**FBI - Nlets**

**Web Services Interface Specification**

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# Overview

## Scope

This document details the joint web services specification for The Federal Bureau of Investigation (FBI) Criminal Justice Information Services (CJIS) Division and Nlets, The International Justice and Public Safety Network. The Web Services Interface provides the official use of criminal justice officials of local, state, and federal government in the U.S., its possessions and Canada. The intent of this document is to create a common service interface within the greatest extent possible.

Direct end user access via portals (e.g. browser access), such as the access provided by Law Enforcement Online (LEO), which is not part of the scope of this document.

## Purpose

This document provides Web Services interface specifications for the use of CJIS and Nlets services. The services specified herein are considered to be the base web services supported by Nlets and FBI CJIS. Certain applications of web services may require additions or modifications to the web services described in this document. Specifically, those web services deemed to require additional security or specialized processing may require an additional specification document intended to clarify or add onto these base requirements.

# SOAP Web Services

## WS-I Basic Profile

The CJIS and Nlets Web Services Specification is compliant with Web Services Interoperability (WS-I) Basic Profile 1.1 for web services interoperability across platforms, operating systems and programming languages. This profile is compliant with the Global Justice Reference Architecture (JRA) Web Services Service Interaction Profile 1.2 (JRA SIP). More information and detail on the WS-I Basic Profile 1.1 can be found at <http://www.ws-i.org/Profiles/BasicProfile-1.1.html>.

## SOAP

As specified by WS-I Basic Profile 1.1, Simple Object Access Protocol (SOAP) 1.1 will be used for maximum interoperability.

### SOAP Header

The SOAP Header will not be used.

### SOAP Body

The SOAP Body is required and will contain the payload of the message. The payload must be GJXDM or NIEM based XML. See Appendix D: Sample SOAP Body for more details on the contents of the payload.

### SOAP Fault

Error messages from composition and transport errors will be transmitted using SOAP Faults. The SOAP Fault will provide a faultcode and a faultstring describing the error. Application errors encountered after successful receipt of the message will be transmitted via separate error messages.

## Web Service Names

The Web Services that are called in order to send a message to Nlets or FBI CJIS NCIC are NletsService and NCICService. Other services may be hosted at Nlets or FBI CJIS and will follow the same naming convention. In order to receive a messages from Nlets or FBI CJIS, an agency most host a web service. There are no requirements for naming a web service hosted at an agency outside of Nlets or FBI CJIS.

## Methods

The web service will support one method. This method will support both synchronous (NCIC synchronous messages) and asynchronous transactions (Nlets transactions and NCIC unsolicited messages).

### Asynchronous

In order for an agency to receive an asynchronous message, it is required for the agency to host a web service. That web service must have a method named Process. Process will accept a single parameter, ProcessMessage. The ProcessMessage parameter will be of type s:string. Although the transactions are generally considered to be asynchronous, Process will have a return type of s:string. Upon successful receipt of a message, the web service must return a string. The return of any string will indicate successful receipt of the message, and no response will indicate that the message was not received successfully. The value “Success” is recommended to be returned in a successful scenario, but other strings such as correlation IDs may add value and will likewise indicate success.

### Synchronous

In order to initiate a synchronous transaction with Nlets or FBI CJIS, an agency must invoke the Process method of the hosted web service. Process will accept a single parameter: ProcessMessage. The ProcessMessage parameter will be of type s:string. Process will have a return type of s:string. In a synchronous transaction, the response will be returned to the user. No response will indicate that the message was not received successfully.

## Message Payload

The payload sent to or received by Nlets or FBI CJIS web services will be further described in each entity’s message specifications. In general, the payload will be an XML (Nlets and FBI CJIS) or legacy text (Nlets only) formatted message. These messages will include all data, including header and routing information, which would be sent via any other transport mechanism.

# RESTful Web Services

Representational State Transfer (REST) Web Services may also be offered by CJIS and Nlets. The REST Web Services specification is forthcoming.

# Other Considerations

## Security

TBD

###### Acronyms and Abbreviations

FBI – Federal Bureau of Investigation

GJXDM – Global Justice XML Data Model

JRA – Justice Reference Architecture

LEO – Law Enforcement Online

NCIC – National Crime Information System

NIEM – National Information Exchange Model

Nlets – The International Justice and Public Safety Network

REST – Representational State Transfer

SIP – Service Interaction Profile

SOAP – Simple Object Access Protocol

WS-I – Web Services Interoperability

XML – Extensible Markup Language

###### Sample Nlets WSDL

<?xml version="1.0" encoding="utf-8"?>  
<wsdl:definitions xmlns:s0="http://www.nlets.org/literalTypes" xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/" xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/" xmlns:tns="http://www.nlets.org" xmlns:s="http://www.w3.org/2001/XMLSchema" xmlns:http="http://schemas.xmlsoap.org/wsdl/http/" targetNamespace="http://www.nlets.org" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">  
  <wsdl:types>  
    <s:schema elementFormDefault="qualified" targetNamespace="http://www.nlets.org/literalTypes">  
      <s:element name="ProcessMessage">  
        <s:complexType>  
          <s:sequence>  
            <s:element minOccurs="1" maxOccurs="1" name="XMLMsgTrans" type="s:string" />  
          </s:sequence>  
        </s:complexType>  
      </s:element>  
      <s:element name="ProcessResponse">  
        <s:complexType>  
          <s:sequence>  
            <s:element minOccurs="1" maxOccurs="1" name="ProcessResult" type="s:string" />  
          </s:sequence>  
        </s:complexType>  
      </s:element>  
    </s:schema>  
  </wsdl:types>  
  <wsdl:message name="ProcessSoapIn">  
    <wsdl:part name="parameters" element="s0:ProcessMessage" />  
  </wsdl:message>  
  <wsdl:message name="ProcessSoapOut">  
    <wsdl:part name="parameters" element="s0:ProcessResponse" />  
  </wsdl:message>  
  <wsdl:portType name="NletsWSSoap">  
    <wsdl:operation name="Process">  
      <wsdl:input message="tns:ProcessSoapIn" />  
      <wsdl:output message="tns:ProcessSoapOut" />  
    </wsdl:operation>  
  </wsdl:portType>  
  <wsdl:binding name="NletsWSSoap" type="tns:NletsWSSoap">  
    <soap:binding transport="http://schemas.xmlsoap.org/soap/http" />  
    <wsdl:operation name="Process">  
      <soap:operation soapAction="http://www.nlets.org/Process" style="document" />  
      <wsdl:input>  
        <soap:body use="literal" />  
      </wsdl:input>  
      <wsdl:output>  
        <soap:body use="literal" />  
      </wsdl:output>  
    </wsdl:operation>  
  </wsdl:binding>  
  <wsdl:service name="NletsWS">  
    <wsdl:port name="NletsWSSoap" binding="tns:NletsWSSoap">  
      <soap:address location="http://199.104.240.109/nletsmessage/nletsws.asmx" />  
    </wsdl:port>  
  </wsdl:service>  
</wsdl:definitions>

###### Sample FBI CJIS WSDL

<?xml version="1.0" encoding="utf-8"?>  
<wsdl:definitions xmlns:s0="http://www.fbi.gov/literalTypes" xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/" xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/" xmlns:tns="http://www.nlets.org" xmlns:s="http://www.w3.org/2001/XMLSchema" xmlns:http="http://schemas.xmlsoap.org/wsdl/http/" targetNamespace="http://www.nlets.org" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">  
  <wsdl:types>  
    <s:schema elementFormDefault="qualified" targetNamespace="http://www.nlets.org/literalTypes">  
    <s:import namespace="http://cjis.fbi.gov/ncic/1.0.2" schemaLocation="ncic.xsd"/>  
    <s:import namespace="http://cjis.fbi.gov/ncic/1.0.2/common/proxy" schemaLocation="ncic\_codes.xsd"/>  
    <s:import namespace="http://cjis.fbi.gov/1.0.0" schemaLocation="cjis.xsd"/>  
    <s:import namespace="http://www.it.ojp.gov/jxdm/3.0.3" schemaLocation="jxdm.xsd"/>  
    <s:import namespace="http://cjis.fbi.gov/ncic/1.0.2/boat" schemaLocation="boat.xsd"/>  
    <s:import namespace="http://cjis.fbi.gov/ncic/1.0.2/identitytheft" schemaLocation="identitytheft.xsd"/>  
    <s:import namespace="http://cjis.fbi.gov/ncic/1.0.2/licenseplate" schemaLocation="licenseplate.xsd"/>  
    <s:import namespace="http://cjis.fbi.gov/ncic/1.0.2/missingperson" schemaLocation="missingperson.xsd"/>  
    <s:import namespace="http://cjis.fbi.gov/ncic/1.0.2/protectionorder" schemaLocation="protectionorder.xsd"/>  
    <s:import namespace="http://cjis.fbi.gov/ncic/1.0.2/sentry" schemaLocation="sentry.xsd"/>  
    <s:import namespace="http://cjis.fbi.gov/ncic/1.0.2/sexualoffender" schemaLocation="sexualoffender.xsd"/>  
    <s:import namespace="http://cjis.fbi.gov/ncic/1.0.2/supervisedrelease" schemaLocation="supervisedrelease.xsd"/>  
    <s:import namespace="http://cjis.fbi.gov/ncic/1.0.2/vehicle" schemaLocation="vehicle.xsd"/>  
    <s:import namespace="http://cjis.fbi.gov/ncic/1.0.2/vehicleboatpart" schemaLocation="vehicleboatpart.xsd"/>  
    <s:import namespace="http://cjis.fbi.gov/ncic/1.0.2/vgtof" schemaLocation="vgtof.xsd"/>  
    <s:import namespace="http://cjis.fbi.gov/ncic/1.0.2/article" schemaLocation="article.xsd"/>  
    <s:import namespace="http://cjis.fbi.gov/ncic/1.0.2/gun" schemaLocation="gun.xsd"/>  
    <s:import namespace="http://cjis.fbi.gov/ncic/1.0.2/securities" schemaLocation="securities.xsd"/>  
    <s:import namespace="http://cjis.fbi.gov/ncic/1.0.2/unidentifiedperson" schemaLocation="unidentifiedperson.xsd"/>  
    <s:import namespace="http://cjis.fbi.gov/ncic/1.0.2/wantedperson" schemaLocation="wantedperson.xsd"/>  
      <s:element name="ProcessMessage">  
        <s:complexType>  
          <s:sequence>  
            <s:element minOccurs="1" maxOccurs="1" name="XMLMsgTrans" type="s:string" />  
          </s:sequence>  
        </s:complexType>  
      </s:element>  
      <s:element name="ProcessResponse">  
        <s:complexType>  
          <s:sequence>  
            <s:element minOccurs="1" maxOccurs="1" name="ProcessResult" type="s:string" />  
          </s:sequence>  
        </s:complexType>  
      </s:element>  
    </s:schema>  
  </wsdl:types>  
  <wsdl:message name="ProcessSoapIn">  
    <wsdl:part name="parameters" element="s0:ProcessMessage" />  
  </wsdl:message>  
  <wsdl:message name="ProcessSoapOut">  
    <wsdl:part name="parameters" element="s0:ProcessResponse" />  
  </wsdl:message>  
  <wsdl:portType name="NCICWSSoap">  
    <wsdl:operation name="Process">  
      <wsdl:input message="tns:ProcessSoapIn" />  
      <wsdl:output message="tns:ProcessSoapOut" />  
    </wsdl:operation>  
  </wsdl:portType>  
  <wsdl:binding name="NCICWSSoap" type="tns:NCICWSSoap">  
    <soap:binding transport="http://schemas.xmlsoap.org/soap/http" />  
    <wsdl:operation name="Process">  
      <soap:operation soapAction="http://www.ncic.fbi.gov/Process" style="document" />  
      <wsdl:input>  
        <soap:body use="literal" />  
      </wsdl:input>  
      <wsdl:output>  
        <soap:body use="literal" />  
      </wsdl:output>  
    </wsdl:operation>  
  </wsdl:binding>  
  <wsdl:service name="NCICService">  
    <wsdl:port name="NCICWSSoap" binding="tns:NCICWSSoap">  
      <soap:address location="http://www.fbi.gov/ncic" />  
    </wsdl:port>  
  </wsdl:service>  
</wsdl:definitions>

###### Sample SOAP Body – Nlets Legacy Text

<?xml version="1.0" encoding="UTF-8"?>

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:soap-enc="http://schemas.xmlsoap.org/soap/encoding/"

xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/

XMLSchema-instance">

<soapenv:Body>

<m:ProcessMessage xmlns:m="http://www.nlets.org/literalTypes">

<m:XMLMsgTrans>AM.AZNLETS23.CA0001327.TXTTEST ADMINISTRATIVE MESSAGE FROM NLETS</m:XMLMsgTrans>

</m:ProcessMessage>

</soapenv:Body>

</soapenv:Envelope>

###### Sample SOAP Body – Nlets XML

<?xml version="1.0" encoding="UTF-8"?>

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:soap-enc="http://schemas.xmlsoap.org/soap/encoding/"

xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/

XMLSchema-instance">

<soapenv:Body>

<m:ProcessMessage xmlns:m="http://www.nlets.org/literalTypes">

<m:XMLMsgTrans><n:NLETS version="3.00" xmlns:n="http://www.nlets.org" xmlns:j="http://www.it.ojp.gov/jxdm/3.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">

<n:NLETSInquiryMessage>

<n:NLETSInquiryHeader>

<n:MessageKeyCode>DQ</n:MessageKeyCode>

<j:DocumentSource.Organization>

<j:OrganizationORIID>

<j:ID>GA0250300</j:ID>

</j:OrganizationORIID>

</j:DocumentSource.Organization>

<n:DocumentDestinationID>

<j:ID>FL</j:ID>

</n:DocumentDestinationID>

</n:NLETSInquiryHeader>

<n:NLETSInquiryData Key="DQ">

<j:Person>

<j:PersonAssignedIDDetails>

<j:PersonDriverLicenseID>

<j:ID>VAOLN0000</j:ID>

</j:PersonDriverLicenseID>

</j:PersonAssignedIDDetails>

</j:Person>

<n:BinaryRequestIndicator>true</n:BinaryRequestIndicator>

</n:NLETSInquiryData>

</n:NLETSInquiryMessage>

</n:NLETS></m:XMLMsgTrans>

</m:ProcessMessage>

</soapenv:Body>

</soapenv:Envelope>