

Kansas eCitation Submission Service
Service Description Document

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Document Introduction

In the context of the Justice Reference Architecture ([JRA]) and service-oriented architecture in general, a service is the means by which one partner gains access to one or more capabilities offered by another partner. Capabilities generate real-world effects that can be as simple as sharing information or can involve performing a function or changing the state of some other processes. Justice organizations have numerous capabilities and partner organizations, both inside and outside the traditional justice community. There are significant benefits for these organizations to have access to each other's capabilities. The justice world has close to 100,000 justice agencies, each of these agencies having their own governance, business needs, applications, hardware, and networks. Interoperability within this environment and with external partner organizations may be achieved by aligning business and technical requirements and capabilities and by providing a way to consistently specify those requirements and capabilities across organizational boundaries. The Global JRA was developed to facilitate interoperability and to assist in meeting other key requirements in a justice information sharing environment. In order to achieve this goal, there is a strong need to define a consistent approach to identifying and describing services and their interactions that can be implemented in many different technical environments, across multiple government lines of business, at all levels of government and with other partner organizations.

The Global JRA defines a service interface as "the means for interacting with a service". It includes the specific protocols, commands, and information exchange by which actions are initiated on the service. A service interface is what a system designer or implementer (programmer) uses to design or build executable software that interacts with the service. That is, the service interface represents the "how" of the interaction. Since the service interface is the physical manifestation of the service, best practices call for a service interface which can be described in an open-standard, referenceable format (that is, a format which could be automatically processed by a computer).

A Service Specification is a formal document describing the capabilities made available through the service; the service model that defines the semantics of the service by representing its behavioral model, information model, and interactions; the policies that constrain the use of the service, and the service interface that provides a means of interaction with the service. A service specification is analogous to the software documentation of an Application Programming Interface (API). It provides stakeholders with an understanding of the structure of the service and the applicable to its implementation interface rules. It gives the service consumers the information necessary for consuming a particular service, and service providers the information necessary for implementing the service in a consistent and interoperable way.

The main components of a Service Specification are the Service Description and one or more Service Interface Descriptions. A Service Description describes all aspects of a service that are

not directly tied to the physical implementation or service interface. A Service Interface Description is a description of the physical implementation or service interface used in a specific implementation of a service.

This document is a Service Description for the Kansas eCitation Submission Service.

ECitation Data Submission Service Overview

The eCitation Data Submission Service is a main component of the Kansas eCitation System, which is a statewide electronic traffic citation system designed to facilitate efficient collection, analysis and accurate distribution of traffic data to and from a central repository that is accessible by state, local and federal agencies and the public.

The eCitation Data Submission Service is responsible for processing eCitation messages or records. The eCitation messages are expected to be in a NIEM conformant XML format. The messages will be validated by the eCitation Service to ensure conformance with the Kansas Citation NIEM schema and associated eCitation business rules. After successful validation, the eCitation messages will be routed to one or more external systems as applicable and available. Any external system capable of receiving the NIEM conformant eCitation XML can be configured within the eCitation service to be a recipient. At this time, though, only the eCitation Repository will be a configured recipient. The current scope is limited to storing the Citation XML in the repository and does not include routing the Citation XML to other recipients. After validating and routing the messages, the eCitation Service is not expected to perform any further processing of the eCitation messages. The parsing and processing of the eCitation messages will be handled by an internal service component associated with the eCitation central repository.

At a high level, the eCitation Submission service is intended to facilitate the following business processes:

- Collect eCitation records
- Validate/Apply Business Rules
- Store eCitation XML in a central repository

Purpose

The eCitation Data Submission Service was developed to facilitate the electronic collection of citations, validate the citation information and store a valid NIEM conformant Citation XML into the eCitation central repository.

Scope

The scope of this service is bounded by the lifecycle of a Citation originating from either KHP (through KLER) and or other Law Enforcement agencies (using various commercial eCitation products such as ATSC QuickTicket™) throughout the state, beginning with the acceptance of a citation information and ending with access to the citation information exposed to the end-user through a simplified portal and search mechanism.

Specifically, the service is designed to accommodate the following high-level processes:

Collection of citation information

Validation of submitted citation information against NIEM standards

Validation of submitted citation information against business rules

Route the Citation information to one or more participating agency systems

Store citation XML to the central repository

The following items are considered to be outside the scope of this service:

Client-side validation business/data rules processing.

Integration with formats other than the NIEM data submission schema.

Other types of manual notifications.

Although these other processes were not specifically considered during service design, the specification does not expressly exclude them as reuse candidates. That is, implementers may find this service specification is able to accommodate these processes either as-is or through the use of extensions.

Capabilities

- 1) Batch or individual submission of citation information
- 2) Validate citation information against NIEM standards
- 3) Validate citation information using a flexible business rules engine - Schematron

Real-World Effects

Submit Citation Information

- 1) Agencies such as law enforcement can submit citation information mapped to a standardized NIEM conformant Information Exchange (IEPD)

Validate against NIEM

- 1) Citations submitted by the law enforcement agencies will be validated for conformance against the Kansas eCitation NIEM schema.
- 2) Citations which are conformant with the NIEM standards will be processed further to be validated against the business rules defined by the stakeholders but will be stored and maintained by the hosting agency.
- 3) Citations that are not conformant with the NIEM standards will not be processed and the service will return an error package to the submitting agency/system.

Validate against business rules

- 1) Citations which are compliant with the defined business rules will be processed and stored into the central repository.
- 2) Citations that are not compliant with the defined business rules will not be processed and the service will return an error package to the submitting system. The system will also validate the version of the business rules processed between the submitting systems and the server to help maintain the consistency of the data.

Store Citation

- 1) Citations that are validated against NIEM and the business rules are stored into the central repository and indexed for faster retrieval. The component that processes and indexes the citations stored in the repository is a separate service and is beyond the scope of this document.

Summary

The eCitation Submission service is designed to accept Citations in the form of NIEM XML and validate that the XML conforms to the proper schema and custom business rules using the Schematron validation engine and passing the XML to the Repository Data Service for indexing.

Security Classification

The highest level security classification for the information exchanged by this service is Sensitive but Unclassified (SBU). As a result the service can be assigned a security classification of SBU.

Service Specification Package Version

This service specification is built based on version 0.1.0 of the Service Specification Package.

Business Scenarios

Submit Citation

The only scenario for submitting citations is to accept NIEM XML citation information which is directly processed in the Schematron validation engine in order to apply and validate custom business rules.

Primary Flow

LEAs submit NIEM XML citation information to the eCitation Service.

eCitation Service validates the NIEM XML

If validated successfully, a success response is returned to the submitting LEA

If validation failed, an error package is returned to the submitting LEA

Service Interoperability Requirements

Service Assumptions

All citation information is in the form of NIEM XML.

The service is accessed via the internal Kansas / KCJIS network.

Service Dependencies

No dependencies have been identified at this time.

Execution Context

The service design will follow the JRA Execution Context Requirements.

Policies and Contracts

Participating entities will use Memorandums of Understanding (MOUs), Non-Disclosure Agreements (NDAs), Service Level Agreements (SLAs), or other types of agency agreements as appropriate to document applicable policy requirements.

Security

The service implementation must adhere to the rules of the CJIS Security Policies.

Security specifications is detailed in the security model design document which is referred to in the Appendix A.Privacy

The MOUs between participating entities will further define specific privacy requirements.

Service Model

Information Model for Citation Data

Messages and Data Elements

The following messages and data elements were identified to be required at any given citation during the analysis process. The data elements are presented below based on the type of message. A complete list of the data requirements can be found on the Data Requirements Document listed under references.

The eCitation Service leverages the KS Citation IEPD which was created by Kansas Department of Transportation (KDOT), in conjunction with the National Highway Traffic Safety Administration (NHTSA). This IEPD is used by the eCitation Service to represent a citation document within a citation message. The Kansas Citation IEPD provides mappings for the following information:

Document Data

Person Data

Vehicle Data

Event Data

Location Data

Additional Data

Document Data

Citation Date/Time -The date (and optionally time) a citation was issued.

Citation Number - The unique identification number given to a citation by an issuing agency.

Citation Served Flag - A flag denoting that a citation was or has been physically served to a subject.

SAR Flag - A flag denoting this citation or warning is being issued to someone performing suspicious activities as defined by the national Department of Homeland Security (DHS) is important so that the central eCitation systems know to route the citation to the state's fusion center for further analysis and action.

Person Data

Officer Identification - The officer's unique agency-assigned identification (typically a badge number) used by an agency to uniquely identify an issuing law enforcement officer.

Officer Last Name - The issuing official's last name or family surname.

Officer First Name - The issuing official's first or given name.

Agency ORI Number - The federally assigned ORI number for the agency associated with the issuing agency.

Vehicle Data

As not every citation involves a vehicle (e.g. loitering), all vehicle information is considered optional.

Event Data

Offense Date - The date an offense occurred or was observed by the issuing officer.

Statute Authority - The book or statutory authority under which a code section exists (e.g. KSA, STO, Shawnee County Ordinance, etc.).

Statute Section & Sub-Section(s) - The valid code section for the statute.

Location Data

Citation Location County - The County in which a citation is issued.

Citation Location State - The state in which a citation is issued.

Citation Location City - The city in which a citation is issued.

Additional Data

As many jurisdictions contain numerous data elements which are not specifically attributed to one of the previous categories, two additional categories of data are expected to be included in the standard. These two categories of data are:

- Additional Considerations – These are considerations the issuing officer and agency would like to convey to others reviewing the citation in the future, such as a judicial official or probation officer. These are items which do not directly enhance or otherwise impact the code section or subsection being charged, but are still considered important by the agency for others to note.
- Statistical Factors – These are items of statistical value to an agency but have no bearing on the citation or its impending court case. These would be factors such as the weather conditions at the time of a citation, a locale-specific categorization, or whether the citation was associated with some other event such as an arrest or accident.

As these are flexible data elements and will likely vary between each jurisdiction, they are entirely optional elements and not required for submission.

Information Model for Response Data

Messages and Data Elements

The eCitation Service leverages the KS XML Batch Processing Response IEPD in representing the data structure of the XML response returned to applications consuming this service.

This IEPD will be shared by different applications used to validate and process XML document and will be referenced in different documents. In order to keep all the changes in one place, the details of the response data is not discussed here but redirected to the IEPD document that contains all the details. Please refer to the IEPD referenced below for a more detailed description of the response data.

IEPD Reference

The KS Citation IEPD Document is leveraged for the information model of this service. The IEPD is extended to represent the messages listed above. This document can be found at <http://www.kstrs.org/Traffic%20Reports/Forms/AllItems.aspx?RootFolder=%2FTraffic%20Reports%2FXML%20Schemas&FolderCTID=&View=%7BF8681317-7A7B-4FB4-B062-DDF68A88C345%7D>

The KS XML Batch Processing Response IEPD Document is leveraged for the information model of the response data returned by this service. This document can be found at

<https://projects.analysts.com/kansasecitation/TechnicalDocuments/Forms/AllItems.aspx?RootFolder=%2fkansasecitation%2fTechnicalDocuments%2fSubmission%20Service&FolderCTID=&View=%7bA9A48FB5%2d4AA8%2d4EE6%2d9765%2d0E4A4224228E%7d>

Behavior Model

Service Actions

Included in this section are the actions of the service.

Action Name	SubmitECitationData
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Action Purpose	
The SubmitECitationData is an action under ECitation Process which is responsible for logging details concerning the processing and passing the XML message to the primary Schematron Process orchestration which performs the bulk of the processing. Any errors generated within the primary orchestration are returned to the message origination consumer.	
Action Inputs	Action Outputs
NIEM XML	Batch Processing Response in XML Form
Action Provenance	
The provenance of this action is the same as the provenance of the service.	

Service Response

Response Time

The eCitation service is expected to respond to a request within 60 seconds. Whether or not the citation submitted is processed successfully, the service will return a message indicating the result of the operation.

If for any reason (such as network issues, power outage, etc.) the submitting application did not receive the response from the service within the allotted response time, the submitted citations may be resubmitted to the service. Resubmitting the same citations should not return any errors even if the previous processing was already successful.

Response Format

For the response returned by the service action SubmitECitationData, the eCitation Service leverages the KS Batch Processing Response IEPD which was created by Kansas Department of Transportation (KDOT). This IEPD is used by the eCitation Service to represent the XML batch processing error response. The Kansas Citation IEPD provides mappings for the following information:

Processing Status data

Document Processing Finding Data

Processing Status Data

Result Code – An indication of the success or failure processing of the batch and the individual documents.

Document Processing Finding Data

Source ID Text – A value that identifies the entity (Vehicle, Person, etc.) within the document where the document processing finding is detected.

Source Text – A value that identifies the field or location within the entity where the document processing finding is detected.

Message Text – The message details about the document processing finding.

Appendix A - References

Justice Reference Architecture Web Site	http://www.it.ojp.gov/globaljra
CJIS Security Policy	<p>CJIS Security Policy</p> <p>The CJIS Security Policy is considered to be Sensitive But Unclassified (SBU) material. This policy may not be posted to a public website and discretion must be exercised in sharing the contents of the policy with individuals and entities who are not engaged in law enforcement or the administration of criminal justice. A copy may be obtained by contacting the state’s CJIS Systems Officer (CSO).</p>
Kansas eCitation IEPD	http://www.kstrs.org/Traffic%20Reports/Forms/AllItems.aspx?RootFolder=%2FTraffic%20Reports%2FXML%20Schemas&FolderCTID=&View=%7BF8681317-7A7B-4FB4-B062-DDF68A88C345%7D
Kansas eCitation High-level Design Document	https://projects.analysts.com/kansasecitation/internal/Shared%20Documents/Phase%201B%20Deliverables/KS%20E-Cite%20High-level%20Design%20V1.2.docx

Kansas eCitation Data Requirements	http://www.kstrs.org/Traffic%20Reports/eCitation/eCitation%20Data%20Requirements-v1.1.docx
SOW	https://projects.analysts.com/kansasecitation/SignedDocuments/Kansas%20eCitation%20Project%20Phase%201C%20SOW%2012.28.2010.pdf
KS E-Cite Security Design Document	https://projects.analysts.com/kansasecitation/TechnicalDocuments/Security%20Model/KS%20E-Cite%20Security%20Detailed%20Design%20v1.0.0.docx
Kansas Batch Processing Response IEPD	https://projects.analysts.com/kansasecitation/TechnicalDocuments/Forms/AllItems.aspx?RootFolder=%2fkansasecitation%2fTechnicalDocuments%2fSubmission%20Service&FolderCTID=%26View=%7bA9A48FB5%2d4AA8%2d4EE6%2d9765%2d0E4A4224228E%7d

Appendix B - Glossary

CJIS	Criminal Justice Information System
GFIPM	Global Federated Identity and Privilege Management
MOU	Memorandums of Understanding
NCSC	National Center of State Courts
NCIC	National Crime Information Center
NDA	Non-disclosure Agreement
SBU	Sensitive but Unclassified
WS-SIP	Web Services Service Interaction Profile

Appendix C - Document History

Date	Version	Editor	Change
04/28/2011	0.1.0	Cindy Isip	Initial revision
05/04/2011	0.1.1	Jim Kita	Initial Review and Revisions
06/28/2011	0.1.2	Jim Kita, Cindy Isip	Revisions based on client feedback
07/14/2011	1.0.0	Jim Kita	Revision based on client feedback