

IPWorks/ENUM Provisioning over CAI3G

Ericsson Dynamic Activation 1

INTERFACE DESCRIPTION

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Contents

1	Introduction	1
1.1	Purpose and Scope	1
1.2	Target Group	1
1.3	Typographic Conventions	1
1.4	Prerequisites	2
1.5	Namespaces	2
1.6	Legends	2
1.7	Operations	3
1.8	Web Service Interface	3
1.9	MOType	3
1.10	MOld	4
2	Create DNS Subscription	5
2.1	Request Data	5
2.2	Examples	10
3	Get DNS Subscription	13
3.1	Request Data	13
3.2	Response Data	15
3.3	Examples	20
4	Set DNS Subscription	23
4.1	Request Data	23
4.2	Examples	28
5	Delete DNS Subscription	31
5.1	Request Data	31
5.2	Examples	32
6	Set DNS Domain	35
6.1	Request Data	35
6.2	Examples	36
7	Faults or Errors	39
7.1	Dynamic Activation Internal Errors	39



Reference List

41



1 Introduction

This document describes the interface exposed by Ericsson™ Dynamic Activation (EDA) for provisioning of IPWorks/Telephone Number Mapping (ENUM). The interface exposes a number of Customers Service Orders (CSOs) that enables management of ENUM data in IPWorks.

The exposed interface can be used by a Customer Administration System (CAS) or any other provisioning system.

1.1 Purpose and Scope

This document describes the supported Customers Service Orders (CSOs) in the CAI3G interface which is used for provisioning of ENUM data in IPWorks.

CAI3G is an Ericsson propriety interface which enables provisioning of user and subscriber data in telecommunication and IT networks. It is a web service interface based on Simple Object Access Protocol (SOAP) 1.1. This document is not a tutorial of CAI3G, the document must be read together with the Generic CAI3G specification, which is described in *Generic CAI3G Interface 1.2*, Reference [2]

1.2 Target Group

The target groups for this document are as follows:

- System Integrator

For more information about other target groups, see *Library Overview*, Reference [3].

1.3 Typographic Conventions

Typographic conventions are described in *Library Overview*, Reference [3].

In addition, this document uses the following to indicate operations:

C	Create
S	Set
G	Get
D	Delete

1.4 Prerequisites

To use this document fully, users must meet the following prerequisites:

- Basic knowledge about the Dynamic Activation product
- Knowledge about *Generic CAI3G Interface 1.2*, Reference [2].

1.5 Namespaces

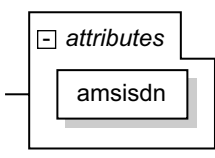


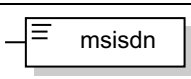

The following namespaces are referred to in this document:

- CAI3G 1.2 Namespace:
`http://schemas.ericsson.com/cai3g1.2/`
- DNS Subscription Namespace:
`DNSSubscription@http://schemas.ericsson.com/ema/UserProvisioning/IPWorks/5.0/`
- DNS Domain Namespace:
`DNSDomain@http://schemas.ericsson.com/ema/UserProvisioning/IPWorks/5.0/`

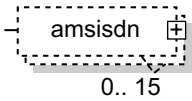
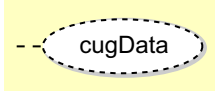
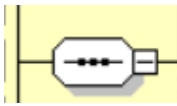
1.6 Legends

The following table shows the legends used in XML schema figures in this specification.

Table 1 Legends Used in XML Schema Figures in This Specification

Legend	Description
	XML attribute
	Optional XML element
	Choice icon
	Mandatory XML element
	Structured element



Legend	Description
	<p>Subobject element</p> <p>The occurrence of this element is 0–15.</p>
	<p>User-defined type</p> <p>This is not a standard XML schema type. It is introduced to describe MO schema structure more clearly. In practice, this type is to be replaced by the corresponding elements.</p>
	<p>Sequence icon</p> <p>A list of elements, the sequence order must be followed.</p>

1.7 Operations

See the following table for the operations, or Managed Objects (MOs), and valid operations covered in this document.

Table 2 IPWorks ENUM Provisioning CSOs

MO	Operations			
	Create	Get	Set	Delete
DNSSubscription (Layered and monolithic)	x	x	x	x
DNSDomain (Monolithic only)			x	

1.8 Web Service Interface

The Web Services Definition Language (WSDL) and XML Schema Definition Language (XSD) files that describe the provisioning interface can be found in `/home/dveinstaller/da/`. It is also possible to download the files and view or store them in an appropriate area by following below instruction:

1. Save the zip file, [Multi_Activation_WSDL_and_XSD_files.zip](#), to a local folder.
2. Unpack the zip file.

1.9 MOType

MOType is a plain text string based on the type `xs:string`. An MO type consists of two parts. One is the namespace of the MO, and the other is the MO name string that is always starting with an alphabetical character in either upper or lower case, followed by zero or more alphabetical characters, digits or underscores.

Those two parts are connected with symbol @. The syntax of the MOType string is MO_Name@MO_Namespace. The name string of an MO type must follow the regular expression: [A-Za-z] [A-Za-z0-9] *

The MO name together with the MO namespace must be globally unique.

1.10 MOId

MOId is an Extensible Markup Language (XML) fragment containing the MOId parameter-value pairs that are used to identify an MO instance in the interface data model. CAI3G 1.2 standard supports compound MO identifiers or multiple MO identifier. The following is an example of an MOId:

```
<MOId>
  <msisdn>46455395000</msisdn>
  <imsi>46234563545000</imsi>
</MOId>
```

Example 1 Example of MOId

The MOId is defined as a sequence of `xs:any` element in CAI3G schema file. It is the developers responsibility to define the real schema for this parameter.

The MOId is also the key attributes that must be defined in the top-level element, `CreateMODefinition` or `SetMODefinition`, within `MOAttributes` parameter.

Each implementation of CAI3G interface is to define own logic relationship of MOId. It is also the CAI3GAgents responsibility to interpret this parameter correctly by either the hard-coded logic or the dynamic parsing of the schema.

2 Create DNS Subscription

This section covers the `CreateDNSSubscription` command.

The `CreateDNSSubscription` creates a subscriber in IPWorks.

MOType

`DNSSubscription@http://schemas.ericsson.com/ema/UserProvisioning/IPWorks/5.0/`

2.1 Request Data

2.1.1 Parameters

MOLD

Table 3 Create DNS Subscription MOLD

Parameter	Type	Occurrence	Description
<code>msisdn</code> ⁽¹⁾	String Pattern value="tel:\+?\d{5,15}(\.\!)*?"	Mandatory	The <code>msisdn</code> value to be provisioned into the IPWorks server. <code>msisdn</code> is a legacy identifier for IPWorks provisioning; it is kept for backward compatibility purpose and supports the telephone number with up to 15 digits. For example: tel:12345678900
<code>e164</code> ⁽¹⁾	String Pattern value="\+?\d{5,22}(\.\!)*? or [0-9]{5,10}[-][0-9]{5,10}(\.\!)*?"	Mandatory	The <code>e164</code> value to be provisioned into the IPWorks server. <code>e164</code> is an enhanced identifier for IPWorks provisioning; it is used for the <code>e164</code> number with up to 22 digits. For example: +1234567 <code>e164</code> can also identify a range of records. For example, 123456-123478 When defining a range in <code>e164</code> , consider the following issues: <ul style="list-style-type: none"> • The starting and ending numbers must be of the same length. • The starting number is lower then the ending number. • The request is not allowed to be empty. • The request can have either <code>records</code> or <code>rangeRecords</code>, but not both.

(1) MOLD can be either `msisdn` or `e164`.



MOAttributes

The parameters that are used in the operation are shown in Figure 1.

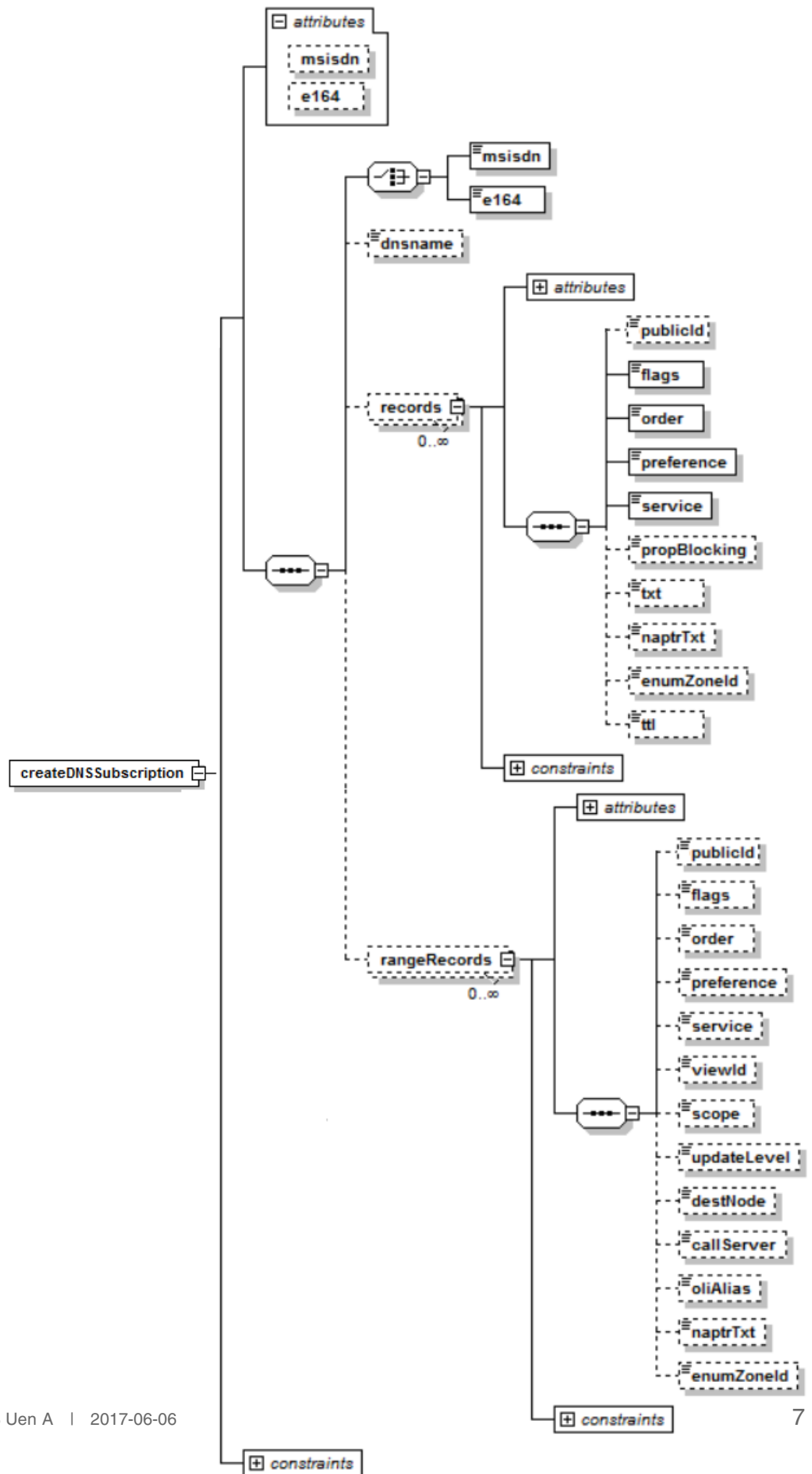


Figure 1 Parameters in Create DNS Subscription



The following table covers the parameters that can be used in a CreateDNSSubscription request.

Table 4 Create DNS Subscription Parameters

Parameter	Type	Occurrence	Description
msisdn	String Pattern value="tel:\+?\d{5,15}(\.\!*\!)?"	Mandatory	The <code>msisdn</code> value to be provisioned into the IPWorks server. <code>msisdn</code> is a legacy identifier for IPWorks provisioning; it is kept for backward compatibility purpose and supports the telephone number with up to 15 digits. For example: tel:12345678900
e164	String Pattern value="\+?\d{5, 22}(\.\!*\!)? or [0-9]{5, 10}[-][0-9]{5, 10}(\.\!*\!)?"	Mandatory	The <code>e164</code> value to be provisioned into the IPWorks server. <code>e164</code> is an enhanced identifier for IPWorks provisioning; it is used for the <code>e164</code> number with up to 22 digits. For example: +1234567 <code>e164</code> can also identify a range of records. For example, 123456-123478 When defining a range in <code>e164</code> , consider the following issues: <ul style="list-style-type: none"> • The starting and ending numbers must be of the same length. • The starting number is lower then the ending number. • The request is not allowed to be empty. • The request can have either <code>records</code> or <code>rangeRecords</code>, but not both.
dnsname ⁽¹⁾	Case Sensitive String	Optional (0-1)	The parameter <code>dnsname</code> is used for directly routing to IPWorks. Its value equals to the IPWorks NE name configured in Dynamic Activation. The parameter <code>dnsname</code> is only applicable for monolithic IPWorks/ENUM open interface.
records	Sub-MO	Optional (0-n)	
publicId	Case Sensitive String Pattern value="sip:.{1,256}(\.\!*\!)?"	Optional (0-1)	The <code>publicId</code> is used to generate the <code>naptrTxt</code> . If <code>naptrTxt</code> is not defined for a record in request, <code>!^.*\$!publicId!</code> are offered as the default value for <code>naptrTxt</code> . For example: sip:user1@example.com
flags	Enumerated value (n, nu, r)	Mandatory	A one or two characters string to represent the flags. Can only be one of n, nu, or r.
order	UnsignedInt	Mandatory	An unsigned integer to represent the order type.
preference	UnsignedInt	Mandatory	An unsigned integer to represent the preference type.
service	String Length 1–32	Mandatory	A string to identify the service.



Table 4 Create DNS Subscription Parameters

Parameter	Type	Occurrence	Description
propBlocking	Unsigned Integer 0–100	Optional (0-1)	A number from 0 through 100 indicating the rate at which calls to this call server are proportionally blocked. The parameter <code>propBlocking</code> is only applicable for monolithic IPworks/ENUM open interface.
txt	String	Optional (0-1)	A string to identify the <code>txt</code> in <code>enumsched</code> . The parameter <code>txt</code> is only applicable for monolithic IPworks/ENUM open interface.
naptrTxt ⁽²⁾	String	Optional (0-1)	A string to identify <code>naptrTxt</code> . This parameter depends on the value of the <code>flags</code> parameter: <ul style="list-style-type: none">• If the value of <code>flags</code> is <code>n</code> or <code>nu</code>, this field must be a regular expression. For example, <code>/^.*\$/sip:86005000040828-1@ipworks.ims.net/</code>.• If the value of <code>flags</code> is <code>r</code>, this field must be a replacement string and this string only can be a domain name. For example, <code>e164.arpa</code>.
enumZoneId	Unsigned Integer Length 0–65535	Optional (0-1)	An unsigned integer to represent a zone identity. The parameter <code>enumZoneId</code> is only applicable for layered IPWorks/ENUM open interface, and is created on subscription level for all records.
ttl	String	Optional (0-1)	A string to identify <code>ttl</code> . The parameter <code>ttl</code> is only applicable for layered IPWorks/ENUM open interface.
rangeRecords	Sub-MO	Optional (0-n)	
publicId	Case Sensitive String Pattern: value="sip:.{1,256}(!*!)*"	Optional (0-1)	The public ID to be provisioned in the IPWorks. For example: <code>sip:user1@example.com</code>
flags ⁽³⁾	Enumerated value: (<code>n</code> , <code>nu</code> , <code>r</code>)	Optional (0-1)	One or two-character string to represent <code>flags</code> .
order ⁽³⁾	Unsigned Integer Length 0–65535	Optional (0-1)	An unsigned integer to represent the order type.
preference ⁽³⁾	Unsigned Integer	Optional (0-1)	An unsigned integer to represent the preference type.
service ⁽³⁾	String, length 1–32	Optional (0-1)	A string to identify the <code>service</code> .
viewId	String Pattern value=" [0-1]{0,1}[0-9]"	Optional (0-1)	A numeric string from 0 to 19 to identify <code>viewId</code> . The parameter <code>viewId</code> is mandatory for layered IPWorks/ENUM open interface, and not applicable for monolithic IPWorks/ENUM.
scope	String	Optional (0-1)	A string with the format of " <code>n~m</code> " to identify <code>scope</code> . The parameter <code>scope</code> is only applicable for monolithic IPworks/ENUM open interface.

**Table 4 Create DNS Subscription Parameters**

Parameter	Type	Occurrence	Description
updateLevel	String	Optional (0-1)	A string to identify updateLevel. The parameter updateLevel is only applicable for monolithic IPworks/ENUM open interface.
destNode ⁽³⁾	String	Optional (0-1)	A string to identify the name of destNode. The parameter destNode is only applicable for monolithic IPworks/ENUM open interface.
callServer ⁽³⁾	String	Optional (0-1)	A string to identify the name of callServer. The parameter callServer is only applicable for monolithic IPworks/ENUM open interface.
oliAlias ⁽³⁾	String	Optional (0-1)	A string to identify oliAlias. The parameter oliAlias is only applicable for monolithic IPworks/ENUM open interface.
naptrTxt ⁽²⁾⁽³⁾	String	Optional (0-1)	A string to identify naptrTxt.
enumZoneId	Unsigned Integer Length 0–65535	Optional (0-1)	An unsigned integer to represent a zone identity. The parameter enumZoneId is only applicable for layered IPWorks/ENUM open interface, and is created on subscription level for all range records.

(1) If *dnsname* is present, the Dynamic Activation system directly uses it to route to IPWorks. *msisdn* or *e164* will not be used for routing purpose. For more information, refer to *Configuration Manual for Resource Activation, Reference* [4].

(2) The symbol “/” is used as the escape character. “//” are used as the normal symbol “/”.

(3) *destNode/callServer/oliAlias/* cannot co-exist with *flags/orders/preference/service/naptrTxt*.

2.2 Examples

Request Example

This section gives an example of a `CreateDNSSubscription` request message, as shown in Example 2.



```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:cai3="http://schemas.ericsson.com/cai3g1.2/"
  xmlns:ns="http://schemas.ericsson.com/ema/UserProvisioning/IPWorks/5.0/">
  <soapenv:Header>
    <cai3:SequenceId>2263331325403655448</cai3:SequenceId>
    <cai3:TransactionId>?</cai3:TransactionId>
    <cai3:SessionId>c73452f35964467babde43d771226ef7</cai3:SessionId>
  </soapenv:Header>
  <soapenv:Body>
    <cai3:Create>
      <cai3:MOType>DNSSubscription@http://schemas.ericsson.com/ema/UserProvisioning/IPWorks/5.0/>
      <cai3:MOId>
        <ns:msisdn>tel:12345678901</ns:msisdn>
      </cai3:MOId>
      <cai3:MOAttributes>
        <ns:createDNSSubscription msisdn="tel:12345678901">
          <ns:msisdn>tel:12345678901</ns:msisdn>
          <ns:records publicId="sip:user1@example.com">
            <ns:publicId>sip:user1@example.com</ns:publicId>
            <ns:flags>n</ns:flags>
            <ns:order>1</ns:order>
            <ns:preference>100</ns:preference>
            <ns:service>E2U+sipl</ns:service>
            <ns:propBlocking>100</ns:propBlocking>
            <ns:txt>hello</ns:txt>
            <ns:naptrTxt>!^.*$!sip:46150348@example.com!</ns:naptrTxt>
          </ns:records>
        </ns:createDNSSubscription>
      </cai3:MOAttributes>
    </cai3:Create>
  </soapenv:Body>
</soapenv:Envelope>
```

Example 2 Create DNS Subscription Request Message

Response Example

This section gives an example of a CreateDNSSubscription response message, as shown in Example 3.

```
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
  <S:Header>
    <SessionId xmlns="http://schemas.ericsson.com/cai3g1.2/">007f0100007f01000000000014297
    <TransactionId xmlns="http://schemas.ericsson.com/cai3g1.2/">?</TransactionId>
    <SequenceId xmlns="http://schemas.ericsson.com/cai3g1.2/">2263331325403655448</SequenceId>
  </S:Header>
  <S:Body>
    <CreateResponse xmlns="http://schemas.ericsson.com/cai3g1.2/">
      <MOId>
        <msisdn xmlns="http://schemas.ericsson.com/ema/UserProvisioning/IPWorks/5.0/">tel:12345678901
      </msisdn>
      </MOId>
    </CreateResponse>
  </S:Body>
</S:Envelope>
```

Example 3 Create DNS Subscription Response Message





3 Get DNS Subscription

This section covers the `GetDNSSubscription` command.

The `GetDNSSubscription` retrieves a subscriber in IPWorks.

MOType

`DNSSubscription@http://schemas.ericsson.com/ema/UserProvisioning/IPWorks/5.0/`

3.1 Request Data

3.1.1 Parameters

MOId

The following table covers the parameters that can be used in a `GetDNSSubscription` request.

Table 5 Get DNS Subscription Parameters

Parameter	Type	Occurrence	Description
<code>msisdn</code> ⁽¹⁾	String Pattern value="tel:\+?\d{5,15}(\.\.*)?"	Mandatory	The <code>msisdn</code> value to be provisioned into the IPWorks server. <code>msisdn</code> is a legacy identifier for IPWorks provisioning; it is kept for backward compatibility purpose and supports the telephone number with up to 15 digits. For example: tel:12345678900
<code>e164</code> ⁽¹⁾	String Pattern value="\+?\d{5,22}(\.\.*)? or [0-9]{5,10}[-][0-9]{5,10}(\.\.*)?"	Mandatory	The <code>e164</code> value to be provisioned into the IPWorks server. <code>e164</code> is an enhanced identifier for IPWorks provisioning; it is used for the <code>e164</code> number with up to 22 digits. For example: +1234567 <code>e164</code> can also identify a range of records. For example, 123456-123478 When defining a range in <code>e164</code> , consider the following issues: <ul style="list-style-type: none"> • The starting and ending numbers must be of the same length. • The starting number is lower than the ending number.

(1) MOId can be either `msisdn` or `e164`.

MOAttributes

The parameters that are used in the operation are shown in Figure 2

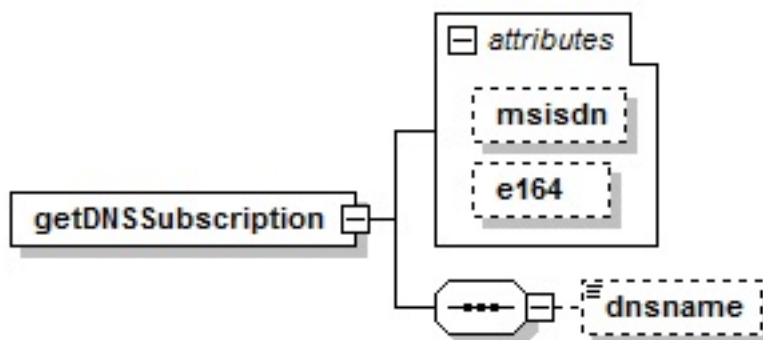


Figure 2 Parameters in Get DNS Subscription



Table 6 *Get DNS Subscription Parameters*

Parameter	Type	Occurrence	Description
dnsname ⁽¹⁾	Case Sensitive String	Optional (0-1)	<p>The parameter <code>dnsname</code> is used for directly routing to IPWorks. Its value equals to the IPWorks NE name configured in Dynamic Activation.</p> <p>The parameter <code>dnsname</code> is only applicable for monolithic IPWorks/ENUM open interface.</p>

*(1) If `dnsname` is present, the Dynamic Activation system directly uses it to route to IPWorks. `msisdn` or `e164` will not be used for routing purpose. For more information, refer to *Configuration Manual for Resource Activation*, Reference [4].*

3.2 Response Data

3.2.1 Parameters

MOld

**Table 7** *Get Response DNS Subscription MOld*

Parameter	Type	Occurrence	Description
<code>msisdn</code> ⁽¹⁾	String Pattern value="tel:\+?\d{5,15}(\.\!)*?"	Mandatory	<p>The <code>msisdn</code> value to be provisioned into the IPWorks server.</p> <p><code>msisdn</code> is a legacy identifier for IPWorks provisioning; it is kept for backward compatibility purpose and supports the telephone number with up to 15 digits.</p> <p>For example: tel:12345678900</p>
<code>e164</code> ⁽¹⁾	String Pattern value="\+?\d{5,22}(\.\!)*? or [0-9]{5,10}[-][0-9]{5,10}(\.\!)*?"	Mandatory	<p>The <code>e164</code> value to be provisioned into the IPWorks server.</p> <p><code>e164</code> is an enhanced identifier for IPWorks provisioning; it is used for the <code>e164</code> number with up to 22 digits.</p> <p>For example: +1234567</p> <p><code>e164</code> can also identify a range of records.</p> <p>For example, 123456-123478</p> <p>When defining a range in <code>e164</code>, consider the following issues:</p> <ul style="list-style-type: none">• The starting and ending numbers must be of the same length.• The starting number is lower than the ending number.

(1) *MOld* can be either `msisdn` or `e164`.

MOAttributes

The parameters that are used in the operation are shown in Figure 3.

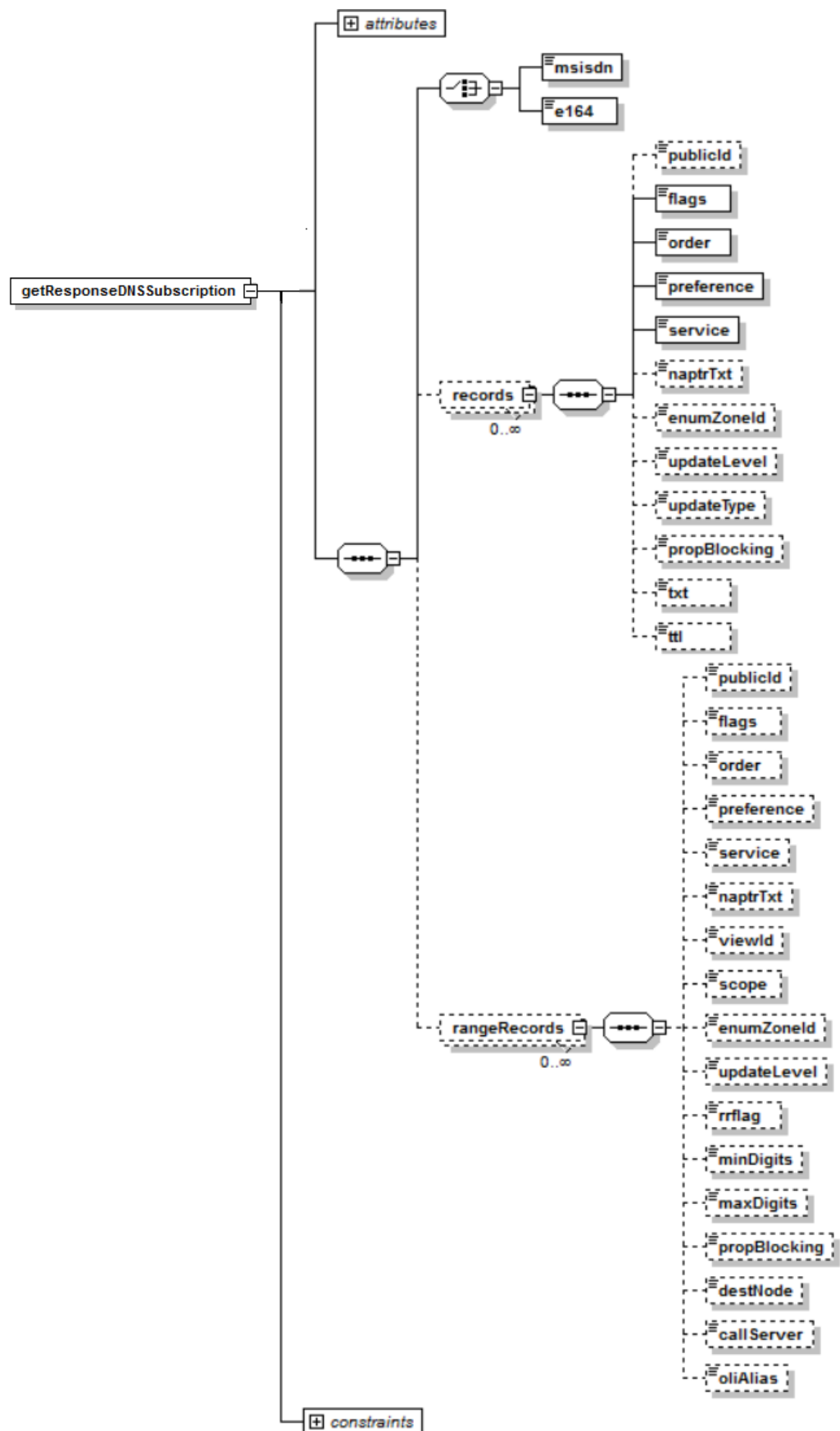


Figure 3 Parameters in Get Response DNS Subscription



The following table covers the parameters that can be received in a GetDNSSubscription response.

Table 8 Get Response DNS Subscription Parameters

Parameter	Type	Occurrence	Description
msisdn	String Pattern value="tel:\+?\d{5,15}(\.\!)*?"	Mandatory	The <code>msisdn</code> value to be provisioned into the IPWorks server. <code>msisdn</code> is a legacy identifier for IPWorks provisioning; it is kept for backward compatibility purpose and supports the telephone number with up to 15 digits. For example: tel:12345678900
e164	String Pattern value="\+?\d{5,22}(\.\!)*? or [0-9]{5,10}[-][0-9]{5,10}(\.\!)*?"	Mandatory	The <code>e164</code> value to be provisioned into the IPWorks server. <code>e164</code> is an enhanced identifier for IPWorks provisioning; it is used for the <code>e164</code> number with up to 22 digits. For example: +1234567 <code>e164</code> can also identify a range of records. For example, 123456-123478 When defining a range in <code>e164</code> , consider the following issues: <ul style="list-style-type: none"> • The starting and ending numbers must be of the same length. • The starting number is lower then the ending number.
records	Sub-MO	Optional (0-n)	
publicId	Case Sensitive String Pattern value="sip:.{1,256}(\.\!)*?"	Optional (0-1)	A string to identify <code>publicId</code> . The parameter <code>publicId</code> is applicable only for monolithic IPworks/ENUM open interface.
flags	Enumerated value (n, nu, r)	Mandatory	A one or two characters string to represent the flags. Can only be one of n, nu, or r.
order	UnsignedInt	Mandatory	An unsigned integer to represent the order type.
preference	UnsignedInt	Mandatory	An unsigned integer to represent the preference type.
service	String Length 1–32	Mandatory	A string to identify the service.
naptrTxt ⁽¹⁾	String	Optional (0-1)	A string to identify <code>naptrTxt</code> . This parameter depends on the value of the <code>flags</code> parameter: <ul style="list-style-type: none"> • If the value of <code>flags</code> is n or nu, this field must be a regular expression. For example, /[^].*\$/s ip:86005000040828-1@ipworks.ims.net/ . • If the value of <code>flags</code> is r, this field must be a replacement string and this string only can be a domain name. For example, e164.arpa.
enumZoneId	Unsigned Integer Length 0–65535	Optional (0-1)	An unsigned integer to represent a zone identity.



Table 8 Get Response DNS Subscription Parameters

Parameter	Type	Occurrence	Description
updateLevel	String	Optional (0-1)	A string to identify updateLevel. The parameter updateLevel is only applicable for monolithic IPworks/ENUM open interface.
updateType	String	Optional (0-1)	A string to identify updateType. The parameter updateType is applicable only for monolithic IPworks/ENUM open interface.
propBlocking	Unsigned Integer 0–100	Optional (0-1)	A number from 0 through 100 indicating the rate at which calls to this call server are proportionally blocked. The parameter propBlocking is only applicable for monolithic IPworks/ENUM open interface.
txt	String	Optional (0-1)	A string to identify the Txt in enumsched. The parameter txt is only applicable for monolithic IPworks/ENUM open interface.
ttd	String	Optional (0-1)	A string to identify ttd. The parameter ttd is only applicable for layered IPWorks/ENUM open interface.
rangeRecords	Sub-MO	Optional (0-n)	-
publicId	Case Sensitive String Pattern: value="sip:{1,256}(\.*)?"	Optional (0-1)	A string to identify publicId. The parameter publicId is applicable only for monolithic IPworks/ENUM open interface.
flags	Enumerated value: (n, nu, r)	Optional (0-1)	One or two-character string to represent flags.
order	Unsigned Integer Length 0–65535	Optional (0-1)	An unsigned integer to represent the order type.
preference	Unsigned Integer	Optional (0-1)	An unsigned integer to represent the preference type.
service	String, length 1–32	Optional (0-1)	A string to identify the service.
naptrTxt ⁽¹⁾	String	Optional (0-1)	A string to identify naptrTxt.
viewId	String	Optional (0-1)	A string to identify viewId.
scope	String	Optional (0-1)	A string with the format of "n~m" to identify scope. The parameter scope is only applicable for monolithic IPworks/ENUM open interface.
enumZoneId	Unsigned Integer Length 0–65535	Optional (0-1)	An unsigned integer to represent a zone identity.
updateLevel	String	Optional (0-1)	A string to identify updateLevel. The parameter updateLevel is only applicable for monolithic IPworks/ENUM open interface.
rrflag	String	Optional (0-1)	A string to identify rrflag. The parameter rrflag is only applicable for monolithic IPworks/ENUM open interface.

**Table 8** *Get Response DNS Subscription Parameters*

Parameter	Type	Occurrence	Description
minDigits	String	Optional (0-1)	A string to identify minDigits. The parameter minDigits is only applicable for monolithic IPworks/ENUM open interface.
maxDigits	String	Optional (0-1)	A string to identify maxDigits. The parameter maxDigits is only applicable for monolithic IPworks/ENUM open interface.
propBlocking	Unsigned Integer 0–100	Optional (0-1)	A number from 0 through 100 indicating the rate at which calls to this call server are proportionally blocked. The parameter propBlocking is only applicable for monolithic IPworks/ENUM open interface.
destNode	String	Optional (0-1)	A string to identify the name of destNode. The parameter destNode is only applicable for monolithic IPworks/ENUM open interface.
callServer	String	Optional (0-1)	A string to identify the name of callServer. The parameter callServer is only applicable for monolithic IPworks/ENUM open interface.
oliAlias	String	Optional (0-1)	A string to identify oliAlias. The parameter oliAlias is only applicable for monolithic IPworks/ENUM open interface.

(1) The symbol “/” is used as the escape character. “//” are used as the normal symbol “/”.

3.3 Examples

Request Example

This section gives an example of a GetDNSSubscription request message, as shown in Example 4.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:cai3="http://schemas.ericsson.com/cai3gl.2/"
xmlns:ns="http://schemas.ericsson.com/ema/UserProvisioning/IPWorks/5.0/">
  <soapenv:Header>
    <cai3:SequenceId>2263331325403655448</cai3:SequenceId>
    <cai3:TransactionId?</cai3:TransactionId>
    <cai3:SessionId>007f0100007f0100000000001429776406068</cai3:SessionId>
  </soapenv:Header>
  <soapenv:Body>
    <cai3:Get>
      <cai3:MOType>DNSSubscription@http://schemas.ericsson.com/ema/UserProvisioning/IPWorks/
      <cai3:MOId>
        <ns:msisdn>tel:12345678900</ns:msisdn>
      </cai3:MOId>
      <cai3:MOAttributes>
        <ns:getDNSSubscription msisdn="tel:12345678900">
          </ns:getDNSSubscription>
        </cai3:MOAttributes>
      </cai3:Get>
    </soapenv:Body>
  </soapenv:Envelope>
```

Example 4 Get DNS Subscription Request Message



Response Example

This section gives an example of a GetDNSSubscription response message, as shown in Example 5.

```
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
  <S:Header>
    <SessionId xmlns="http://schemas.ericsson.com/cai3g1.2/">007f0100007f010000000000014297</SessionId>
    <TransactionId xmlns="http://schemas.ericsson.com/cai3g1.2/">?</TransactionId>
    <SequenceId xmlns="http://schemas.ericsson.com/cai3g1.2/">2263331325403655448</SequenceId>
  </S:Header>
  <S:Body>
    <GetResponse xmlns="http://schemas.ericsson.com/cai3g1.2/">
      <MOAttributes>
        <getResponseDNSSubscription msisdn="tel:12345678900"
          xmlns="http://schemas.ericsson.com/ema/UserProvisioning/IPWorks/5.0/"
          xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
          <msisdn>tel:12345678900</msisdn>
          <records>
            <publicId>sip:user1@example.com</publicId>
            <flags>n</flags>
            <order>1</order>
            <preference>100</preference>
            <service>E2U+sip1</service>
            <naptrTxt>!^.*$!sip:user1@example.com!</naptrTxt>
            <enumZoneId>1</enumZoneId>
            <propBlocking>0</propBlocking>
          </records>
        </getResponseDNSSubscription>
      </MOAttributes>
    </GetResponse>
  </S:Body>
</S:Envelope>
```

Example 5 Get DNS Subscription Response Message





4 Set DNS Subscription

This section covers the `SetDNSSubscription` command.

The `SetDNSSubscription` modifies a subscriber in IPWorks.

MOType

`DNSSubscription@http://schemas.ericsson.com/ema/UserProvisioning/IPWorks/5.0/`

4.1 Request Data

4.1.1 Parameters

MOId

**Table 9 Set DNS Subscription MOld**

Parameter	Type	Occurrence	Description
<code>msisdn</code> ⁽¹⁾	String Pattern value="tel:\+? d{5,15}(\.\!)*?"	Mandatory	The <code>msisdn</code> value to be provisioned into the IPWorks server <code>msisdn</code> is a legacy identifier for IPWorks provisioning; it is kept for backward compatibility purpose and supports the telephone number with up to 15 digits. For example: tel:12345678900
<code>e164</code> ⁽¹⁾	String Pattern value="\+? d{5, 22}(\.\!)*? or [0-9]{5, 10}[-][0-9]{5, 10}(\.\!)*?"	Mandatory	The <code>e164</code> value to be provisioned into the IPWorks server <code>e164</code> is an enhanced identifier for IPWorks provisioning; it is used for the <code>e164</code> number with up to 22 digits. For example: +1234567 <code>e164</code> can also identify a range of records. For example, 123456-123478 When defining a range in <code>e164</code> , consider the following issues: <ul style="list-style-type: none">• The starting and ending numbers must be of the same length.• The starting number is lower than the ending number.• The request is not allowed to be empty.• The request can have either <code>records</code> or <code>rangeRecords</code>, but not both.

(1) MOld can be either `msisdn` or `e164`.

MOAttributes

The parameters that are used in the operation are shown in Figure 4.

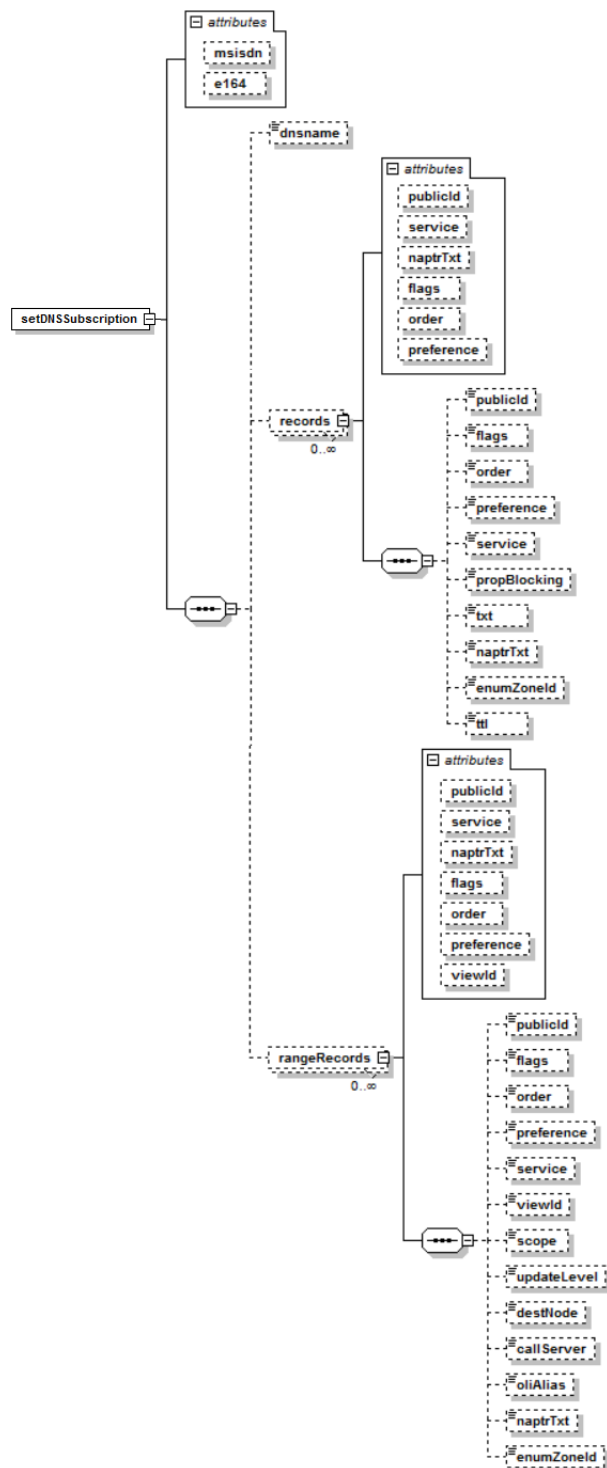


Figure 4 Parameters in Set DNS Subscription

The following table covers the parameters that can be used in a SetDNSSubscription request.



Note: For layered IPWorks/ENUM open interfaces, a `SetDNSSubscription` request can be used for:

- **Set-Add** – To add new records or range records. In this case, the attributes and the corresponding parameters have the same value respectively.
- **Set-Set** – To update existing records or range records. In this case, the attributes and the corresponding parameters have different values.
- **Set-Delete** – To delete records or range records. In this case, specify a record or a range record, and then add `nil=true`.

Table 10 *Set DNS Subscription Parameter*

Parameter	Type	Occurrence	Description
<code>msisdn</code>	String Pattern value="tel:\+?\d{5,15}(\.\!)*?"	Optional (0-1)	The <code>msisdn</code> value to be provisioned into the IPWorks server. <code>msisdn</code> is a legacy identifier for IPWorks provisioning; it is kept for backward compatibility purpose and supports the telephone number with up to 15 digits. For example: tel:12345678900
<code>e164</code>	String Pattern value="\+?\d{5,22}(\.\!)*? or [0-9]{5,10}[-][0-9]{5,10}(\.\!)*?"	Optional (0-1)	The <code>e164</code> value to be provisioned into the IPWorks server. <code>e164</code> is an enhanced identifier for IPWorks provisioning; it is used for the <code>e164</code> number with up to 22 digits. For example: +1234567 <code>e164</code> can also identify a range of records. For example, 123456-123478 When defining a range in <code>e164</code> , consider the following issues: <ul style="list-style-type: none">• The starting and ending numbers must be of the same length.• The starting number is lower than the ending number.• The request is not allowed to be empty.• The request can have either <code>records</code> or <code>rangeRecords</code>, but not both.
<code>dnsname</code> ⁽¹⁾	Case Sensitive String	Optional (0-1)	The parameter <code>dnsname</code> is used for directly routing to IPWorks. Its value equals to the IPWorks NE name configured in Dynamic Activation. The parameter <code>dnsname</code> is only applicable for monolithic IPWorks/ENUM open interface.
<code>records</code>	Sub-MO [nillable]	Optional (0-n)	



Parameter	Type	Occurrence	Description
publicId ⁽²⁾	Case Sensitive String Pattern value= "sip:{1,256}(\.*!)?"	Optional (0-1)	The publicId is used to generate the naptrTxt. If naptrTxt is not defined for a record in request, !^.*\$!publicId! are offered as the default value for naptrTxt. For example: sip:user1@example.com
flags ⁽²⁾	Enumerated value (n, nu, r)	Optional (0-1)	A one or two characters string to represent the flags. Can only be one of n, nu, or r.
order ⁽²⁾	UnsignedInt	Optional (0-1)	An unsigned integer to represent the order type.
preference ⁽²⁾	UnsignedInt	Optional (0-1)	An unsigned integer to represent the preference type.
service ⁽²⁾	String Length 1–32	Optional (0-1)	A string to identify the service.
propBlocking	Unsigned Integer 0–100	Optional (0-1)	A number from 0 through 100 indicating the rate at which calls to this call server are proportionally blocked. The parameter propBlocking is only applicable for monolithic IPworks/ENUM open interface.
txt	String	Optional (0-1)	A string to identify the Txt in enumsched. The parameter txt is only applicable for monolithic IPworks/ENUM open interface.
naptrTxt ⁽²⁾ ⁽³⁾	String	Optional (0-1)	A string to identify naptrTxt. This parameter depends on the value of the flags parameter: <ul style="list-style-type: none">• If the value of flags is n or nu, this field must be a regular expression. For example, /^.*\$/sip:86005000040828-1@ipworks.ims.net/.• If the value of flags is r, this field must be a replacement string and this string only can be a domain name. For example, e164.arpa.
enumZoneId	Unsigned Integer Length 0–65535	Optional (0-1)	An unsigned integer to represent a zone identity. The parameter enumZoneId is only applicable for layered IPWorks/ENUM open interface, and is updated on subscription level for all records.
ttl	String	Optional (0-1)	A string to identify ttl. The parameter ttl is only applicable for layered IPWorks/ENUM open interface.
rangeRecords	Sub-MO [nillable]	Optional (0-n)	
publicId ⁽²⁾	Case Sensitive String Pattern: value="sip:{1,256}(\.*!)?"	Optional (0-1)	The public ID to be provisioned in the IPWorks. For example: sip:user1@example.com
flags ⁽²⁾	Enumerated value: (n, nu, r)	Optional (0-1)	One or two-character string to represent flags.



Parameter	Type	Occurrence	Description
order ⁽²⁾	Unsigned Integer Length 0–65535	Optional (0-1)	An unsigned integer to represent the order type.
preference ⁽²⁾	Unsigned Integer	Optional (0-1)	An unsigned integer to represent the preference type.
service ⁽²⁾	String, length 1–32	Optional (0-1)	A string to identify the service.
viewId ⁽²⁾	String Pattern value="[0-1]{0,1}[0-9]"	Optional (0-1)	A numeric string from 0 to 19 to identify viewId. The parameter viewId is only applicable for layered IPWorks/ENUM open interface, and it is mandatory when adding range records.
scope	String	Optional (0-1)	A string with the format of "n-m" to identify scope. The parameter scope is only applicable for monolithic IPworks/ENUM open interface.
updateLevel	String	Optional (0-1)	A string to identify updateLevel. The parameter updateLevel is only applicable for monolithic IPworks/ENUM open interface.
destNode	String	Optional (0-1)	A string to identify the name of destNode. The parameter destNode is only applicable for monolithic IPworks/ENUM open interface.
callServer	String	Optional (0-1)	A string to identify the name of callServer. The parameter callServer is only applicable for monolithic IPworks/ENUM open interface.
oliAlias	String	Optional (0-1)	A string to identify oliAlias. The parameter oliAlias is only applicable for monolithic IPworks/ENUM open interface.
naptrTxt ⁽²⁾	String	Optional (0-1)	A string to identify naptrTxt.
enumZoneId	Unsigned Integer Length 0–65535	Optional (0-1)	An unsigned integer to represent a zone identity. The parameter enumZoneId is only applicable for layered IPWorks/ENUM open interface, and is updated on subscription level for all range records.

(1) If *dnsname* is present, the Dynamic Activation system directly uses it to route to IPWorks. *msisdn* or *e164* will not be used for routing purpose. For more information, refer to *Configuration Manual for Resource Activation, Reference [4]*.

(2) This attribute is used as the key attribute to identify a record.

(3) The symbol "/" is used as the escape character. "/" are used as the normal symbol "/".

4.2 Examples

Request Example

This section gives an example of a *SetDNSSubscription* request message, as shown in Example 6.



```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:cai3="http://schemas.ericsson.com/cai3gl.2/"
  xmlns:ns="http://schemas.ericsson.com/ema/UserProvisioning/IPWorks/5.0/">
  <soapenv:Header>
    <cai3:SequenceId?></cai3:SequenceId>
    <cai3:TransactionId?></cai3:TransactionId>
    <cai3:SessionId>93310c4d6ee1425dbb9e9d69fcede685</cai3:SessionId>
  </soapenv:Header>
  <soapenv:Body>
    <cai3:Set>
      <cai3:MOType>DNSSubscription@http://schemas.ericsson.com/ema/UserProvisioning/IPWorks/5.0/>
      <cai3:MOId>
        <ns:msisdn>tel:12345678901</ns:msisdn>
      </cai3:MOId>
      <cai3:MOAttributes>
        <ns:setDNSSubscription msisdn="tel:12345678901">
          <ns:records publicId="sip:user1@example.com">
            <!--Optional:-->
            <ns:flags>nu</ns:flags>
            <ns:order>10</ns:order>
            <ns:preference>10</ns:preference>
            <ns:service>E2U+sipl</ns:service>
            <ns:propBlocking>10</ns:propBlocking>
            <ns:txt>hello1</ns:txt>
            <ns:naptrTxt>!^.* $!sip:46150348@example.com!</ns:naptrTxt>
          </ns:records>
        </ns:setDNSSubscription>
      </cai3:MOAttributes>
    </cai3:Set>
  </soapenv:Body>
</soapenv:Envelope>
```

Example 6 Set DNS Subscription Request Message

Response Example

This section gives an example of a SetDNSSubscription response message, as shown in Page 29.

```
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/" xmlns:cai3g="http://schemas.ericsson.com/cai3gl.2/">
  <S:Header>
    <cai3g:SessionId>93310c4d6ee1425dbb9e9d69fcede685</cai3g:SessionId>
    <cai3g:TransactionId?></cai3g:TransactionId>
    <cai3g:SequenceId?></cai3g:SequenceId>
  </S:Header>
  <S:Body>
    <SetResponse xmlns="http://schemas.ericsson.com/cai3gl.2/" />
  </S:Body>
</S:Envelope>
```

Example 7 Set DNS Subscription Response Message



5 Delete DNS Subscription

This section covers the DeleteDNSSubscription command.

The DeleteDNSSubscription deletes a Subscription in IPWorks.

MOType

DNSSubscription@http://schemas.ericsson.com/ema/UserProvisioning/IPWorks/5.0/

5.1 Request Data

5.1.1 Parameters

MOId

Table 11 Delete DNS Subscription MOId

Parameter	Type	Occurrence	Description
msisdn ⁽¹⁾	String Pattern value="tel:\+? d{5,15}(\.*!)?"	Mandatory	The msisdn value to be provisioned into the IPWorks server msisdn is a legacy identifier for IPWorks provisioning; it is kept for backward compatibility purpose and supports the telephone number with up to 15 digits. For example: tel:12345678900
e164 ⁽¹⁾	String Pattern value="\+? {5,22}(\.*!)? or [0-9]{5,10}[-][0-9]{5,10}(\.*!)?"	Mandatory	The e164 value to be provisioned into the IPWorks server e164 is an enhanced identifier for IPWorks provisioning; it is used for the e164 number with up to 22 digits. For example: +1234567 e164 can also identify a range of records. For example, 123456-123478 When defining a range in e164, consider the following issues: <ul style="list-style-type: none">• The starting and ending numbers must be of the same length.• The starting number is lower than the ending number.

(1) MOId can be either msisdn or e164.

MOAttributes

The parameters that are used in the operation are shown in Figure 5.

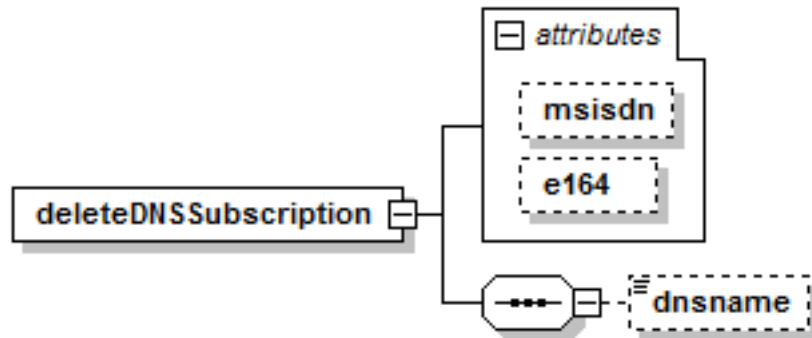


Figure 5 Parameters in Delete DNS Subscription

The following table covers the parameters that can be used in a DeleteDNSSubscription response.

Table 12 Delete DNS Subscription Parameters

Parameter	Type	Occurrence	Description
dnsname ⁽¹⁾	Case Sensitive String	Optional (0-1)	<p>The parameter dnsname is used for directly routing to IPWorks. Its value equals to the IPWorks NE name configured in Dynamic Activation.</p> <p>The parameter dnsname is only applicable for monolithic IPWorks/ENUM open interface.</p>

(1) If dnsname is present, the Dynamic Activation system directly uses it to route to IPWorks. msisdn or e164 will not be used for routing purpose. For more information, refer to Configuration Manual for Resource Activation, Reference [4].

5.2 Examples

Request Example

This section gives an example of a DeleteDNSSubscription request message, as shown in Example 8.



```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:cai3="http://schemas.ericsson.com/cai3gl.2/"
  xmlns:ns="http://schemas.ericsson.com/ema/UserProvisioning/IPWorks/5.0/">
  <soapenv:Header>
    <cai3:SequenceId>?</cai3:SequenceId>
    <cai3:TransactionId>?</cai3:TransactionId>
    <cai3:SessionId>93310c4d6ee1425dbb9e9d69fcede685</cai3:SessionId>
  </soapenv:Header>
  <soapenv:Body>
    <cai3:Delete>
      <cai3:MOType>DNSSubscription@http://schemas.ericsson.com/ema/UserProvisioning/IPWorks/5.0/>
      <cai3:MOId>
        <ns:msisdn>tel:12345678901</ns:msisdn>
      </cai3:MOId>
      <cai3:MOAttributes>
        <ns:deleteDNSSubscription msisdn="tel:12345678901">
          </ns:deleteDNSSubscription>
        </cai3:MOAttributes>
      </cai3:Delete>
    </soapenv:Body>
  </soapenv:Envelope>
```

Example 8 Delete DNS Subscription Request Message

Response Example

This section gives an example of a DeleteDNSSubscription response message, as shown in Example 9.

```
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/" xmlns:cai3g="http://schemas.ericsson.com/cai3gl.2/">
  <S:Header>
    <cai3g:SessionId>93310c4d6ee1425dbb9e9d69fcede685</cai3g:SessionId>
    <cai3g:TransactionId>?</cai3g:TransactionId>
    <cai3g:SequenceId>?</cai3g:SequenceId>
  </S:Header>
  <S:Body>
    <DeleteResponse xmlns="http://schemas.ericsson.com/cai3gl.2/">
      <MOId>
        <ns:msisdn xmlns:cai3="http://schemas.ericsson.com/cai3gl.2/"
          xmlns:ns="http://schemas.ericsson.com/ema/UserProvisioning/IPWorks/5.0/"
          xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">tel:12345678901</ns:msisdn>
        </MOId>
      </DeleteResponse>
    </S:Body>
  </S:Envelope>
```

Example 9 Delete DNS Subscription Response Message



6 Set DNS Domain

Note: This section is applicable for monolithic IPWorks/ENUM open interfaces only.

This section covers the `SetDNSDomain` command.

The `SetDNSDomain` sets a DNS Domain in IPWorks.

MOType

`DNSDomain@http://schemas.ericsson.com/ema/UserProvisioning/IPWorks/5.0/`

6.1 Request Data

6.1.1 Parameters

MOLd

Table 13 Set DNS Domain MOLd

Parameter	Type	Occurrence	Description
<code>domainsId</code>	String	Mandatory	Required as MOLd of CAI3G request. It is not used in provisioning, so any value is acceptable.

MOAttributes

The parameters that are used in the operation are shown in Figure 6.

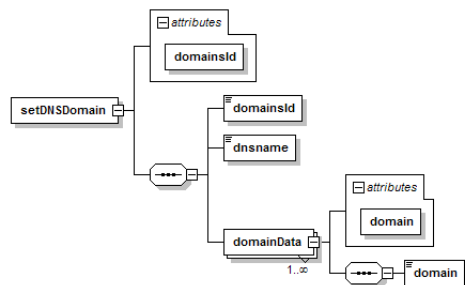


Figure 6

The following table covers the parameters that can be used in a `SetDNSDomain` request.



Table 14 Set DNS Domain Parameters

Parameter	Type	Occurrence	Description
domainsId	String	Mandatory	Required as MOId of CAI3G request. It is not used in provisioning, so any value is acceptable.
dnsname ⁽¹⁾	Case Sensitive String	Mandatory	The parameter dnsname is used for directly routing to IPWorks. Its value equals to the IPWorks NE name configured in Dynamic Activation. The parameter dnsname is only applicable for monolithic IPWorks/ENUM open interface.
domainData	Sub-MO [nillable]	Mandatory	
domain	Case Sensitive String Length 2–80	Mandatory	Domain name.

(1) If dnsname is present, directly use it to route to IPWorks.

6.2 Examples

Request Example

This section gives an example of a SetDNSDomain request message, as shown in Example 10.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:cai3="http://schemas.ericsson.com/cai3gl.2/"
  xmlns:ns="http://schemas.ericsson.com/ema/UserProvisioning/IPWorks/5.0/">
  <soapenv:Header>
    <cai3:SequenceId?></cai3:SequenceId>
    <cai3:TransactionId?></cai3:TransactionId>
    <cai3:SessionId>93310c4d6ee1425dbb9e9d69fcede685</cai3:SessionId>
  </soapenv:Header>
  <soapenv:Body>
    <cai3:Set>
      <cai3:MOType>DNSDomain@http://schemas.ericsson.com/ema/UserProvisioning/IPWorks/5.0/</
      <cai3:MOId>
        <ns:domainsId>123</ns:domainsId>
      </cai3:MOId>
      <cai3:MOAttributes>
        <ns:setDNSDomain domainsId="123">
          <ns:domainsId>123</ns:domainsId>
          <ns:dnsname>enum</ns:dnsname>
          <!-- 1 or more repetitions:-->
          <ns:domainData domain="DomainName">
            <ns:domain>DomainName</ns:domain>
          </ns:domainData>
        </ns:setDNSDomain>
      </cai3:MOAttributes>
    </cai3:Set>
  </soapenv:Body>
</soapenv:Envelope>
```

Example 10 Set DNS Domain Request Message



Response Example

This section gives an example of a SetDNSDomain response message, as shown in Example 11.

```
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:cai3g="http://schemas.ericsson.com/cai3g1.2/">
  <S:Header>
    <cai3g:SessionId>812b80db64c84faab82fbb1c3e30ffc2</cai3g:SessionId>
    <cai3g:TransactionId>?</cai3g:TransactionId>
    <cai3g:SequenceId>?</cai3g:SequenceId>
  </S:Header>
  <S:Body>
    <SetResponse xmlns="http://schemas.ericsson.com/cai3g1.2/" />
  </S:Body>
</S:Envelope>
```

Example 11 Set DNS Domain Response Message





7 Faults or Errors

The generic structure for fault responses is covered in *Generic CAI3G Interface 1.2* Reference [2] . That document also covers the generic fault codes, which are applicable to all CAI3G operations.

This section covers the subordinate CAI3G errors. They can appear in the `errorcode` element in the error message.

The following is an example of a CAI3G error message:

7.1 Dynamic Activation Internal Errors

The following table covers Dynamic Activation internal error codes. They can appear in any CAI3G responses.

Table 15 General Dynamic Activation Internal Error Codes

Error Code	Error Message
1001	Invalid resource ID
1002	Invalid XPath
1003	Unrecognized namespace. No data view associated
1004	Access denied. Invalid principal or credentials
1005	Not authorized to perform current operation on selected data view
1006	Invalid parameter ⁽¹⁾
1007	Unsupported operation
1010	Invalid session ID
1011	Target is not found
1095	Communication error while interacting with a data repository
1096	Time-out expired during wait for answer from data repository
1097	Failure during processing of the request
1098	Could not process request because of resource limitation
1099	System error
1101	External error
1103	License error
1105	NE Group error
2001	Format error
2002	Unreasonable value
2003	Function busy
2004	Database update error



Error Code	Error Message
2005	Storage shortage in log data fileStorage shortage in log data file
2006	Partly executed, HLR ID <ID> failed

(1) Not all characters are valid.

7.1.1

IPWorks Subscription and DNS Domain Error Codes

Table 16 IPWorks Subscription and DNS Domain

Code	Error Description	MO	Operation
12013	Operation failed, rollback has been performed successfully	DNSSubscription	C (Layered)
12014	Operation failed, rollback was unsuccessful	DNSSubscription	C (Layered)
35250	Other IPWorks error	DNSSubscription/DNS Domain	G/S (Monolithic)
35251	Object exists	DNSSubscription/DNS Domain	C (Monolithic and layered)
35252	Cannot lock object	DNSSubscription/DNS Domain	S (Monolithic)
35253	Cannot update name-server	DNSSubscription/DNS Domain	C/S (Monolithic)
35254	No record containing a sip address was found in that domain or domain name does not exist	DNSSubscription/DNS Domain	D/G/S (Monolithic)
35255	Operation is not performed because of a logon failure	DNSSubscription/DNS Domain	C/D/G/S (Monolithic)
35256	ENUM subscription is not defined	DNSSubscription	S/G/D (Layered)
35257	ENUM validation fails	DNSSubscription	C/S (Layered)



Reference List

Ericsson Documents

- [1] *Glossary of Terms and Acronyms*, 0033-CSH 109 628 Uen
- [2] *Generic CAI3G Interface 1.2 Specification*, 2/155 19-FAY 302 00 03 Uen
- [3] *Library Overview*, 18/1553-CSH 109 628 Uen
- [4] *Configuration Manual for Resource Activation*, 2/1543-CSH 109 628 Uen