

# IPWorks ENUM SOAP CUDB Interface

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## INTERWORK DESCRIPTION

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# Contents

|          |                                   |           |
|----------|-----------------------------------|-----------|
| <b>1</b> | <b>Introduction</b>               | <b>1</b>  |
| 1.1      | Prerequisites                     | 1         |
| 1.2      | Related Information               | 1         |
| <b>2</b> | <b>Interface Overview</b>         | <b>3</b>  |
| 2.1      | Interface Role                    | 3         |
| 2.2      | Services                          | 3         |
| 2.3      | Encapsulation and Addressing      | 4         |
| <b>3</b> | <b>Information Model</b>          | <b>5</b>  |
| 3.1      | Notifications Requests            | 6         |
| 3.2      | Notifications Responses           | 7         |
| <b>4</b> | <b>Notification Configuration</b> | <b>9</b>  |
| <b>5</b> | <b>Messages Examples</b>          | <b>11</b> |
|          | <b>Reference List</b>             | <b>15</b> |





# 1 Introduction

This document describes the SOAP interface between the CUDB and the IPWorks ENUM FE using the reference point described in the following document:

- *CUDB SOAP Interface Description*, Reference [4]

## Scope

This document covers the following topics:

- Description of the interaction between SOAP client (CUDB) and IPWorks ENUM FE.
- Message structures provided by the notification interface, as well as the parameters and their data, refer to *CUDB SOAP Interwork Description*, Reference [4].

## Target Groups

This document is intended for personnel who need to understand the logical entity, including interfaces and protocols, of IPWorks.

## 1.1 Prerequisites

Not Applicable.

## 1.2 Related Information

Definition and explanation of acronyms and terminology, trademark information, and typographic conventions can be found in the following documents:

- *Glossary of Terms and Acronyms*
- *Trademark Information*
- *Typographic Conventions*



## 2 Interface Overview

Figure 1 is the overview of the SOAP interface between the CUDB and IPWorks ENUM FE Sync.

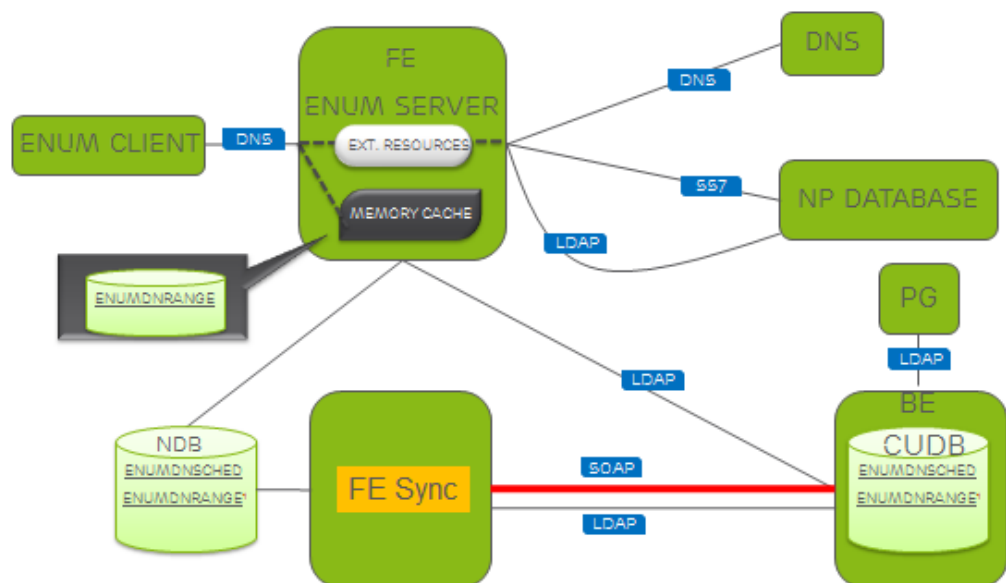


Figure 1 SOAP Interface between CUDB and ENUM FE Sync

### 2.1 Interface Role

This section describes the role of the IPWorks ENUM FE in the SOAP interface between ENUM FE and CUDB.

IPWorks ENUM FE acts as the SOAP server, and CUDB acts as the SOAP client.

### 2.2 Services

The service offered by the CUDB SOAP interface is shown in Table 1.

Table 1 Services

| Service      | Description  |
|--------------|--|
| Notification | Notifies IPWorks ENUM FE when data is changed in CUDB. |



## 2.3 Encapsulation and Addressing

This section describes what lower level protocol the SOAP Interface is using:

- XML
- RPC
- HTTP

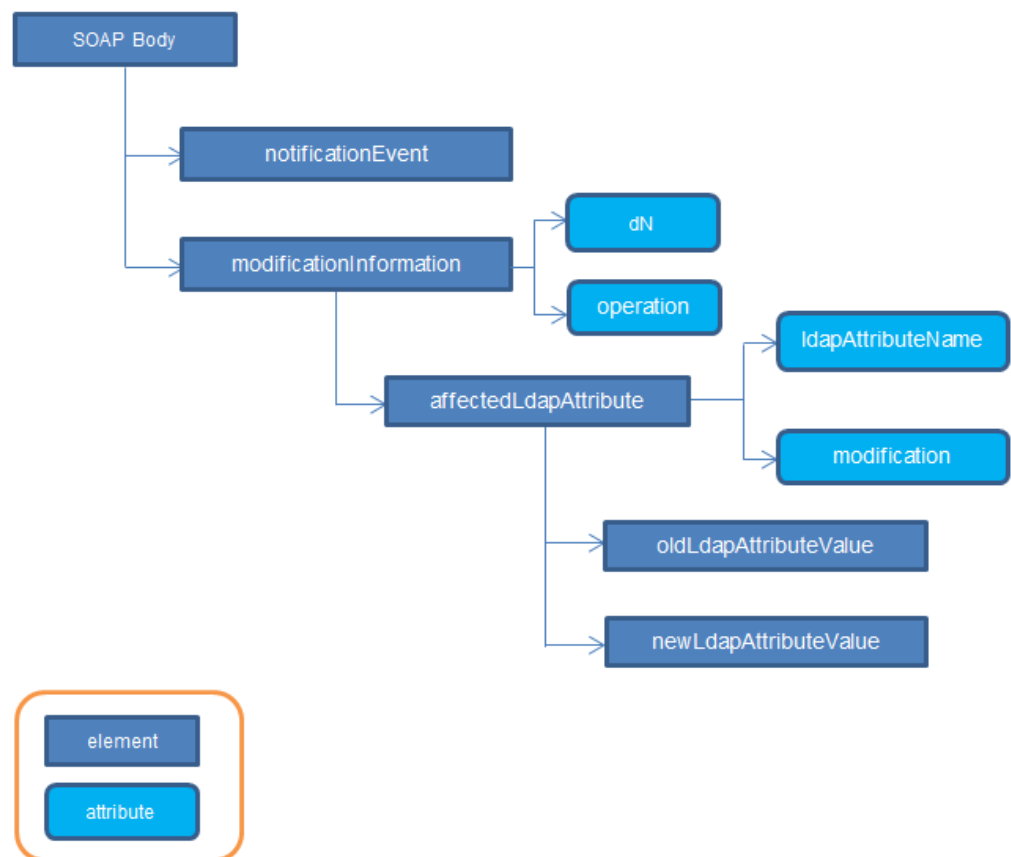




### 3 Information Model

This section describes the notification interface used for IPWorks ENUM.

Figure 2 shows the SOAP body for IPWorks ENUM.



*Figure 2 SOAP Body for IPWorks ENUM*

The notification interface is described by the following two parts:

- Notifications Requests
- Notifications Responses



## 3.1 Notifications Requests

### 3.1.1 notificationEvent Element

This element presents a common value, for example, `IPW_ENUMFE_Event` in this SOAP message.

### 3.1.2 additionalInformation Element (Not Used)

This element is not used in SOAP message towards to IPWorks ENUM FE.

### 3.1.3 modificationInformation Element

The `modificationInformation` XML element is a structure representing the LDAP object instance whose modification triggers the notification event. This XML element is mandatory for `ProvisioningEvent` notifications. It indicates what's the target object and what's the corresponding operation in this SOAP message. Two attributes "dN" and "operation" are included: "dN" represents the target object; "operation" represents the corresponding operation.

Table 2 Attribute Description

| Attribute Name | Description  | Example  |
|----------------|--|--|
| dN             | It stores the provisioned Distinguished Name (DN) of the LDAP data object. | dN="recordid=1,viewid=0,fqdn=1.2.3.4.5.e164.apar.net,ou=EnumDnSched,serv=enum,ou=servCommonData,dc=o,dc=com" |
| operation      | It indicates the type of this operation: "create", "delete" or "modify".   | operation="create"   |

(1) The "Create" operation is only for `EnumDnRange` of IPWorks

#### 3.1.3.1 affectedLdapAttribute Element

This element indicates that which specified `ldapAttributeName` is affected in this SOAP message.



**Table 3** *Attribute Description*

| Attribute Name    | Description   | Example                      |
|-------------------|---|------------------------------|
| ldapAttributeName | It carries one or more of the name of the LDAP attribute: "viewid", "recordid", "NaptrOrder", "NaptrPreference", "NaptrService", "NaptrFlags", "NaptrTxt", or "NaptrTtl".   | ldapAttributeName="NaptrTtl" |
| modification      | <p>This attribute corresponds to "operation", it indicates the type of this operation: "add", "delete" or "replace". This attribute aligns with "operation" in the following way:</p> <ul style="list-style-type: none"> <li>"add" &lt;=&gt; "create"</li> <li>"delete" &lt;=&gt; "delete"</li> <li>"replace" &lt;=&gt; "modify"</li> </ul> | modification="add"           |

#### 3.1.3.1.1 oldLdapAttributeValue Element

This element is used to indicate the old value of affected attribute when "modify" or "delete" data in CUDB modified by PG.

#### 3.1.3.1.2 newLdapAttributeValue Element

This element is used to indicate the new value of affected attribute when "create" or "modify" data in CUDB modified by PG.

## 3.2 Notifications Responses

Typically, notification response is replied for each notification request. Because CUDB does not handle the response specified by IPWorks ENUM, no specified information in response message.





## 4 Notification Configuration

It is possible to configure the data to be monitored to send notifications, as well as the data whose value triggers a sending notification and the data sent into a notification, refer to *CUDB Notifications*, Reference [5].

Following types of SOAP notification message are introduced:

- create/delete/modify EnumDnSched
- create/delete/modify EnumDnRange





## 5 Messages Examples

This section provides examples of the notifications requests for EnumDnSched and EnumDnRange.

```
<ns2:notify xmlns:ns2="http://schemas.ericsson.com/udc/1.0/types/">
  <!--Optional:-->
  <notificationEvent>IPW_ENUMFE_Event</notificationEvent>
  <modificationInformation ns2:dN="recordid=1,viewid=0,fqdn=1.2.3.4.5.e164.apar.net,
    ou=EnumDnSched,serv=enum,ou=servCommonData,dc=o,dc=com" ns2:operation="create">
    <affectedLdapAttribute ns2:ldapAttributeName="recordid">
      <newLdapAttributeValue>1</newLdapAttributeValue>
    </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrTxt">
      <newLdapAttributeValue>/^.*$/sip:911@cs87.iptelco.com/</newLdapAttributeValue>
    </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrTtl">
      <newLdapAttributeValue>24</newLdapAttributeValue>
    </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrOrder">
      <newLdapAttributeValue>100</newLdapAttributeValue>
    </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrPreference">
      <newLdapAttributeValue>10</newLdapAttributeValue>
    </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrService">
      <newLdapAttributeValue>E2U+SIP</newLdapAttributeValue>
    </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrFlags">
      <newLdapAttributeValue>n</newLdapAttributeValue>
    </affectedLdapAttribute>
  </modificationInformation>
</ns2:notify>;
```

### Example 1 SOAP - Create EnumDnSched

```
<ns2:notify xmlns:ns2="http://schemas.ericsson.com/udc/1.0/types/">
  <!--Optional:-->
  <notificationEvent>IPW_ENUMFE_Event</notificationEvent>
  <modificationInformation ns2:dN="recordid=1,viewid=0,fqdn=1.2.3.4.5.e164.apar.net,
    ou=EnumDnSched,serv=enum,ou=servCommonData,dc=o,dc=com" ns2:operation="delete">
    <affectedLdapAttribute ns2:ldapAttributeName="recordid">
      <oldLdapAttributeValue>1</oldLdapAttributeValue>
    </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrTxt">
      <oldLdapAttributeValue>/^.*$/sip:911@cs87.iptelco.com/</oldLdapAttributeValue>
    </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrTtl">
      <oldLdapAttributeValue>24</oldLdapAttributeValue>
    </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrOrder">
      <oldLdapAttributeValue>100</oldLdapAttributeValue>
    </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrPreference">
      <oldLdapAttributeValue>10</oldLdapAttributeValue>
    </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrService">
      <oldLdapAttributeValue>E2U+SIP</oldLdapAttributeValue>
    </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrFlags">
      <oldLdapAttributeValue>n</oldLdapAttributeValue>
    </affectedLdapAttribute>
  </modificationInformation>
</ns2:notify>;
```

### Example 2 SOAP - Delete EnumDnSched



```
<ns2:notify xmlns:ns2="http://schemas.ericsson.com/udc/1.0/types/">
  <!--Optional:-->
  <notificationEvent>IPW_ENUMFE_Event</notificationEvent>
  <modificationInformation ns2:dN="recordid=1,viewid=0,fqdn=1.2.3.4.5.e164.apar.net,
ou=EnumDnSched,serv=enum,ou=servCommonData,dc=o,dc=com" ns2:operation="modify">
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrTtl">
      <oldLdapAttributeValue>3600</oldLdapAttributeValue>
      <newLdapAttributeValue>1800</newLdapAttributeValue>
    </affectedLdapAttribute>
  </modificationInformation>
</ns2:notify>;
```

### Example 3 SOAP - Modify EnumDnSched

```
<ns2:notify xmlns:ns2="http://schemas.ericsson.com/udc/1.0/types/">
  <!--Optional:-->
  <notificationEvent>IPW_ENUMFE_Event</notificationEvent>
  <modificationInformation ns2:dN="recordid=1,viewid=0,fqdn=*.5.6.7.8.9.0.3.3.1.e164.apar.net,
ou=EnumDnRange,serv=enum,ou=servCommonData,dc=o,dc=com" ns2:operation="create">
    <affectedLdapAttribute ns2:ldapAttributeName="recordid">
      <newLdapAttributeValue>1</newLdapAttributeValue>
    </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrTxt">
      <newLdapAttributeValue>^.*$/sip:911@cs87.iptelco.com/</newLdapAttributeValue>
    </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrTtl">
      <newLdapAttributeValue>24</newLdapAttributeValue>
    </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrOrder">
      <newLdapAttributeValue>100</newLdapAttributeValue>
    </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrPreference">
      <newLdapAttributeValue>10</newLdapAttributeValue>
    </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrService">
      <newLdapAttributeValue>E2U+SIP</newLdapAttributeValue>
    </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrFlags">
      <newLdapAttributeValue>n</newLdapAttributeValue>
    </affectedLdapAttribute>
  </modificationInformation>
</ns2:notify>;
```

### Example 4 SOAP - Create EnumDnRange





```
<ns2:notify xmlns:ns2="http://schemas.ericsson.com/udc/1.0/types/">
  <!--Optional:-->
  <notificationEvent>IPW_ENUMFE_Event</notificationEvent>
  <modificationInformation ns2:dN="recordid=1,viewid=0,fqdn=*.5.6.7.8.9.0.3.3.1.e164.apar.net
    ou=EnumDnRange,serv=enum,ou=servCommonData,dc=o,dc=com" ns2:operation="delete">
    <affectedLdapAttribute ns2:ldapAttributeName="recordid">
      <oldLdapAttributeValue>1</oldLdapAttributeValue>
      </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrTxt">
      <oldLdapAttributeValue>/^.*$/sip:911@cs87.iptelco.com/</oldLdapAttributeValue>
      </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrTtl">
      <oldLdapAttributeValue>24</oldLdapAttributeValue>
      </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrOrder">
      <oldLdapAttributeValue>100</oldLdapAttributeValue>
      </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrPreference">
      <oldLdapAttributeValue>10</oldLdapAttributeValue>
      </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrService">
      <oldLdapAttributeValue>E2U+SIP</oldLdapAttributeValue>
      </affectedLdapAttribute>
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrFlags">
      <oldLdapAttributeValue>n</oldLdapAttributeValue>
      </affectedLdapAttribute>
    </modificationInformation>
  </ns2:notify>;
```

### Example 5 SOAP - Delete EnumDnRange

```
<ns2:notify xmlns:ns2="http://schemas.ericsson.com/udc/1.0/types/">
  <!--Optional:-->
  <notificationEvent>IPW_ENUMFE_Event</notificationEvent>
  <modificationInformation ns2:dN="recordid=1,viewid=0,fqdn=*.5.6.7.8.9.0.3.3.1.e164.apar.net
    ou=EnumDnRange,serv=enum,ou=servCommonData,dc=o,dc=com" ns2:operation="modify">
    <affectedLdapAttribute ns2:ldapAttributeName="NaptrTtl" ns2:modification="replace">
      <oldLdapAttributeValue>3600</oldLdapAttributeValue>
      <newLdapAttributeValue>1800</newLdapAttributeValue>
    </affectedLdapAttribute>
    </modificationInformation>
  </ns2:notify>;
```

### Example 6 SOAP - Modify EnumDnRange

**Note:** No specified information in response message.

```
<?xml version='1.0' encoding='UTF-8'?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
    <soapenv:Body>
      <ns1:notifyResponse xmlns:ns1="http://schemas.ericsson.com/udc/1.0/type
    </soapenv:Body>
  </soapenv:Envelope>
```

### Example 7 SOAP (EnumDnRange Response)





## Reference List

- [1] *Glossary of Terms and Acronyms*
- [2] *Trademark Information*
- [3] *Typographic Conventions*
- [4] *CUIDB SOAP Interface Description*, 3/15519-HDA 104 03/6 Uen C
- [5] *CUIDB Notifications*, 9/15534-HDA10403/7 Uen C