

CIECA BMS Schema

Its Structure and Usage

Presentation Overview

- **What is contained in the Release Package**
- **What is contained in the BMS Schema package**
- **File Groups within the BMS Schema**
- **Example of Schema Structure**
- **Element Usage**
- **Other Notes**
- **Recap & Summary**

CIECA XML BMS Standards

- **Release Package**
 - **Schedule: Twice a year**
 - **Contents**
 - **BMS**
 - **Code Lists**
 - **Schema**
- **Implementation Guides**
- **Downloadable from the web site**

CIECA XML Standards



**Higher Standards for
the Collision Industry**

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CIECA Standards Development Committees (SDCs) develop and maintain various standards for the Collision Industry. CIECA's Standards support all six (6) segments of the Collision Industry.

CIECA's Standards include the:

- [XML - Business Implementation Guides](#) and associated documents,
- [XML - Collision Industry Business Messages](#),
- [Photo Image Standard](#),
- [EMS/EDI Code Lists](#),
- [Electronic Data Interchange \(EDI\)](#) set of Standards and Implementation Guides, and,
- [Estimating-to-Management System \(EMS\)](#) Standard.

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CIECA XML Standards



CIECA XML Standards Release Versions - Current Release 2008R1

The CIECA Release Package contains the Business Message Specification (BMS), the XML Schema, and the Code List.

Introduction

The CIECA Specification provides a robust and scalable framework for the exchange of collision data and instructions independent of a particular network technology or computing platform. The Specification facilitates the implementation of Electronic Commerce. It provides a forum and methods to develop and maintain objective, unbiased, and uniform Electronic Commerce standards and guidelines that encourage open competition and free choice. These values are in the best interest of all entities conducting business with and within the Collision Industry.

The biggest challenge of electronic commerce for most companies is integrating systems developed to serve similar needs with different technologies. The CIECA structure brings industry people together to learn together; car rental agencies, glass shops, collision shops, parts suppliers, and information vendors. Representatives from all segments are ensuring compatibility of systems, especially for insurers. The goal is to create a win-win situation that keeps everyone enthusiastic and working together for mutual benefit of common strategic direction for the evolution of existing products and services.





























The CIECA BMS

This document provides the collision industry with a common set of Business Messages that may be used to

CIECA XML BMS Schema

- **Schema Pattern follows Venetian Blind pattern**
 - **Combination of global reusable types and local elements**
- **BMS Schema Package Contents (2008R1)**
 - **1 Read Me document in MS WORD**
 - **27 xsd files**

CIECA XML BMS Schema

Name ▲	Type	Packe...	Has ...	Size	R...	Date
 BMS Schema Components Read Me	Microsoft Office Wor...	31 KB	No	103 KB	71%	5/15/2008 4:55 PM
 BMSAssignmentMessages	W3C XML Schema	2 KB	No	11 KB	88%	5/15/2008 4:56 PM
 BMSAssignmentService	W3C XML Schema	1 KB	No	1 KB	57%	5/15/2008 4:56 PM
 BMSAttachmentMessages	W3C XML Schema	1 KB	No	3 KB	73%	5/15/2008 4:56 PM
 BMSAttachmentService	W3C XML Schema	1 KB	No	1 KB	49%	5/15/2008 4:56 PM
 BMSAuthorizationMessages	W3C XML Schema	1 KB	No	5 KB	86%	5/15/2008 4:56 PM
 BMSAuthorizationService	W3C XML Schema	1 KB	No	1 KB	59%	5/15/2008 4:57 PM
 BMSCommonGlobalTypes	W3C XML Schema	10 KB	No	104 KB	92%	5/15/2008 6:15 PM
 BMSDispositionCommonTypes	W3C XML Schema	1 KB	No	5 KB	81%	5/15/2008 4:57 PM
 BMSDispositionMessages	W3C XML Schema	1 KB	No	5 KB	81%	5/15/2008 4:57 PM
 BMSDispositionService	W3C XML Schema	1 KB	No	2 KB	64%	5/15/2008 4:57 PM
 BMSEstimateCommonTypes	W3C XML Schema	2 KB	No	14 KB	87%	5/15/2008 5:11 PM
 BMSEstimateMessages	W3C XML Schema	1 KB	No	4 KB	77%	5/15/2008 4:58 PM
 BMSEstimateService	W3C XML Schema	1 KB	No	1 KB	52%	5/15/2008 4:58 PM
 BMSInvoiceCommonTypes	W3C XML Schema	3 KB	No	24 KB	90%	5/15/2008 6:35 PM
 BMSInvoiceMessages	W3C XML Schema	1 KB	No	3 KB	81%	5/15/2008 4:58 PM
 BMSInvoiceService	W3C XML Schema	1 KB	No	1 KB	56%	5/15/2008 4:58 PM
 BMSLocationCommonTypes	W3C XML Schema	2 KB	No	9 KB	85%	5/15/2008 4:59 PM
 BMSLocationMessages	W3C XML Schema	1 KB	No	3 KB	77%	5/15/2008 4:59 PM
 BMSLocationService	W3C XML Schema	1 KB	No	1 KB	56%	5/15/2008 4:59 PM
 BMSProcurementCommonTypes	W3C XML Schema	4 KB	No	37 KB	91%	5/15/2008 6:28 PM
 BMSProcurementMessages	W3C XML Schema	2 KB	No	14 KB	93%	5/15/2008 4:59 PM
 BMSProcurementService	W3C XML Schema	1 KB	No	2 KB	73%	5/15/2008 4:59 PM
 BMSRoot	W3C XML Schema	2 KB	No	6 KB	82%	5/15/2008 4:55 PM
 BMSSimpleTypes	W3C XML Schema	2 KB	No	5 KB	77%	5/15/2008 5:00 PM
 BMSVehicleRepairStatusCommonTypes	W3C XML Schema	1 KB	No	2 KB	67%	5/15/2008 5:00 PM
 BMSVehicleRepairStatusMessages	W3C XML Schema	1 KB	No	12 KB	92%	5/15/2008 5:00 PM
 BMSVehicleRepairStatusService	W3C XML Schema	1 KB	No	2 KB	65%	5/15/2008 5:00 PM

CIECA XML BMS Schema

- **BMSRoot.xsd (1)**
- **BMSSimpleTypes.xsd (1)**
- **BMSCommonGlobalTypes.xsd (1)**
- **BMS<MessageType>CommonTypes.xsd (6)**
 - **<MessageType> (Example: Vehicle Damage Estimate)**
- **BMS<MessageType>Service.xsd (9)**
- **BMS<MessageType>Messages.xsd (9)**

CIECA XML BMS Schema

- **BMSSimpleTypes.xsd**
 - **Definition of all the simple types**
 - **For example, integer, decimal, date-time**
 - **Reused in the entire schema**

CIECA XML BMS Schema

- **BMSRoot.xsd**
 - **Root Schema File**
 - **Links to all the sub-schema files**
 - **Your Starting Point**
 - **Used to validate a CIECA BMS message from one of your trading partners**

CIECA XML BMS Schema

```

<!-- Filename: BMSRoot.xsd -->
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="http://www.cieca.com/BMS" targetNamespace="http://www.cieca.com/BMS"
elementFormDefault="qualified" attributeFormDefault="unqualified" version="3.2.1">
  <xs:include schemaLocation="BMSCommonGlobalTypes.xsd"/>
  <xs:include schemaLocation="BMSEstimateCommonTypes.xsd"/>
  <xs:include schemaLocation="BMSDispositionCommonTypes.xsd"/>
  <xs:include schemaLocation="BMSProcurementCommonTypes.xsd"/>
  <xs:include schemaLocation="BMSVehicleRepairStatusCommonTypes.xsd"/>
  <xs:include schemaLocation="BMSInvoiceCommonTypes.xsd"/>
  <xs:include schemaLocation="BMSAssignmentMessages.xsd"/>
  <xs:include schemaLocation="BMSEstimateMessages.xsd"/>
  <xs:include schemaLocation="BMSDispositionMessages.xsd"/>
  <xs:include schemaLocation="BMSAttachmentMessages.xsd"/>
  <xs:include schemaLocation="BMSProcurementMessages.xsd"/>
  <xs:include schemaLocation="BMSVehicleRepairStatusMessages.xsd"/>
  <xs:include schemaLocation="BMSAuthorizationMessages.xsd"/>
  <xs:include schemaLocation="BMSInvoiceMessages.xsd"/>
  <xs:include schemaLocation="BMSLocationCommonTypes.xsd"/>
  <xs:include schemaLocation="BMSLocationMessages.xsd"/>
  <!--The CIECA Root Element - CIECA-->
  <xs:element name="CIECA">
    <xs:annotation>
      <xs:appinfo>
        <BMSVersion>3.2.1</BMSVersion>
        <SchemaBuildNumber>2</SchemaBuildNumber>
      </xs:appinfo>
      <xs:documentation>This schema is based on Collision Industry Electronic Commerce Association (CIECA) Business
Specification (BMS) document, Version 3.2.1, Release 2008R2, approved on 08/21/2008.</xs:documentation>
    </xs:annotation>
    <xs:complexType>
      <xs:choice>
        <xs:group ref="AssignmentService"/>
        <xs:group ref="EstimateService"/>
      </xs:choice>
    </xs:complexType>
  </xs:element>

```

CIECA XML BMS Schema

- **The Vehicle Damage Estimate Service refers to the individual request/response messages under it**

```
<xs:group name="EstimateService">  
  <xs:choice>  
    <xs:element ref="VehicleDamageEstimateAddRq"/>  
    <xs:element ref="VehicleDamageEstimateAddRs"/>  
  </xs:choice>  
</xs:group>
```

CIECA XML BMS Schema

• Vehicle Damage Estimate Add Request

• BMSEstimateMessages.xsd

```

BMSEstimateMessages.xsd - Notepad
File Edit Format View Help
<?xml version="1.0" encoding="UTF-8"?>
<!-- Created - Pedro Chiang -->
<!-- Last edit - Sanjay Jain 09/01/08 -->
<!-- Filename: BMSEstimateMessages.xsd -->
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="http://www.cieca.com/BMS" targetNamespace="http://www.cieca.com/BMS"
elementFormDefault="qualified" attributeFormDefault="unqualified" version="3.2.1">
  <xs:element name="VehicleDamageEstimateAddRq">
    <xs:annotation>
      <xs:documentation>Vehicle Damage estimate add request</xs:documentation>
    </xs:annotation>
    <xs:complexType>
      <xs:complexContent>
        <xs:extension base="MessageHeaderType">
          <xs:sequence>
            <xs:element name="SvcProviderName" type="Identifier" minOccurs="0"/>
            <xs:element name="RefClaimNum" type="RefClaimNumType" minOccurs="0"/>
            <xs:element name="DocumentInfo" type="DocumentInfoType"/>
            <xs:element name="ApplicationInfo" type="ApplicationInfoType" maxOccurs="unbounded"/>
            <xs:element name="EventInfo" type="EventInfoType"/>
            <xs:element name="AdminInfo" type="AdminInfoType"/>
            <xs:element name="EstimatorIDs" type="EstimatorIDsTypeType"/>
            <xs:element name="ClaimInfo" type="ClaimInfoType"/>
            <xs:choice>
              <xs:element name="VehicleInfo" type="VehicleInfoType"/>
              <xs:element name="PropertyInfo" type="PropertyInfoType"/>
            </xs:choice>
            <xs:element name="ProfileInfo" type="ProfileInfoType"/>
            <xs:element name="DamageLineInfo" type="DamageLineInfoType" maxOccurs="unbounded"/>
            <xs:element name="NonNewOEMPartInd" type="Boolean" minOccurs="0"/>
            <xs:element name="StorageDuration" type="StorageDurationType" minOccurs="0"/>
            <xs:element name="RepairTotalsInfo" type="RepairTotalsInfoType" maxOccurs="unbounded"/>
            <xs:element name="RepairTotalsHistory" type="RepairTotalsHistoryType" minOccurs="0"/>
          </xs:sequence>
        </xs:extension>
      </xs:complexContent>
    </xs:complexType>
  </xs:element>
</xs:schema>

```

CIECA XML BMS Schema

• Identifier

• BMSSimpleTypes.xsd

BMSSimpleTypes.xsd - Notepad

File Edit Format View Help

```

        <xs:minLength value="1"/>
    </xs:restriction>
</xs:simpleType>
<!--Identifier-->
<xs:simpleType name="Identifier">
    <xs:restriction base="NarrowCharacter">
        <xs:maxLength value="36"/>
        <xs:minLength value="1"/>
    </xs:restriction>
</xs:simpleType>
<!--Universally Unique Identifier (UUID)-->
<xs:simpleType name="UUID">
    <xs:restriction base="NarrowCharacter">
        <xs:maxLength value="36"/>
        <xs:minLength value="36"/>
        <xs:pattern value="([0-9]|[a-f][A-F]){8}-([0-9]|[a-f][A-F]){4}-([0-9]|[a-f][A-F]){4}-([0-9]|[a-f][A-F]){4}-([0-9]|[a-f][A-F]){12}"/>
        <!--<xs:pattern value="([v,0-9,A-F,a-f]{1,36})"/>-->
    </xs:restriction>
</xs:simpleType>
<!--Universal Resource Locator (URL)-->
<!--Universal Resource Identifier (URI)-->
<xs:simpleType name="URI">
    <xs:restriction base="xs:anyURI">
        <xs:minLength value="1"/>
    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="anyURI">
    <xs:restriction base="xs:string">
        <xs:minLength value="1"/>
    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="Binary">
    <xs:restriction base="xs:base64Binary"/>

```

CIECA XML BMS Schema

- **RefClaimNumType** – complex type specific to estimates only

```
BMSEstimateCommonTypes.xsd - Notepad
File Edit Format View Help
<?xml version="1.0" encoding="UTF-8"?>
<!-- Created - Pedro Chiang -->
<!-- Last edit - Sanjay Jain 09/01/08 -->
<!-- Filename: BMSEstimateCommonTypes.xsd -->
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="http://www.cieca.com/BMS" targetNamespace="http://www.cieca.com/BMS"
elementFormDefault="qualified" attributeFormDefault="unqualified" version="3.2.1">
  <!--<xs:include schemaLocation="BMSCommonGlobalTypes.xsd"/>-->
  <!-- Begin simpleTypes -->
  <xs:simpleType name="RefClaimNumType">
    <xs:restriction base="C">
      <xs:minLength value="1"/>
      <xs:maxLength value="30"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="RateDescType">
    <xs:restriction base="C">
      <xs:minLength value="1"/>
      <xs:maxLength value="50"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="TaxRateType">
    <xs:restriction base="Decimal">
      <xs:minInclusive value="0.00"/>
      <xs:maxInclusive value="100.00"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="LineNumType">
    <xs:restriction base="Integer">
      <xs:minInclusive value="1"/>
      <xs:maxInclusive value="9999"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="MessageCodeType">
```

CIECA XML BMS Schema

- **AdminInfoType** – complex type common to all messages; defined in common global types

BMSCommonGlobalTypes.xsd - Notepad

File Edit Format View Help

```
<!-- End simpleType definitions -->
<!-- Begin complexType definitions -->
```

```
<!-- Begin AdminInfo -->
```

```
<xs:complexType name="AdminInfoType">
```

```
<xs:choice>
```

```
<xs:sequence>
```

```
<xs:element name="InsuranceCompany" type="InsuranceCompanyType"/>
```

```
<xs:element name="ClaimOffice" type="ClaimOfficeType" minOccurs="0" maxOccurs="unbounded"/>
```

```
<xs:element name="InsuranceAgent" type="GenericPartyType" minOccurs="0"/>
```

```
<xs:element name="PolicyHolder" type="PolicyHolderType" minOccurs="0"/>
```

```
<xs:element name="Insured" type="GenericPartyType" minOccurs="0"/>
```

```
<xs:element name="Owner" type="GenericPartyType" minOccurs="0"/>
```

```
<xs:element name="Claimant" type="ClaimantType" minOccurs="0"/>
```

```
<xs:element name="Estimator" type="EstimatorType" minOccurs="0" maxOccurs="unbounded"/>
```

```
<xs:element name="InspectionSite" type="GenericPartyType" minOccurs="0"/>
```

```
<xs:element name="RepairFacility" type="GenericPartyType" minOccurs="0"/>
```

```
<xs:element name="VehicleLocationSite" type="GenericPartyType" minOccurs="0"/>
```

```
<xs:element name="LossLocationSite" type="GenericPartyType" minOccurs="0"/>
```

```
<xs:element name="InitialPickUpLocationSite" type="LocationSiteType" minOccurs="0"/>
```

```
<xs:element name="DestinationLocationSite" type="LocationSiteType" minOccurs="0"/>
```

```
<xs:element name="Consolidator" type="GenericPartyType" minOccurs="0"/>
```

```
<xs:element name="Adjuster" type="AdjusterType" minOccurs="0"/>
```

```
<xs:element name="Supplier" type="GenericPartyType" minOccurs="0" maxOccurs="unbounded"/>
```

```
<xs:element name="ThirdPartyAdministrator" type="ThirdPartyAdministratorType" minOccurs="0" maxOccurs="unbounded"/>
```

```
<xs:element name="Renter" type="RenterType" minOccurs="0"/>
```

```
<xs:element name="AlternateInsurer" type="GenericPartyType" minOccurs="0"/>
```

```
<xs:element name="Receiver" type="GenericPartyType" minOccurs="0"/>
```

```
<xs:element name="Forwarder" type="GenericPartyType" minOccurs="0"/>
```

```
<xs:element name="Sender" type="GenericPartyType" minOccurs="0"/>
```

```
<xs:element name="Submitter" type="GenericPartyType" minOccurs="0"/>
```

```
<xs:element name="RentalCarCompany" type="GenericPartyType" minOccurs="0"/>
```

```
<xs:element name="RentalOffice" type="GenericPartyType" minOccurs="0"/>
```

CIECA XML BMS Schema

- **Element Usage**
 - **Optional**
 - **Required**
 - **Optional XOR**
 - **Optional AND**
 - **Required XOR**
 - **Required OR**

CIECA XML BMS Schema

- **Element Usage**

- **Optional:**

- ```
<xs:element name="Claimant" type="ClaimantType" minOccurs="0"/>
```

- **Required**

- ```
<xs:element name="Owner" type="GenericPartyType"/>
```

- **Optional XOR**

- ```
<xs:choice minOccurs="0">
 <xs:element name="CommPhone" type="PhoneNumber"/>
 <xs:element name="CommEmail" type="URI"/>
 <xs:element name="Address" type="AddressType"/>
 <xs:element name="CommInstantMessaging" type="CommInstantMessagingType"/>
</xs:choice>
```

# CIECA XML BMS Schema

- **Element Usage**

- **Optional AND**

```
<xs:sequence minOccurs="0">
 <xs:element name="DocumentVerCode" type="ClosedEnum"/>
 <xs:element name="DocumentVerNum" type="DocumentVerNumType"/>
</xs:sequence>
```

- **Required XOR**

```
<xs:choice>
 <xs:element name="CommPhone" type="PhoneNumber"/>
 <xs:element name="CommEmail" type="URI"/>
 <xs:element name="Address" type="AddressType"/>
 <xs:element name="CommInstantMessaging" type="CommInstantMessagingType"/>
</xs:choice>
```

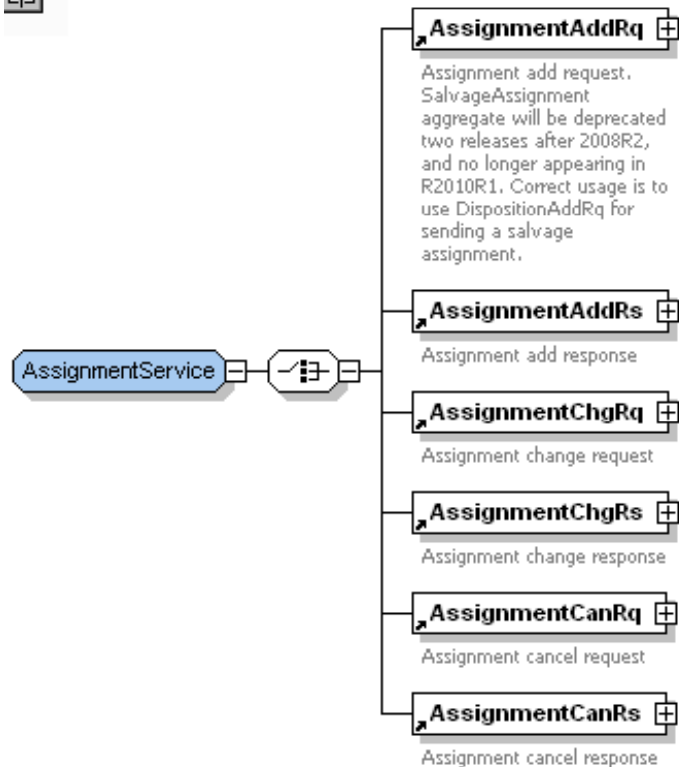
- **Required OR**

```
<xs:choice>
 <xs:sequence>
 <xs:element name="EstimatorID" type="EstimatorIDType"/>
 <xs:element name="FirstName" type="NameType" minOccurs="0"/>
 <xs:element name="LastName" type="LastNameType" minOccurs="0"/>
 </xs:sequence>
 <xs:sequence>
 <xs:element name="FirstName" type="NameType"/>
 <xs:element name="LastName" type="LastNameType" minOccurs="0"/>
 </xs:sequence>
 <xs:element name="LastName" type="LastNameType"/>
</xs:choice>
```

# CIECA XML BMS Schema

- Other Notes

- BMS<MessageType>Service.xsd



# CIECA XML BMS Schema

- **Other Notes**
  - **Variable Length Character fields (City example)**

BMSCommonGlobalTypes.xsd - Notepad

File Edit Format View Help

```
</xs:simpleType>|
<xs:simpleType name="CityType">
 <xs:restriction base="C">
 <xs:minLength value="1"/>
 <xs:maxLength value="30"/>
 </xs:restriction>
</xs:simpleType>
```

# Recap

- **The BMS Schema is contained in the Release Package as a zipped file**
- **It contains:**
  - **One Read-Me Word file**
  - **One Root xsd**
  - **One Common Global Type xsd**
  - **One Simple Types xsd**
  - **<MessageType> Common Type xsds (currently six)**
  - **<MessageType> Service xsd's (currently nine; one for each service)**
  - **<MessageType> Message xsd's (currently nine; one for each service)**
- **Each New Service = 2 or 3 additional xsd's**

**Thank you for your time  
and  
Don't forget to review  
CIECA's other course selections**