

NameDb

INTERWORK DESCR

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1 Document History

Rev	Date	Sign	Comment
A	2013-04-04	eleerik	Clone from 1/155 19-CRA 119 2109 rev B

2 Scope and Purpose

This document covers the NamedDb interface from the MTAS toward the Calling Name Server (CNS).

2.1 Interface Entities

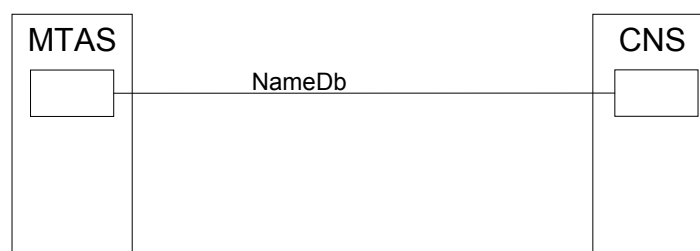


Figure 1

Two entities are involved in NameDb communication

- MTAS
- Calling Name Server

2.2 Interface Role

This IWD describes the services MTAS uses from the Calling Name Server.

2.3 Services

Table 1: Offered Services

Offered Service	Description
-----------------	-------------

None

Table 2: Used Services

Used Service	Description
--------------	-------------

Get Calling Name

Returns the calling name for a given identity.

2.4 Encapsulation and Addressing

NameDb operations are performed over a SOAP/HTTP/TCP protocol stack. On network layer either IPv4 or IPv6 can be used. In HTTP headers and bodies IPv4 and IPv6 addresses can be mixed. The URI (specifying hostname, port and path) of the CNS is part of the NameDb configuration in MTAS.

NameDb interface allows three types of identities (global number, sip and tel) to be used but MTAS only uses global number identities.

3 Procedures

3.1 Overview

These general statements apply to all operations.

- All operations are initiated by MTAS
- A new connection is opened for each request; the connection is closed after a single request/response pair.
- Multiple operations can be performed simultaneously in different concurrent connections.
- The only reliability/retransmission mechanisms used are those provided by TCP layer.
- All errors are reported as SOAP fault messages

- All errors are generated by CNS, MTAS can only send requests toward CNS not faults.

In addition to any generic SOAP fault that could be generated there are three specific SOAP faults defined for this interface:

- `nameUnavailable`: returned when no calling name could be found for the identity provided.
- `serverError`: returned when the server could not perform the required operation due to an internal error.
- `invalidQuery`: returned when the server detects any error in the message itself (invalid parameters, etc).

3.2 Lower Level Procedures

N/A

3.3 Get Calling Name

This procedure is used between MTAS and the CNS. The procedure is invoked by MTAS and is used to get the calling name corresponding to the given identity.

The procedure is mapped to the `doCallingName` operation described in chapter 5.

The request uses two parameters:

- `callingPartyId`: the identity MTAS is requesting the calling name for.
- `calledPartyId`: the identity of the user the calling name will be presented to. This parameter is optional and it's used in case the CNS serves different calling names for the same identity depending on the identity of the called user.

The response includes one item:

- `callingName`: the calling name requested.

The calling name can be retrieved as follows:

```
POST / HTTP/1.1
SOAPAction: "CallingNameAction"
Host: 10.3.8.4:30001
```

```

Transfer-Encoding: chunked
Content-Type: text/xml; charset=UTF-8

21c
<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:ns1="http://schemas.ericsson.com/mmtel/2008/08/20/CallingNameDb/"><SOAP-
ENV:Body><ns1:CallingNameRequest><callingPartyId><globalNumberIdentity>+46761153802</
globalNumberIdentity></callingPartyId><calledPartyId><globalNumberIdentity>+467611543
33</globalNumberIdentity></calledPartyId></ns1:CallingNameRequest></SOAP-
ENV:Body></SOAP-ENV:Envelope>
0

HTTP/1.1 200 OK
Server: Axis2
Content-Type: text/xml; charset=utf-8
Content-Length: 998
Connection: close

<?xml version="1.0" encoding="UTF-8"?><SOAP-ENV:Envelope xmlns:SOAP-
ENV="http://schemas.xmlsoap.org/soap/envelope/" xmlns:SOAP-
ENC="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:ns1="http://schemas.ericsson.com/mmtel/2008/08/20/CallingNameDb/"><SOAP-
ENV:Body><ns1:CallingNameResult><callingName>Charles
Dickens</callingName></ns1:CallingNameResult></SOAP-ENV:Body></SOAP-ENV:Envelope>

```

4 Information Model

4.1 General

N/A

5 Formal Syntax or Schema

5.1 WSDL definition

The following WSDL describes the service offered by Calling Name Server:

```

<?xml version="1.0"?>
<!-- WSDL description of interface to calling name database
      Proposal for interface between Ericsson MTAS and CNS

      MTAS is the client, CNS is the server
-->

<definitions
  xmlns="http://schemas.xmlsoap.org/wsdl/"
  xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:typens="http://schemas.ericsson.com/mmtel/2008/08/20/CallingNameDb/"
  xmlns:namedb="http://schemas.ericsson.com/mmtel/2008/08/20/CallingNameDb/"

  targetNamespace="http://schemas.ericsson.com/mmtel/2008/08/20/CallingNameDb/">

```

```

<types>
  <xs:schema xmlns="http://www.w3.org/2001/XMLSchema"

targetNamespace="http://schemas.ericsson.com/mmtel/2008/08/20/CallingNameDb/">

    <xs:element name="CallingNameRequest" type="namedb:CallingNameRequestType"/>

    <xs:complexType name="CallingNameRequestType">
      <xs:sequence>
        <xs:element name="callingPartyId" type="namedb:CallParty"/>
        <xs:element name="calledPartyId" type="namedb:CallParty" minOccurs="0"/>
      </xs:sequence>
    </xs:complexType>

    <xs:element name="CallingNameResult" type="namedb:CallingNameResultType"/>

    <xs:complexType name="CallingNameResultType">
      <xs:sequence>
        <xs:element name="callingName" type="xs:string" minOccurs="0">
          <xs:annotation>
            <xs:documentation>
              callingName is formatted by the server.
              Selection of name elements (e.g. nickname/family name/given name) is
by server
              The server is responsible for preventing XML injection by user-
provided strings
            </xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:complexType>

    <xs:element name="CallingNameFault" type="namedb:CallingNameFaultType"/>

    <xs:complexType name="CallingNameFaultType">
      <xs:sequence>
        <xs:element name="cause">
          <xs:simpleType>
            <xs:restriction base="xs:string">
              <xs:enumeration value="nameUnavailable">
                <xs:annotation>
                  <xs:documentation>
                    The request is valid, but the server has no matching data
                  </xs:documentation>
                </xs:annotation>
              </xs:enumeration>
              <xs:enumeration value="invalidQuery">
                <xs:annotation>
                  <xs:documentation>
                    The server does not like something in the request
                  </xs:documentation>
                </xs:annotation>
              </xs:enumeration>
              <xs:enumeration value="serverError">
                <xs:annotation>
                  <xs:documentation>
                    A problem at the server
                  </xs:documentation>
                </xs:annotation>
              </xs:enumeration>
            </xs:restriction>
          </xs:simpleType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>

    <xs:complexType name="CallParty">
      <xs:choice>
        <xs:element name="globalNumberIdentity" type="xs:string"/>
        <!-- Only global number identity is needed for initial requirements.
           The following options are for future expansion
        -->

```



```

        <xs:element name="sipIdentity" type="xs:string"/>
        <xs:element name="telIdentity" type="xs:string"/>
    </xs:choice>
</xs:complexType>

</xs:schema>
</types>

<message name="doCallingName">
    <part name="query" element="typens:CallingNameRequest"/>
</message>

<message name="doCallingNameResponse">
    <part name="response" element="typens:CallingNameResult"/>
</message>

<message name="doCallingNameFault">
    <part name="faultInfo" element="typens:CallingNameFault"/>
</message>

<portType name="CallingNamePort">
    <operation name="doCallingName">
        <input message="typens:doCallingName"/>
        <output message="typens:doCallingNameResponse"/>
        <fault name="doCallingNameFault" message="typens:doCallingNameFault"/>
    </operation>
</portType>

<binding name="CallingNameBinding" type="typens:CallingNamePort">
    <soap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
    <operation name="doCallingName">
        <soap:operation soapAction="CallingNameAction" style="document"/>
        <input>
            <soap:body parts="query" use="literal"/>
        </input>
        <output>
            <soap:body parts="response" use="literal"/>
        </output>
        <fault name="doCallingNameFault">
            <soap:fault name="doCallingNameFault" use="literal"/>
        </fault>
    </operation>
</binding>

<service name="CallingNameService">
    <port name="CallingNamePort" binding="typens:CallingNameBinding">

    </port>
</service>

</definitions>

```

5.2 Message format

Although the WSDL definition in section 5.1 alone provide enough information to derive the individual request and response format individual messages formats are collected in this section for clarity.

5.2.1 doCallingName request

```

<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

```

```

xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:ns1="http://schemas.ericsson.com/mmtel/2008/08/20/CallingNameDb/">
<SOAP-ENV:Body>
  <ns1:CallingNameRequest>
    <callingPartyId>
      <globalNumberIdentity>+46761153802</globalNumberIdentity>
    </callingPartyId>
    <calledPartyId>
      <globalNumberIdentity>+46761154333</globalNumberIdentity>
    </calledPartyId>
  </ns1:CallingNameRequest>
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

5.2.2 doCallingName response

```

<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:ns1="http://schemas.ericsson.com/mmtel/2008/08/20/CallingNameDb/">
  <SOAP-ENV:Body>
    <ns1:CallingNameResult>
      <callingName>Charles Dickens</callingName>
    </ns1:CallingNameResult>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

5.2.3 NameDb specific SOAP faults

MTAS can receive the following specific faults from Calling Name Server in response to any query. SOAP fault are delivered in HTTP 500 Server Internal Errors

5.2.3.1 nameUnavailable

```

<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:ns1="http://schemas.ericsson.com/mmtel/2008/08/20/CallingNameDb/">
  <SOAP-ENV:Body>
    <SOAP-ENV:Fault>
      <SOAP-ENV:Fault>
        <faultcode>SOAP-ENV:Client</faultcode>
        <faultstring>xxxxxxx</faultstring>
        <detail>
          <ns1:CallingNameFault>
            <cause>nameUnavailable</cause>
          </ns1:CallingNameFault>
        </detail>
      </SOAP-ENV:Fault>
    </SOAP-ENV:Body>
  </SOAP-ENV:Envelope>

```

5.2.3.2 invalidQuery

```
<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:ns1="http://schemas.ericsson.com/mmtel/2008/08/20/CallingNameDb/">
  <SOAP-ENV:Body>
    <SOAP-ENV:Fault>
      <SOAP-ENV:Fault>
        <faultcode>SOAP-ENV:Client</faultcode>
        <faultstring>xxxxxxx</faultstring>
        <detail>
          <ns1:CallingNameFault>
            <cause>invalidQuery</cause>
          </ns1:CallingNameFault>
        </detail>
      </SOAP-ENV:Fault>
    </SOAP-ENV:Body>
  </SOAP-ENV:Envelope>
```

5.2.3.3 serverError

```
<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:ns1="http://schemas.ericsson.com/mmtel/2008/08/20/CallingNameDb/">
  <SOAP-ENV:Body>
    <SOAP-ENV:Fault>
      <SOAP-ENV:Fault>
        <faultcode>SOAP-ENV:Server</faultcode>
        <faultstring>xxxxxxx</faultstring>
        <detail>
          <ns1:CallingNameFault>
            <cause>serverError</cause>
          </ns1:CallingNameFault>
        </detail>
      </SOAP-ENV:Fault>
    </SOAP-ENV:Body>
  </SOAP-ENV:Envelope>
```

6 Related Standards

- WSDL 1.1 [1]
- SOAP 1.1 [2]
- HTTP 1.1 [3]

7 Terminology

7.1 Abbreviations

WSDL	Web Services Description Language
SOAP	Simple Object Access Protocol
CNS	Calling Name Server

7.2 Definitions

-

8 References

- [1] WSDL 1.1 Specification
<http://www.w3.org/TR/wsdl>
- [2] SOAP 1.1
<http://www.w3.org/TR/soap/>
- [3] HTTP 1.1
<http://www.w3.org/Protocols/rfc2616/rfc2616.html>