

SMS Broker System
Software Integration

Our system uses
WCF
(Windows Communication Foundation)
&
.NET

Extract Reference File and Currency Rate Classes.

(ver. from 8/31/2025)

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1. Special Notes.

1. Extract References Files (ERF).

There are Extract References Files (ERF) on Customs side. They contains background information (about countries, carriers, FIRMS, Custom ports, foreign ports, Harmonized Tariff Schedule, currency rates) available to Customs ABI users. To get this info users should send ERF Queries. Objects of classes described in this document represent items of corresponded ERF files – [CountryInfo](#), [Carrier](#), [FIRMS](#), [CustomsPort](#), [ForeignPort](#), [HarmonizedTariff](#).

On SMS-server side currency exchange rates are updated automatically on daily bases. (Formally currency exchange rates file is not ERF). There is no a need for user to send a request to Customs for the rates update. Other information can be renewed by user's request. For more details please see *07. ABI classes and interfaces.pdf*, *08. Annex. ABI classes and interfaces.pdf*.

2. Carrier.

Class: [\[DataContract\]](#)

`SMS.Broker.DataContracts.Directories.Carrier : EntityDirectory`

Class represents a transaction of data transmitting to and receiving from Customs.

Properties:

Attributes	Name	Type	Description
[StringLength(32)] [DataMember]	Address	string	The address of the carrier.
[StringLength(3)] [DataMember]	AirlineICAO	string	ICAO code.
[StringLength(3)] [DataMember]	AirwayBillPrefix	string	The International Air Transport Association (IATA) prefix.
[Required] [StringLength(4)] [DataMember]	Code	string	A 2, 3, or 4 position code identifying the carrier.
[NotMapped] [IgnoreDataMember]	EntityIsCommon	bool	For internal use.
[StringLength(3)] [DataMember]	ErrorCode	string	Code returned from Customs if a Carrier code query rejected. Has Possible Values.
[StringLength(50)] [DataMember]	Name	string	The carrier name spelled out, if the carrier exists and is active in ACE.
[DataMember] [DateTimeUTC]	Time	DateTime?	For internal use.
[DataMember]	Type	TransportationModeType	A code representing the carrier mode of transportation.

TransportationModeType enumerator:

```

TransportationModeType.Sea,
TransportationModeType.Air,
TransportationModeType.Unknown,
TransportationModeType.Rail,
TransportationModeType.Truck,
TransportationModeType.Auto,
TransportationModeType.Mail,
TransportationModeType.Passenger.

```

Interface: [ServiceContract]

SMS.Broker.ServiceContracts.Directories.IHarmonizedTariffManager :
IEntityManagerDirectory<HarmonizedTariff>

Has only methods inherited from base IEntityManagerDirectory interface.

3. Country Info.

Class: [DataContract]

SMS.Broker.DataContracts.Directories.CountryInfo : EntityDirectory

Properties:

Attributes	Name	Type	Description
[DataMember] [StringLength(1)]	AGOA_CBTPA_ATPDEA_SPI	string	A code representing the eligibility to the ATPDEA SPI Indicator AGOA (African Growth & Opportunity Act), CBTPA (Caribbean Basin Trade Partnership Act or Andean Trade Promotion & Drug Eradication Act (ATPDEA) Special Trade Programs).
[Column(TypeName = "date")] [DataMember]	AGOA_CBTPA_ATPDEA_SPIBeginDate	DateTime?	A date representing the beginning date for the AGOA/CBTPA/ATPDEA Special Programs Indicator.
[Column(TypeName = "date")] [DataMember]	AGOA_CBTPA_ATPDEA_SPIEndDate	DateTime?	A date in representing the ending date for the AGOA/CBTPA/ATPDEA Special Programs Indicator.
[DataMember] [StringLength(1)]	AGOA_LDDIndicator	string	A code indicating if the country is considered an AGOA LDD country.
[Required] [StringLength(2)] [DataMember]	Code	string	The International Organization for Standardization (ISO) country code representing the country.
[DataMember] [StringLength(4)]	CountryCode	string	The Schedule C country number identifying the country.
[StringLength(3)] [DataMember]	Currency	string	Country ISO currency code. Has Possible Values.
[DataMember]	DrawbackEligibility	bool	Boolean value that Indicates if the country is eligible for drawback.
[NotMapped] [IgnoreDataMember]	EntityIsCommon	bool	For internal use.
[Column(TypeName = "date")] [DataMember]	GSPBeginDate	DateTime?	A date representing the GSP begin date.
[Column(TypeName = "date")] [DataMember]	GSPEndDate	DateTime?	A date representing the GSP end date.
[DataMember]	GSPIndicator	int?	A code representing the GSP indicator. (If GSP is applicable or not.) Has Possible Values.
[DataMember] [StringLength(2)]	MiscellaneousSPI	string	Miscellaneous SPI Indicator.
[Column(TypeName = "date")]	MiscellaneousSPIBeginDate	DateTime?	A numeric date

[DataMember]			representing the begin date for the miscellaneous indicator.
[Column(TypeName = "date")] [DataMember]	MiscellaneousSPIEndDate	DateTime?	A numeric date representing the end date for the miscellaneous indicator.
[StringLength(30)] [DataMember]	Name	string	Country name.
[Column(TypeName = "date")] [DataMember]	RateColumnBeginDate	DateTime?	A numeric date representing the beginning effective date for the Rate Column Indicator.
[Column(TypeName = "date")] [DataMember]	RateColumnEndDate	DateTime?	A numeric date representing the ending effective date for the Rate Column Indicator.
[DataMember]	RateColumnIndicator	int?	Rate column indicator - a code indicating the column that contains the rate of duty. Has Possible Values.
[DataMember]	RestrictionIndicator	int?	A code representing the restriction indicator (Restricted / Not restricted). Has Possible Values.
[Column(TypeName = "date")] [DataMember]	RestrictionIndicatorBeginDate	DateTime?	A numeric date representing the beginning effective date for the restriction indicator.
[Column(TypeName = "date")] [DataMember]	RestrictionIndicatorEndDate	DateTime?	A numeric date representing the ending effective date for the restriction indicator.
[Column(TypeName = "date")] [DataMember]	SPIBeginDate	DateTime?	A numeric date representing the beginning effective date for the Special Programs Indicator.
[DataMember] [StringLength(1)]	SPICode	string	Special Programs Indicator. Has Possible Values.
[Column(TypeName = "date")] [DataMember]	SPIEndDate	DateTime?	A numeric date representing the ending date for the Special Programs Indicator.
[DataMember] [DateTimeUTC]	Time	DateTime?	For internal use.

Instance methods:

Attributes	Name	Type	Description
	GetRateIndicator(DateTime date)	int	Returns rate indicator for a given date.

Interface: [ServiceContract]
SMS.Broker.ServiceContracts.Directories.ICountryInfoManager :
IEntityManagerDirectory<CountryInfo>

Has only methods inherited from base IEntityManagerDirectory interface.

4. Currency Exchange Rates.

Class: [DataContract]
SMS.Broker.DataContracts.Directories.CurrencyRate : EntityDirectory

Properties:

Attributes	Name	Type	Description
[StringLength(3)] [DataMember] [Required]	Code	string	ISO Currency Code. Has Possible Values.
[Column(TypeName = "date")] [DataMember]	Date	DateTime	Exchange Rate Date.
[NotMapped] [IgnoreDataMember]	EntityIsCommon	bool	For internal use.
[DataMember] [StringLength(1)]	Indicator	string	Has Possible Values.
[DataMember] [DecimalPrecision(8, 6)]	Rate	decimal	Exchange Rate
[DataMember] [DateTimeUTC]	Time	DateTime?	For internal use.

Interface: [ServiceContract]
SMS.Broker.ServiceContracts.Directories.ICurrencyRateManager :
IEntityManagerDirectory<CurrencyRate>

Instance methods:

Attributes	Name	Type	Description
[OperationContract] [FaultContract(typeof(ActionResultFault))]	GetActualRate(string currencyCode, DateTime date)	decimal	Returns currency exchange rate actual for a given date.

5. Customs port.

Class: [DataContract]

SMS.Broker.DataContracts.Directories.CountryInfo : EntityDirectory

Properties:

Attributes	Name	Type	Description
[StringLength(32)] [DataMember]	Address1	string	The first line of the region/district/port address.
[StringLength(32)] [DataMember]	Address2	string	The second line of the region/district/port address.
[StringLength(32)] [DataMember]	Address3	string	The third line of the region/district/port address.
[StringLength(3)] [DataMember]	AirportIATACode	string	Airport IATA code.
[StringLength(1)] [DataMember]	CarrierType	string	The first line of the region/district/port address. Has Possible Values.
[StringLength(15)] [DataMember]	City	string	The city where the region/district/port is located.
[Required] [StringLength(4)] [DataMember]	Code	string	A code representing the region/district/port.
[NotMapped] [IgnoreDataMember]	EntityIsCommon	bool	For internal use.
[StringLength(24)] [DataMember]	Name	string	The name of the port.
[DataMember]	ParentPorts	List<CustomsPort>	Parent Customs ports for Customs port as subport.
[DataMember]	PortOfUnlading	bool	Indicates the validity of the port of unlading.
[DataMember]	PrimaryTeamLocation	CustomsPort	Primary team location.
[DataMember]	PrimaryTeamLocation_Id	long?	Primary team location Id.
[DataMember]	PrimaryTeamLocationParents	List<CustomsPort>	For internal use.
[StringLength(1)] [DataMember]	Region	string	The name of the region/district/port.
[DataMember]	SecondaryTeamLocation	CustomsPort	Secondary team location.
[DataMember]	SecondaryTeamLocation_Id	long?	Secondary team location Id.
[DataMember]	SecondaryTeamLocationParents	List<CustomsPort>	For internal use.
[StringLength(2)] [DataMember]	State	string	The state where the region/district/port is located.
[DataMember]	SubPorts	List<CustomsPort>	A list of codes representing the region/district/port subports.
[DataMember]	Time	DateTime?	For internal use.

[DateTimeUTC]			
[StringLength(9)] [DataMember]	ZIP	string	The zip code of the region/district/port.

Instance methods:

Attributes	Name	Type	Description
	IsTransportationModeAllowed(string transportationMode)	bool	Indicates if the transportation mode is available for port.

Interface: [ServiceContract]
SMS.Broker.ServiceContracts.Directories.ICustomsPortManager :
IEntityManagerDirectory<CustomsPort>

Has only methods inherited from base IEntityManagerDirectory interface.

6. FIRMS

Class: [DataContract]
SMS.Broker.DataContracts.Directories.FIRM : EntityDirectory
Contains info about Facilities Information and Resources Management System (FIRMS).

Properties:

Attributes	Name	Type	Description
[StringLength(35)] [DataMember]	Address	string	Facility address.
[StringLength(35)] [DataMember]	City	string	City.
[StringLength(4)] [DataMember]	Code	string	A Facilities Information and Resources Management System (FIRMS) code representing the location of goods.
[StringLength(2)] [DataMember]	Country	string	Country. Has possible values.
[DataMember]	CustomsPort	CustomsPort	Customs port.
[DataMember]	CustomsPort_Id	long?	Customs port Id.
[NotMapped] [IgnoreDataMember]	EntityIsCommon	bool	For internal use.
[DataMember] [StringLength(2)]	FacilityType	string	Facility type. Has possible values.
[DataMember]	LastUpdate	DateTime?	The date of the last facility information update (on Customs side).
[StringLength(35)] [DataMember]	Name	string	Name of facility.

[StringLength(15)] [DataMember]	Phone	string	Phone.
[StringLength(2)] [DataMember]	State	string	State. Has possible values.
[DataMember]	Time	DateTime?	For internal use.
[StringLength(9)] [DataMember]	ZIP	string	ZIP code.

Interface: [ServiceContract]
SMS.Broker.ServiceContracts.Directories.IFIRMManager :
IEntityManagerDirectory<FIRM>

Has only methods inherited from base IEntityManagerDirectory interface.

7. Foreign Port.

Class: [DataContract]
SMS.Broker.DataContracts.Directories.ForeignPort : EntityDirectory

Properties:

Attributes	Name	Type	Description
[Required] [StringLength(5)] [DataMember]	Code	string	The code identifying the foreign port of lading.
[DataMember] [StringLength(2)]	Country	string	Port country. Has Possible Value.
[NotMapped] [IgnoreDataMember]	EntityIsCommon	bool	For internal use.
[StringLength(50)] [DataMember]	Name	string	The name of the foreign port.
[DataMember] [DateTimeUTC]	Time	DateTime?	For internal use.
[DataMember]	Type	Carrier.TransportationModeType	Transportation mode available for the port.

Interface: [ServiceContract]
SMS.Broker.ServiceContracts.Directories.IForeignPortManager :
IEntityManagerDirectory<ForeignPort>

Has only methods inherited from base IEntityManagerDirectory interface.

8. Harmonized Tariff.

Class: [DataContract]
SMS.Broker.DataContracts.Directories.HarmonizedTariff : EntityDirectory

Harmonized tariff from Harmonized Tariff Schedule (HTS).
 HTS Chapters from 1 – 99: <https://hts.usitc.gov/>

Properties:

Attributes	Name	Type	Description
[StringLength(1)] [DataMember]	ABITransactionCode	string	Code of incoming ABI transaction that update harmonized tariff info. Has Possible Values.
[DataMember] [DateTimeUTC]	ABITransactionTime	DateTime?	Date/Time of incoming ABI transaction.
[StringLength(1)] [DataMember]	AdditionalTariffNumberIndicator	string	A code indicating if an additional tariff number may be required with this tariff number. Has Possible Values.
[StringLength(1)] [DataMember]	AntidumpingDutyFlag	string	A code of "1" indicating the tariff number is subject to an antidumping duty. Has Possible Values.
[StringLength(1)] [DataMember]	BaseRateIndicator	string	A code indicating if the rate contains a base rate. If the base rate indicator is "B", the duty rate is a base rate. Has Possible Values.
[DataMember]	BeginEffectiveDate	DateTime	A date that indicates when HTS record (harmonized tariff) becomes active.
[Required] [StringLength(10)] [DataMember]	Code	string	A code from HTS of United States that represents Tariff Number.
[DataMember] [DecimalPrecision(12, 8)]	Column1RateAdValorem	decimal	The ad valorem rate of duty that appears in the General column of the HTS.
[DataMember] [DecimalPrecision(12, 8)]	Column1RateOther	decimal	The rate of duty that appears in the General column of the HTS hat is not an ad valorem rate or a specific rate.
[DataMember] [DecimalPrecision(12, 8)]	Column1RateSpecific	decimal	The specific rate of duty that appears in the General column of the HTS.
[DataMember] [DecimalPrecision(12, 8)]	Column2RateAdValorem	decimal	The ad valorem rate of duty that appears in Column 2 of the HTS.
[DataMember] [DecimalPrecision(12, 8)]	Column2RateOther	decimal	The rate of duty that appears in Column 2 of

8)]			the HTS that is not an ad valorem rate or a specific rate.
[DataMember] [DecimalPrecision(12, 8)]	Column2RateSpecific	decimal	The specific rate of duty that appears in Column 2 of the HTS.
[StringLength(1)] [DataMember]	CountervailingDutyFlag	string	A code of "1" indicating the tariff number is subject to countervailing duty. Has Possible Values.
[StringLength(2)] [DataMember]	CountryOfOriginEditCode	string	A code representing the ISO country of origin edit code. (Country of origin is a country eligible for the general column 1 or 2 duty rate).
[StringLength(1)] [DataMember]	DutyComputationCode	string	A code indicating the formula to be used to compute the duty. Has Possible Values.
[DataMember]	EndEffectiveDate	DateTime	The date that indicates the last date the HTS record (harmonized tariff) is effective.
[NotMapped] [IgnoreDataMember]	EntityIsCommon	bool	For internal use.
[StringLength(1)] [DataMember]	EntryDateRestrictionCode1	string	A code representing the first entry date restriction code. Has Possible Values.
[StringLength(1)] [DataMember]	EntryDateRestrictionCode2	string	A code representing the second entry date restriction code. Has Possible Values.
[StringLength(20)] [DataMember]	GSPExcludedCountries	string	The International Organization for Standardization (ISO) country code that indicates countries not eligible for preferential treatment under GSP.
[DataMember]	InfoByISO	List<HarmonizedTariffISO>	Collection of HarmonizedTariffISO objects.
[StringLength(2)] [DataMember]	MiscellaneousPermitLicenseIndicator	string	A code indicating if a tariff number may be subject to a miscellaneous permit/license number. Has Possible Values.
[Required] [StringLength(30)] [DataMember]	Name	string	Commodity description.
[DataMember]	NumberOfReportingUnits	int	The number of reporting units required

			by the Bureau of the Census.
[DataMember]	PGA	string	The reference to PGA object.
[StringLength(3)] [DataMember]	QuantityEditCode	string	A code representing the quantity edit code. Has Possible Values.
[DataMember] [DecimalPrecision(10, 5)]	QuantityHightBounds	decimal	A value representing the maximum (highest) quantity edit.
[DataMember] [DecimalPrecision(10, 5)]	QuantityLowBounds	decimal	A value representing the minimum (lowest) quantity edit.
[StringLength(1)] [DataMember]	QuotaIndicator	string	A code of "1" indicating the tariff number may be subject to quota. Has Possible Values.
[StringLength(4)] [DataMember]	RestrictionDateBegin1	string	A date representing the first begin restriction date.
[StringLength(4)] [DataMember]	RestrictionDateBegin2	string	A date representing the second begin restriction date.
[StringLength(4)] [DataMember]	RestrictionDateEnd1	string	A date representing the first end restriction date.
[StringLength(4)] [DataMember]	RestrictionDateEnd2	string	A date representing the second end restriction date.
[DataMember]	SPICodes	string	In a general case a concatenation of 2-position codes indicating if a tariff number is subject to a special programs.
[StringLength(3)] [DataMember]	TextileCategoryNumber	string	A code indicating the textile category assigned to the tariff number.
[DataMember] [DateTimeUTC]	Time	DateTime?	For internal use.
[DataMember] [StringLength(3)]	Unit1	string	A code representing the first unit of measure. Has Possible Values.
[DataMember] [StringLength(3)]	Unit2	string	A code representing the second unit of measure. Has Possible Values.
[DataMember] [StringLength(3)]	Unit3	string	A code representing the third unit of measure. Has Possible Values.
[StringLength(3)]	ValueEditCode	string	Value Edit Codes

[DataMember]			associated with the minimum (lowest) and maximum (highest) value range limits follow. Has Possible Values.
[DataMember] [DecimalPrecision(10, 5)]	ValueHightBounds	decimal	A value representing the maximum value edit.
[DataMember] [DecimalPrecision(10, 5)]	ValueLowBounds	decimal	A value representing the minimum value edit.

Instance methods:

Attributes	Name	Type	Description
	AllowSPI(string spi)	bool	Returns true if an SPI code is eligible for the harmonized tariff.
	IsRestricted(DateTime date)	bool	Returns true if harmonized tariff is restricted on the date.

Interface: [ServiceContract]

SMS.Broker.ServiceContracts.Directories.IHarmonizedTariffManager :
IEntityManagerDirectory<HarmonizedTariff>

Instance methods:

Attributes	Name	Type	Description
[OperationContract]	GetActual(string code, DateTime date, string include)	HarmonizedTariff	Gets a harmonized tariff actual on some date by its code.
[OperationContract] [FaultContract(typeof(ActionFault))]	IsTariffActive(string code, DateTime date)	bool	Return true if tariff is active for some date.
[OperationContract] [FaultContract(typeof(ActionFault))]	PGARequirements(long id)	List<PGAAgencyTariff Code>	PGA-related information.
[OperationContract]	PutToQUEOneWayTariffs(List<Tuple<string, DateTime>> tariffs)	void	Sends asynchronous request to Customs to get tariffs by its code for some date.

8.1 Harmonized Tariff ISO.

Class: [DataContract]

SMS.Broker.DataContracts.Directories.HarmonizedTariffISO : EntityChild

Additional harmonized tariff information.

Properties:

Attributes	Name	Type	Description
[StringLength(2)] [DataMember]	CountryCode	string	A code representing the country for special rates. It can be ISO country code or some special letter (for some trade agreements).
[NotMapped] [IgnoreDataMember]	EntityIsCommon	bool	For internal use.
[DataMember]	HarmonizedTariff	HarmonizedTariff	Parent harmonized tariff.
[DataMember]	HarmonizedTariff_Id	long	Parent harmonized tariff Id.
[DataMember] [DecimalPrecision(12, 8)]	RateSpecialAdValorem	decimal	The ad valorem rate of duty listed in the Special column of the HTS.
[DataMember] [DecimalPrecision(12, 8)]	RateSpecialOther	decimal	The rate of duty listed in the Special column of the HTS that is not a specific or ad valorem rate.
[DataMember] [DecimalPrecision(12, 8)]	RateSpecialSpecific	decimal	The specific rate of duty listed in the Special column of the HTS.
[StringLength(3)] [DataMember]	TaxFeeClassCode	string	A code representing the tax/fee class.
[StringLength(1)] [DataMember]	TaxFeeComputationCode	string	A code indicating tax/fee computation formula.
[StringLength(1)] [DataMember]	TaxFeeFlag	string	A code indicating a tax/fee is required. Has possible value.
[DataMember] [DecimalPrecision(12, 8)]	TaxFeeRateAdValorem	decimal	The ad valorem rate of duty required to compute taxes and/or fees.
[DataMember] [DecimalPrecision(12, 8)]	TaxFeeRateSpecific	decimal	The specific rate of duty required to compute taxes and/or fees.

Instance methods:

Attributes	Name	Type	Description
	ToString()	string	Returns object's text representation.
	ToShortString()	string	Returns short object's text representation.

8.2 Agency Tariff Code.

Class: [DataContract]
SMS.Broker.Lists.PGAAgencyTariffCode

Contains Agency Tariff Code. Please see CATAIR ACE Agency Tariff Code Reference Guide:
<https://www.cbp.gov/trade/ace/catair>

Properties:

Attributes	Name	Type	Description
	AgencyCode	string	PGA agency code.
	Flag	string	"M"/"R" – required/maybe required flag.
	Programs	string	PGA program.

Static methods:

Attributes	Name	Type	Description
	Info(string PGA)	string	Returns object's text representation of Agency Tariff Codes by their code. PGA is a string concatenation of codes. Each code holds 3 positions, for example "NM3FD1".