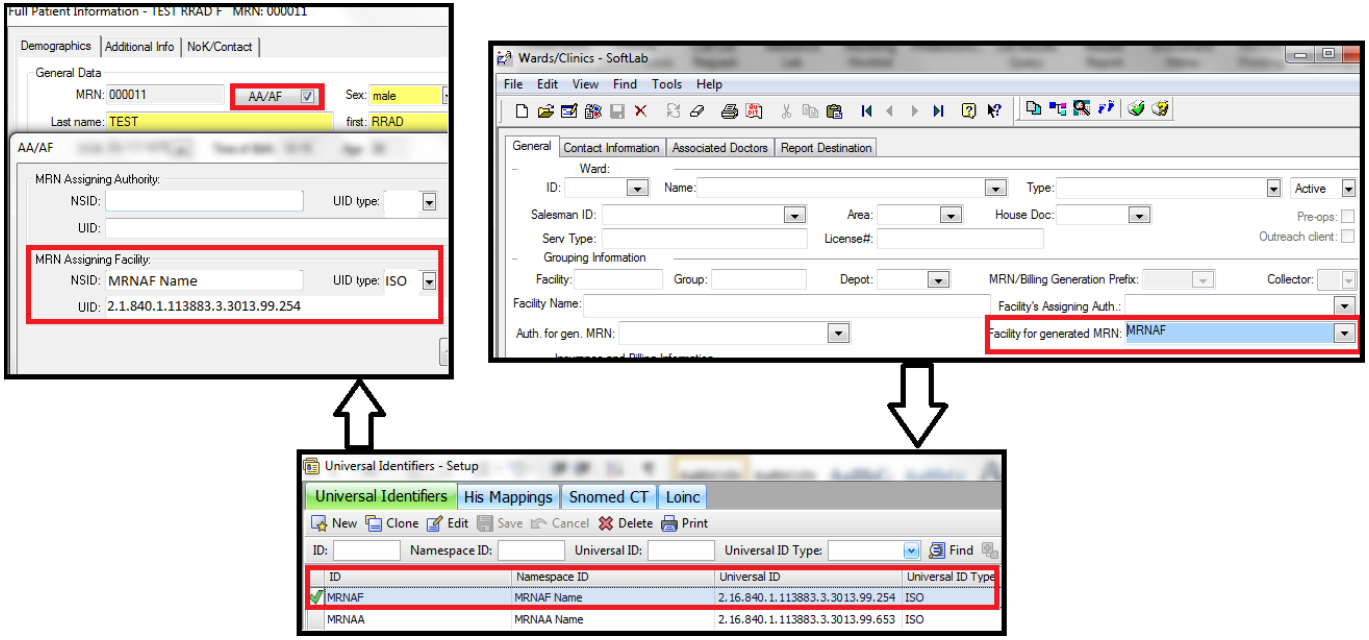
  - ### Outbound Setup
    SCC sends what is captured and stored in the patient record.
    MRN AA attributes need to be received with ADT from the HIS or EMR.
    SCC can also generate MRNs. Each "number wheel" that generates an MRN in SCC systems should be identified with a unique AA Namespace and OID. To do this, the client defines AA codes and OID attributes in the UID table for each non-interfaced source of MRNs (for each site, facility, location, or clinic that can generate MRNs from a separate number wheel, as defined in Regions setup). The client then enters the associated ID in Clinic setup by selecting from this list. When an MRN is generated from clinics defined in this way, the AA Namespace ID and OID will be stored with the MRN in the patient record.

  - ### Inbound Setup
    None. Data received by interface is stored with the MRN.



Patient ID Assigning Facility (PID-3.6)

- **Purpose**
  This OID describes what facility assigned/created the MRN. It is provided by the HIS or EMR for HIS patients and the client for X-MRN patients.
- **Outbound Setup**
  SCC sends what is captured and stored in the patient record.
  MRN AF attributes need to be received with ADT from the HIS or EMR.
  SCC can also generate MRNs. Each "number wheel" that generates an MRN in SCC systems should be identified with a unique AF Namespace and OID. To do this, the client defines AF codes and OID attributes in the UID table for each non-interfaced source of MRNs (for each site, facility, location, or clinic that can generate MRNs from a separate number wheel, as defined in Regions setup). The client then enters the associated ID in Clinic setup by selecting from this list. When an MRN is generated from clinics defined in this way, the AF Namespace ID and OID will be stored with the MRN in the patient record.
- **Inbound Setup**
  None. Data received by interface is stored with the MRN.



- ## Last Update Facility (PID-34)
    - ### Purpose
      This OID identifies the facility that last updated the patient demographics. It's assumed that the rules for this would naturally be the same as for MRN assignment. It is provided by the HIS or EMR for HIS patients and the client for X-MRN patients.
      Inbound, it serves the same purpose as it does outbound, and is provided by the HIS or EMR vendor.

    - ### Outbound Setup
      The same rules apply as for MRN. It is captured either with the ADT, or from Clinic setup when manual edits are performed. No unique setup is required.

    - ### Inbound Setup
      None. Data received by the interface is stored in the patient record.

- ## Contact Organization Assigning Authority (NK1-13.6)
  - ### Purpose
    This OID describes the authority that assigned the ID representing the business/organization that's listed as a contact. It is provided by the HIS or EMR for HIS patients and the client for X-MRN patients.

  - ### Outbound Setup
    None. The values would be posted with ADT for HIS patients. Since the ID for the Contact Organization can be invented by any source at any time, NSID, OID, and OID type must be manually entered any time the Contact Organization is manually entered in SCC systems.

  - ### Inbound Setup
    There is no inbound setup process. Data received by the interface is stored in the patient record.

- ## Placer Order Number (ORC/OBR-2)
  - ### Purpose
    This OID identifies the creator and source of the Placer (HIS) order number. It is provided by the HIS or EMR vendor.

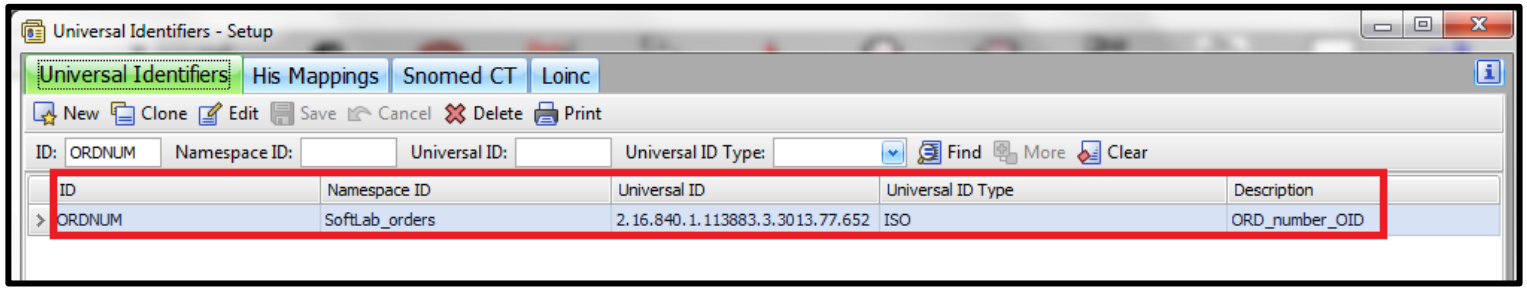
  - ### Outbound Setup
    SCC will send whatever is captured and stored with the Placer Number. Placer Number OID attributes need to be received with Order messages from the HIS or EMR. No setup is required.

  - ### Inbound Setup
    None. The data received by interface is stored in genindex.

- ## Filler Order Number (ORC/OBR-3)
  - ### Purpose
    This OID identifies the creator and source of the Filler (LIS) order number. It is provided by SCC, assigned as a unique identifier for each client.

  - ### Outbound Setup
    SCC staff will define a single entry in the UID table with the ID "ORDNUM". Client-specific Namespace ID and OID attributes as assigned by SCC will be entered for this code, to be used in populating ORC-3 and OBR-3 by outbound Result Reporting and ELR interfaces.

  - ### Inbound Setup
    None. This OID should only be returned with NA messages, and OID attributes will not be used.



- ## Placer Group Number (ORC-4)
  - ### Purpose
    This OID identifies the creator and source of the Placer group number. It is provided by the HIS or EMR vendor.

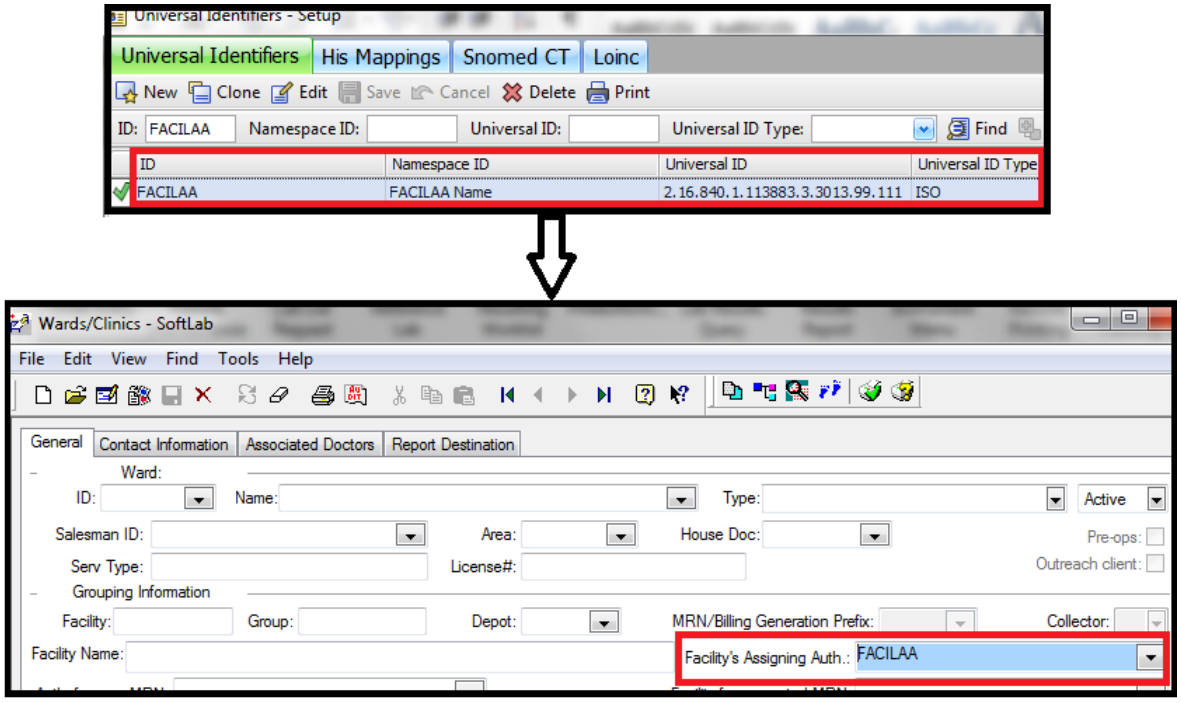
  - ### Outbound Setup
    The Group number is generally the same as the Placer number.

  - ### Inbound Setup
    None. If Aux number is sent here, the data received by interface is stored in genindex.

- ## Ordering Facility Assigning Authority(ORC-21.6)
  - ### Purpose
    This OID describes the authority that assigned the ID sent in OBR-21.1 representing the Facility that placed the order. It is provided by the client.

  - ### Outbound Setup
    The client defines AA IDs and OID attributes in the UID table for each authority that assigns Facility IDs in Ward/Clinic setup. Facility IDs are not Ward/Clinic primary IDs. The client then enters AA ID in Clinic setup for the Facility by selecting from this list.

  - ### Inbound Setup
    None. SCC does not use or store this data.

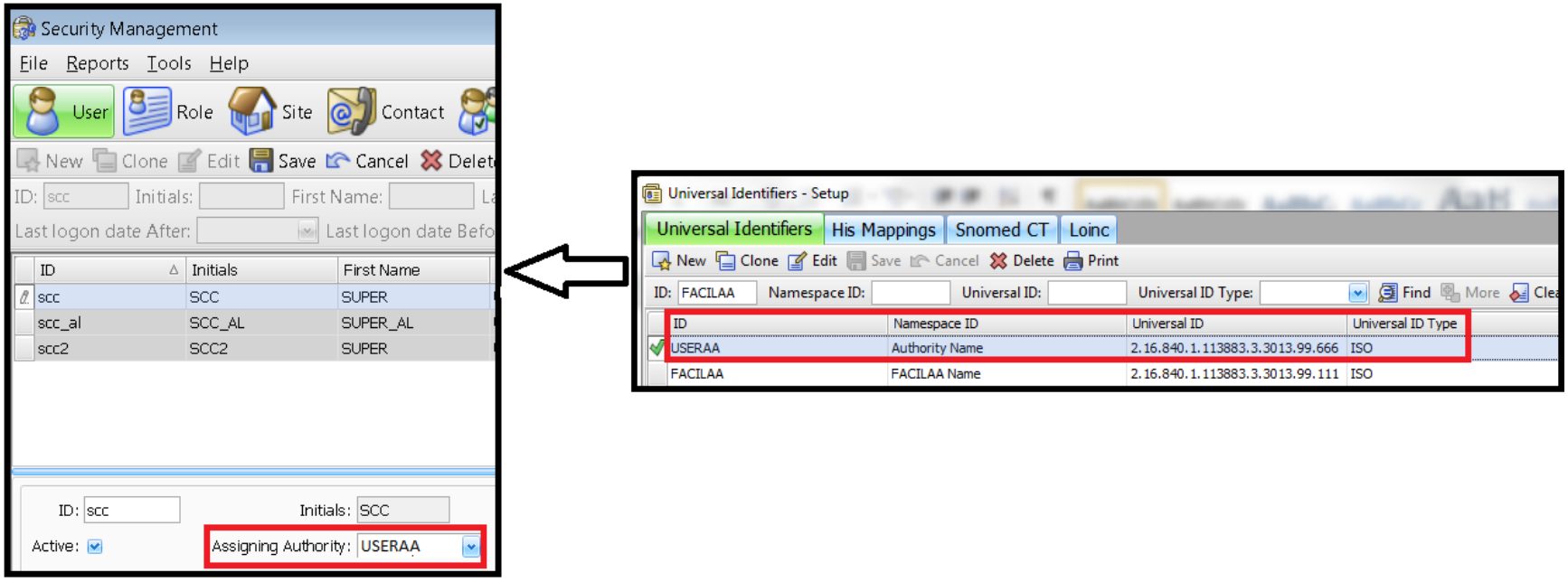


- ## Principal Result Interpreter Assigning Authority (OBR-32.1.9-11)

  - ### Purpose
    Outbound, this OID describes the authority that assigned the code representing the user (the user ID) that is sent in OBR-32.1.1. It is provided by the client.

  - ### Outbound Setup
    The client defines AA IDs and OID attributes in the UID table for each authority that assigns User IDs. Since User IDs are defined in Security, there's probably only one AA. The client then enters AA ID in Security for each user ID that can enter results.

  - ### Inbound Setup
    N/A

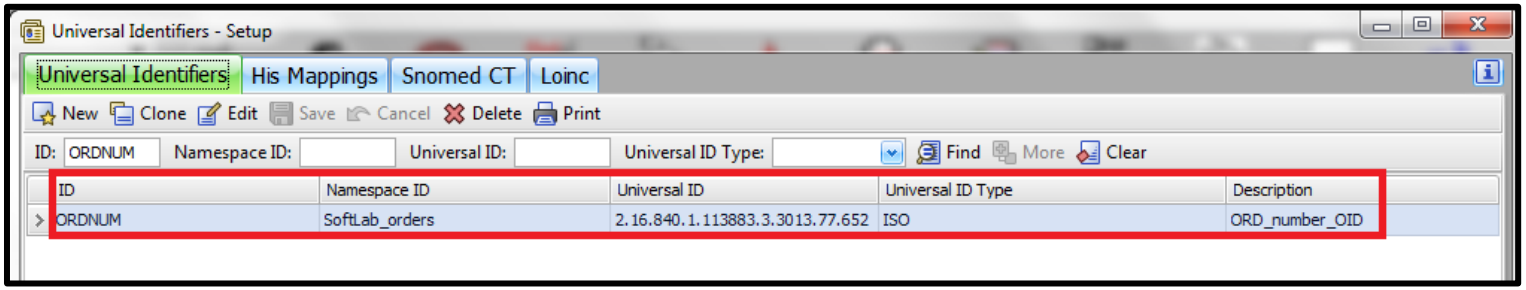


Specimen ID (SPM-2)

- **Purpose**
  Outbound, this OID identifies the creator and source of the Specimen number. It is provided by SCC, assigned in our OID database for each client. Same values are used as for ORC/OBR-3.

- **Outbound Setup**
  Configure the Result Reporting interface to send the same values as for ORC/OBR-3.

- **Inbound Setup**
  N/A

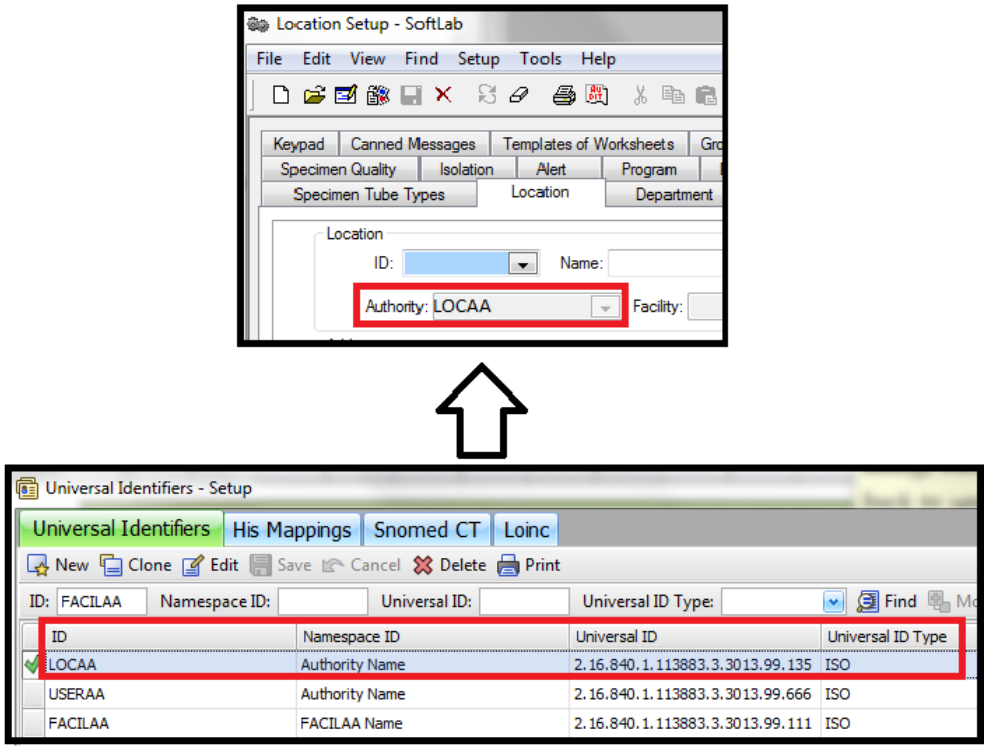


Performing Organization Assigning Authority (OBX-23.6)

- **Purpose**
  Outbound, this OID describes the authority that assigned the ID representing the Location that performed testing. It is provided by the client.

- **Outbound Setup**
  The client defines AA IDs and OID attributes in the UID table for each authority that assigns Location IDs. Since Location IDs are defined in SoftLab, there's probably only one AA. The client then enters AA ID in Location setup for each Location.

- **Inbound Setup**
  N/A



Provider ID Assigning Authority (various HL7 elements)

- **Purpose**

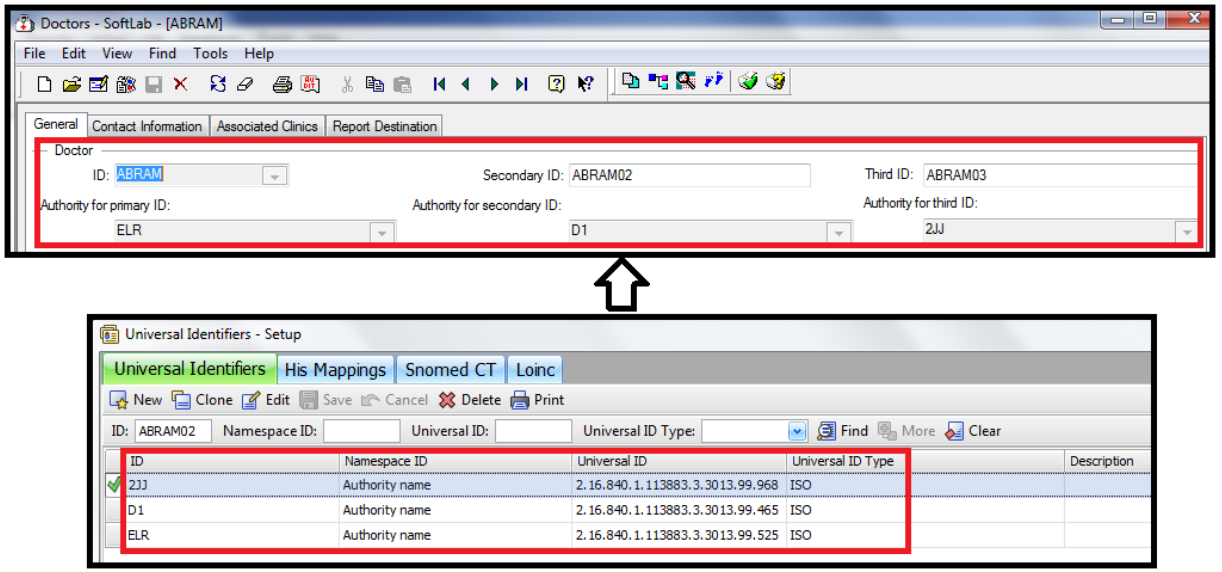
  Outbound, this OID describes the authority that assigned the Doctor ID. It is provided by the client.
  Inbound, it describes the facility that assigned the Doctor ID. It is provided by the HIS or EMR vendor.

- **Outbound Setup**

  The client defines AA IDs and OID attributes in the UID table for each authority that assigns Doctor IDs. Different authorities may represent assignment of the primary (SCC) ID, Secondary ID (HIS code), Third ID (HIS code) and may even represent different HIS systems. The client then enters AA ID in Doctor setup for each code by selecting from this list.

- **Inbound Setup**

  None. SCC does not use or store this data with inbound ADT or order transactions. SCC can post this data to Doctor Setup with inbound MFN messages.

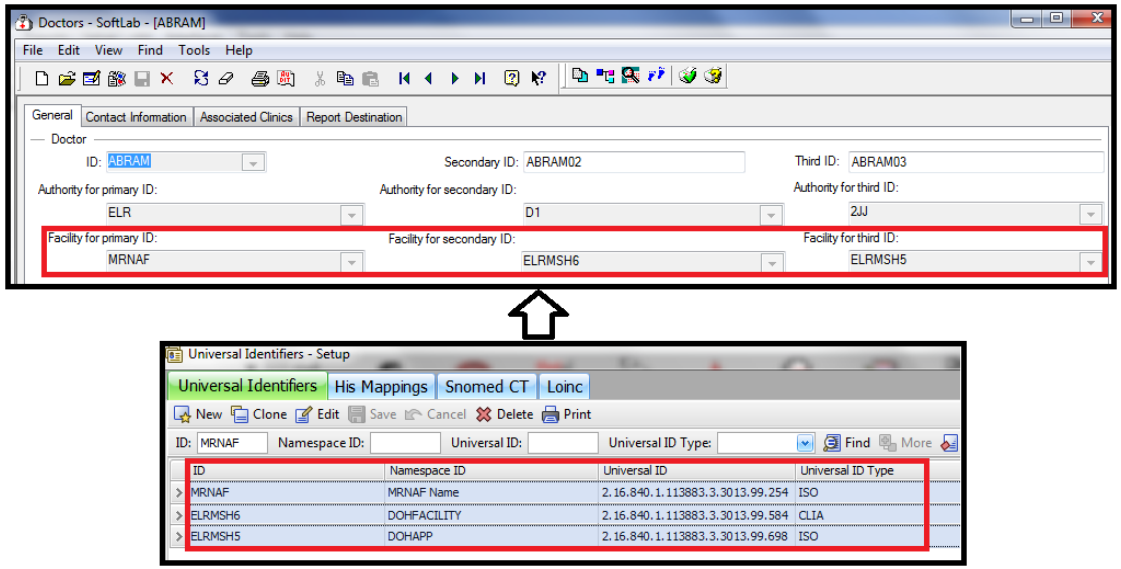


Provider ID Assigning Facility (various HL7 elements)

- **Purpose**
  Outbound, this OID describes the facility that assigned the Doctor ID. It is provided by the client.
  Inbound, this OID describes the authority that assigned the Doctor ID. It is provided by the HIS or EMR vendor.

- **Outbound Setup**
  The client defines AF IDs and OID attributes in the UID table for each authority that assigns Doctor IDs. Different authorities may represent assignment of the primary (SCC) ID, Secondary ID (HIS code), Third ID (HIS code) and may even represent different HIS systems. The client then enters AF ID in Doctor setup for each code by selecting from this list.

- **Inbound Setup**
  None. SCC does not use or store this data with inbound ADT or order transactions. SCC can post this data to Doctor Setup with inbound MFN messages.



Works Cited

Health Level Seven International. *HL7 Implementation Guidance for Unique Object Identifiers*. Release 1. Ed. Boone, Beebe, Dolin, et al. 2011