VOTING Stimmregister

Person Filter
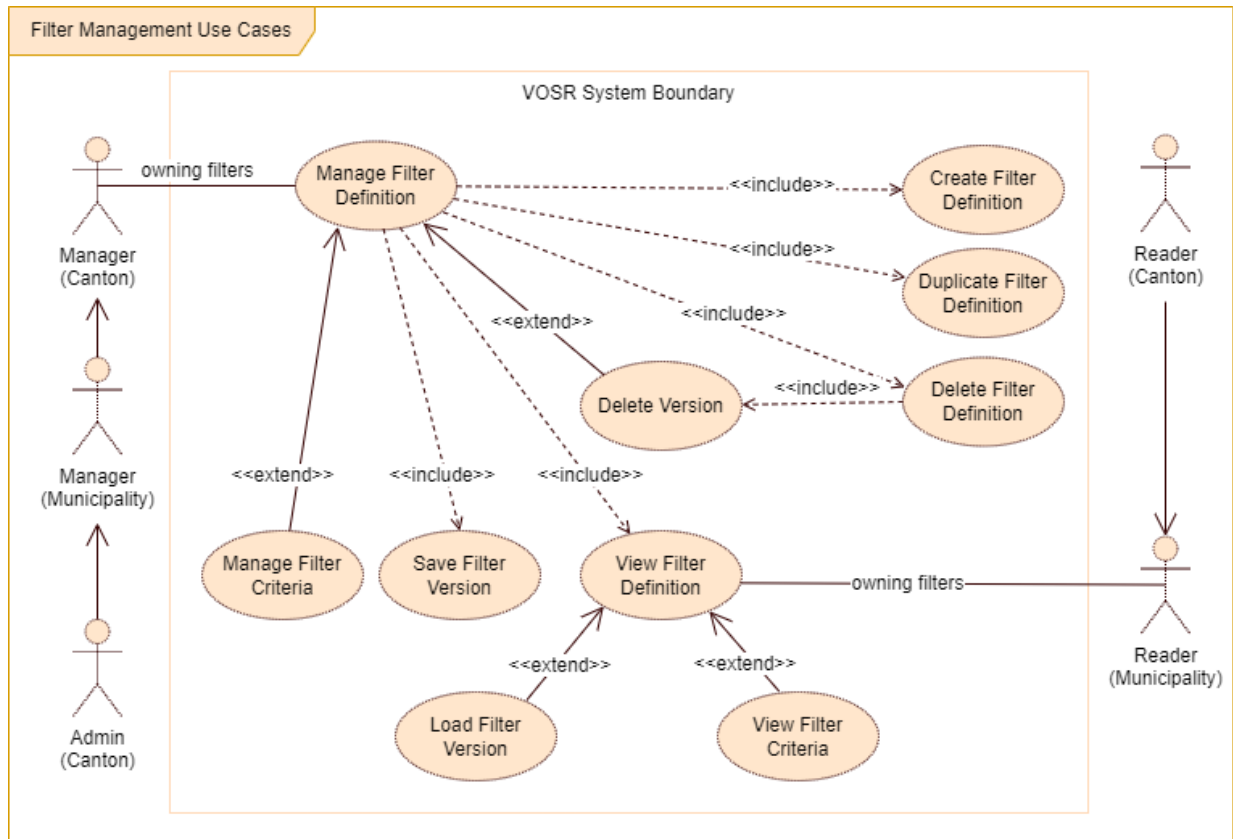
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Contents

1. Filter Management

1.1 Use Cases

#	Use Case	Description
1	View Filter Definition	An actor with at least reader rights can view all owning filter definitions, versions and filter criteria from the logged in domain of influence level. The term 'owning' means, that only filters on the logged in domain of influence level (e.g canton) level can be viewed. For example, a canton manager cannot see the filters from subordinate municipalities.
2	Load Filter Version	An actor can load any of the associated filter versions for a filter definition.
3	View Filter Criteria	An actor can view the associated filter criteria for any of the filter versions.
4	Manage Filter Definition	The actors with role Manager or Admin are allowed to manage their owning filters.
5	Create Filter Definition	Filters can be created by an actor. When a filter is created it can be used by consuming systems without further configuration. A 4-eyes principle is not required within the scope of an approval process.

#	Use Case	Description
6	Duplicate Filter Definition	The actor can duplicate filters. When duplicating a filter, no versions are duplicated, but only the initial live filter with all its descriptions and filter criteria.
7	Delete Filter Definition	A filter definition can be deleted including all its filter criteria and versions. Once deleted, this filter cannot be accessed anymore.
8	Delete Version	Filter versions can be deleted individually by "Manage Filter Definition" while the use case "Delete Filter Definition" automatically deletes all associated filter versions.
9	Manage Filter Criteria	The filter criteria for a filter definition can be changed at any time while the filter criteria for versions is read only at the time of creating a new version.
10	Save Filter Version	New filter versions can be created at any time. Once a new version is created, the result set and filter criteria is set to read only.

2.   Filter Criteria

2.1   Filter Types

The following table shows all required filter types that can be used to search for specific persons via the person search or filter management components. Both components use exactly the same logic for filtering and only differ by the default set of initially shown filters.

Filter Type Id	Format	Operator Name (OP)	Operator Id	Comparison	Availability
string	Text	Contains	contains	Case insensitive	BC-FILTER-TEXT
		Equals	equals	Case insensitive	BC-FILTER-TEXT
		Starts With	startswith	Case insensitive	BC-FILTER-TEXT
		End With	endswith	Case insensitive	BC-FILTER-TEXT
string	Text	Equals	equals	Case insensitive	BC-MASKED
date	ISO 8601	Equals	equals	Exact match on date	BC-FILTER-DATE
				Greater match	BC-FILTER-DATE
				Less match	BC-FILTER-DATE
boolean	Text (true/false)	Equals	equals	Exact match on flag	BC-CHECKBOX
numeric	Number	Equals	equals	Exact match on number	BC-NUMBER
		Greater	greater	Greater match	BC-FILTER-NUMBER
		Greater Equal	greaterequal	Greater or exact match	BC-FILTER-NUMBER
		Less	less	Less match	BC-FILTER-NUMBER
		Less Equal	lessequal	Less or exact match	BC-FILTER-NUMBER
multiselect	JSON List	Contains	contains	Case insensitive	BC-DROPDOWN
select	Text	Equals	equals	Case insensitive	BC-DROPDOWN

2.2   Filter Fields

The filter management provides a defined set of predefined filters that can be used for simple and advanced search functions. Each filter is based on one of the filter types from the previous chapter and has its very specific input validation and search rules. All filters can be individually selected from a drop-down and are shown in the order as shown from the table below. The

most important filters are kept as 'sticky' and always appear on top. Beside the normal field-based filters, there are also calculated or combined filters.

2.2.1 Legend

#	Filter position from the UI drop down selection.
Reference Id	Reference as defined by the importer fields or a custom id for calculated fields. Details for each field can be found under: Person
Filter Label	The visual and translated label name for the user interface (supported language: de-DE)
Filter Type	The filter type defines how the filter appears and what operators are supported for the user search experience.
Order Type	The order type 'sticky' defines all fields which should be listed and shown by default on top of the filter selection drop-down from the UI
Input Validation	The input validation for the filter input. The same validation is implemented by in the front- and backend.
Filter Type	The filtertype 'field' represents a common field as defined by Person while 'calculated' filters are customized filters.
Addition	Technical or business related information for better understanding and implementation details.

2.2.2 Fields

Validation Rule Reference: VO Ausmittlung - Daten Validierung

#	Reference Id	Filter Label	Filter Type	Order (Person)	Order (Filter)	Input Validation	Filter Type	Addition
1	Vn	AHVN13	String			regex(^756\.?\d{4}\.?\d{4}\.?\d{2}$)	FIELD	**Placeholder**: 756.xxxx.xxxx.xx
2	MunicipalityId	BFS	Numeric		7 STICKY	min(1), max(9999)	FIELD	
3	RestrictedVotingAndElectionRightFederation	Stimmverzicht	Boolean		5 STICKY	-	FIELD	**Default value**: false
4	Age	Alter	Numeric		2 STICKY	min(0), max(150)	CALCULATED	**Default value**: 18 (Ebene Bund)
5	SwissCitizenship	Schweizer Staatsbürgerschaft	Select		3 STICKY	-	CALCULATED	**Default value:** Ja 1. 0: Undefined 2. 1: Ja 3. 2: Nein

#	Reference Id	Filter Label	Filter Type	Order (Person)	Order (Filter)	Input Validation	Filter Type	Addition
6	MunicipalityName	Amtlicher Gemeindename	String	**5** STICKY	**1** STICKY	min(0), max(50), simple_sl_text	FIELD	
7	OfficialName	Amtlicher Name	String	**1** STICKY		min(0), max(50), simple_sl_text	FIELD	
8	FirstName	Vorname	String	**2** STICKY		min(0), max(50), simple_sl_text	FIELD	
9	Religion	Religion	Multiselect		**6** STICKY	exact-enum	FIELD	**List entries eCH-0011** [*id: name*] ℹ *Only a subset of available religions are shown for privacy reasons.* *Available religions:* • 111: evangelisch-reformierte (protestantische) Kirche • 121: römisch-katholische Kirche • 122: christkatholische / altkatholische Kirche
10	Country	Nationalität	Multiselect		**4** STICKY	Existing type	FIELD	**Default value:** CH **List entries** [ISO 3166-1 (alpha-2) / Proprietary*: Country Name*] • AX: Åland • AL: Albanien • DZ: Algerien • AS: Amerikani

#	Reference Id	Filter Label	Filter Type	Order (Person)	Order (Filter)	Input Validation	Filter Type	Addition
								• sch-Samoa • etc.
11	-	E-Voting (Schweizer Bürger)	Boolean			-	CALCULATED	
12	SwissAbroadEvotingFlag	E-Voting (Auslandschweizer)	Boolean			-	FIELD	
13	Sex	Geschlecht	Multiselect			exact-enum	FIELD	**List entries** [*id: name*] • 1: männlich • 2: weiblich • 3: unbestimmt
14	DateOfBirth	Geburtsdatum	Date	**4** STICKY		exact-date	FIELD	
15	DateOfBirthAdjusted	Geburtsdatum (angepasst)	Boolean			-	FIELD	
16	OriginalName	Lediger Name	String			min(0), max(50), simple_sl_text	FIELD	
17	AllianceName	Allianz-Name	String	**3** STICKY		min(0), max(50), simple_sl_text	FIELD	
18	AliasName	Aliasname	String			min(0), max(50), simple_sl_text	FIELD	
19	OtherName	Anderer Name	String			min(0), max(50), simple_sl_text	FIELD	
20	CallName	Rufname	String			min(0), max(50), simple_sl_text	FIELD	
21	TypeOfResidence	Meldeverhältnis	Select			exact-enum	FIELD	**List entries** [*id: name*] • 1: Hauptwohnsitz • 2: Nebenwohnsitz

#	Reference Id	Filter Label	Filter Type	Order (Person)	Order (Filter)	Input Validation	Filter Type	Addition
								• 3: Weder Haupt- noch Nebenwohnsitz
22	OriginName[1-7]	Heimatort	String			min(0), max(100), complex_sl_text	MULTIFIELD	Filter is applied to all originName[1-7] fields.
23	OriginOnCanton[1-7]	Heimatortkanton	String			min(0), max(2), alpha	MULTIFIELD	Filter is applied to all 7 originOnCanton[1-7] fields.
24	ResidencePermit	Ausländerkategorie	Select			exact-enum	FIELD	**List entries** [*id: name]* (Refer to eCH-0006 / chapter 4 for a full list) • 01: A - Saisonarbeiterin / Saisonarbeiter • 02: B - Aufenthalterin / Aufenthalter • 03: C - Niedergelassene / Niedergelassener • 04: Ci - Erwerbstätige Ehepartnerin / erwerbstätiger Ehepartner und Kinder von Angehörigen ausländischer Vertretungen oder staatlichen internationalen

#	Reference Id	Filter Label	Filter Type	Order (Person)	Order (Filter)	Input Validation	Filter Type	Addition
								Organisationen
								• 05: F - Vorläufig Aufgenommene / vorläufig Aufgenommener
								• 06: G - Grenzgängerin / Grenzgänger
								• 07: L - Kurzaufenthalterin / Kurzaufenthalter
								• 08: N - Asylsuchende / Asylsuchender
								• 09: S - Schutzbedürftige / Schutzbedürftiger
								• 10: Meldepflichtige / Meldepflichtiger bei ZEMIS (Zentrales Migrationssystem)
								• 11: Diplomatin / Diplomat und internationale Funktionärin / internationaler Funktionär mit diplomatischer

#	Reference Id	Filter Label	Filter Type	Order (Person)	Order (Filter)	Input Validation	Filter Type	Addition
								Immunität
								• 12: Internationale Funktionärin / internationaler Funktionär ohne diplomatische Immunität
25	ResidencePermitValidFrom	Ausländerkategorie gültig ab	Date			exact-date	FIELD	
26	ResidencePermitValidTill	Ausländerkategorie gültig bis	Date			exact-date	FIELD	
27	EntryDate	Einreisedatum	Date			-	FIELD	
28	ContacAddressLineExtension1	Zustelladresse - Adresszusatzzeile 1	String			min(0), max(100), complex_sl_text	FIELD	
29	ContacAddressLineExtension2	Zustelladresse - Adresszusatzzeile 2	String			min(0), max(100), complex_sl_text	FIELD	
30	ContactAddressStreet	*Zustelladresse - Strassenbezeichnung*	String			min(0), max(100), complex_sl_text	FIELD	
31	ContactAddressHouseNumber	*Zustelladresse - Hausnummer*	String			min(0), max(20), complex_sl_text	FIELD	
32	ContactAddressHouseNumberAddition	Zustelladresse - Hausnummer Zusatz	String			min(0), max(20), complex_sl_text	FIELD	
33	ContactAddressPostOfficeBoxNumber	*Zustelladresse - Postfachnummer*	String			min(0), max(20), complex_sl_text	FIELD	
34	ContactAddressLine[1-7]	Zustelladresse -	String			min(0), max(100), complex_sl_text	MULTIFIELD	Filter is applied to all

#	Reference Id	Filter Label	Filter Type	Order (Person)	Order (Filter)	Input Validation	Filter Type	Addition
		Adresszeile 1						ContactAddressLine[1-7] fields.
35	ContactAddressTown	*Zustelladresse - Ort*	String			min(0), max(50), complex_sl_text	FIELD	
36	ContactAddressLocality	Zustelladresse - Gebiet	String			min(0), max(50), complex_sl_text	FIELD	
37	ContactAddressZipCode	*Zustelladresse - Postleitzahl*	String			min(0), max(20), complex_sl_text	FIELD	
38	ResidenceAddressLineExtension1	Wohnadresse - Adresszusatzzeile 1	String			min(0), max(100), complex_sl_text	FIELD	
39	ResidenceAddressLineExtension2	Wohnadresse - Adresszusatzzeile 2	String			min(0), max(100), complex_sl_text	FIELD	
40	ResidenceAddressStreet	*Wohnadresse - Strassenbezeichnung*	String	6 STICKY		min(0), max(100), complex_sl_text	FIELD	
41	ResidenceAddressHouseNumber	*Wohnadresse - Hausnummer*	String	7 STICKY		min(0), max(20), simple_sl_text	FIELD	
42	ResidenceAddressPostOfficeBoxNumber	*Wohnadresse - Postfachnummer*	String			min(0), max(20), simple_sl_text	FIELD	
43	ResidenceAddressTown	*Wohnadresse - Ort*	String	9 STICKY		min(0), max(50), complex_sl_text	FIELD	
44	ResidenceAddressZipCode	*Wohnadresse - Postleitzahl*	String	8 STICKY		min(0), max(20), complex_sl_text	FIELD	
45	MoveInArrivalDate	Zuzugsdatum	Date			exact-date	FIELD	
46	MoveInMunicipalityName	Zuzugsort - Amtlicher Gemeindename	String			min(0), max(50), complex_sl_text	FIELD	
47	MoveInCantonAbbreviation	Zuzugsort - Kantonskürzel	String			min(0), max(2), alpha	FIELD	

#	Reference Id	Filter Label	Filter Type	Order (Person)	Order (Filter)	Input Validation	Filter Type	Addition
48	MoveInComesFrom	Zuzugsort - Herkunftsort	String			min(0), max(50), complex_sl_text	FIELD	
49	MoveInCountryNameShort	Zuzugsort - Ländername Kurzform	String			min(0), max(50), complex_sl_text	FIELD	
50	MoveInUnknown	Zuzugsort - Unbekannt	Boolean			-	FIELD	
51	PoliticalCircleId	Politischer Kreis (Id)	String			min(0), max(50), complex_sl_text	FIELD	
52	PoliticalCircleName	Politischer Kreis (Name)	String			min(0), max(100), complex_sl_text	FIELD	
53	CatholicCircleId	Katholischer Kirchkreis (Id)	String			min(0), max(7), simple_sl_text	FIELD	
54	CatholicCircleName	Katholischer Kirchkreis (Name)	String			min(0), max(100), complex_sl_text	FIELD	
55	EvangelicCircleId	Evangelischer Kirchkreis (Id)	String			min(0), max(7), simple_sl_text	FIELD	
56	EvangelicCircleName	Evangelischer Kirchkreis (Name)	String			min(0), max(100), complex_sl_text	FIELD	
57	SchoolCircleId	Schulkreis (Id)	String			min(0), max(7), simple_sl_text	FIELD	
58	SchoolCircleName	Schulkreis (Name)	String			min(0), max(100), complex_sl_text	FIELD	
59	TrafficCircleId	Verkehrskreis (Id)	String			min(0), max(7), simple_sl_text	FIELD	
60	TrafficCircleName	Verkehrskreis (Name)	String			min(0), max(100), complex_sl_text	FIELD	
61	ResidentialDistrictCircleId	Wohnviertel (Id)	String			min(0), max(7), simple_sl_text	FIELD	
62	ResidentialDistrictCircleName	Wohnviertel (Name)	String			min(0), max(100), complex_sl_text	FIELD	
63	PeopleCircleId	Volkszählkreis (Id)	String			min(0), max(7), simple_sl_text	FIELD	
64	PeopleCircleName	Volkszählkreis (Name)	String			min(0), max(100), complex_sl_text	FIELD	
65	n/a	Validierungsfehler	Boolean			-	CALCULATED	

#	Reference Id	Filter Label	Filter Type	Order (Person)	Order (Filter)	Input Validation	Filter Type	Addition
66	SendVotingCardsToDomain OfInfluenceReturnAddr ess	Nicht zustellen	Boolean			-	FIELD	

3. Filter Criteria Exchange

3.1 Introduction

A user can create different combinations of filters from the UI followed by retrieving the target subset of matching persons. The filters must be extensible and therefore not be restricted to a set of predefined filters. The filters are also persisted as part of filter definitions and corresponding versions (snapshots). Persisted filters must be visually represented in the UI. The mentioned points require a generic filter exchange between the front- and backend services with backwards compatibility.

3.1.1 Sequence Flow
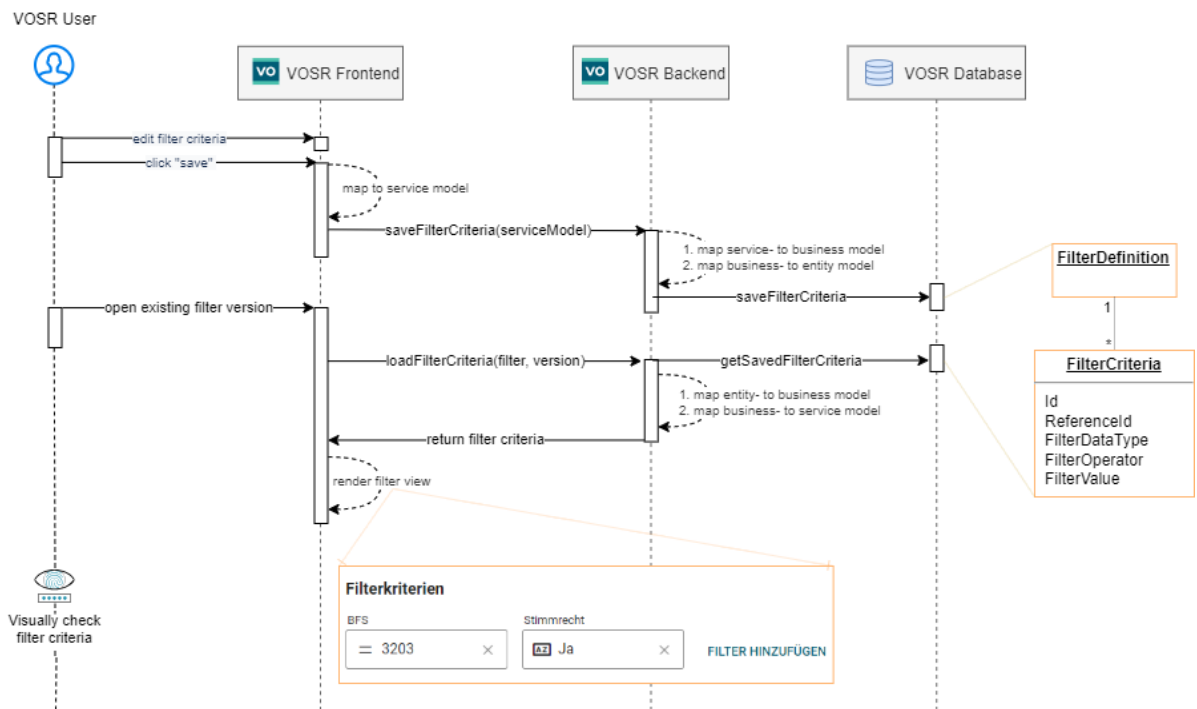
3.2 Data Model

Attribute	Part of Layer	Data Type	Validation	Description	Sample Data
Id REQUIRED	Service, Business, Entity	Guid	guid	Unique identifier for single filter criteria	Sample 1: eabdd132-1356-4789-9b4b-d1f01c972612
ReferenceId REQUIRED	Service, Business, Entity	String	min(2), max(100), alpha_num_white	A filter criteria can be of type `FIELD` or `CALCULATED`. The reference id either references to a specific field (see: Filter Criteria) or marks this criteria as a calculated custom filter. Custom filters are	Sample 1 (field): MunicipalityIdSample 2 (calculated): Age

| Attribute	Part of Layer	Data Type	Validation	Description	Sample Data
				handled individually depending on the business case behind.	
FilterDataType **REQUIRED**	Service, Business, Entity	String	min(2, max(20), alpha_num_white	The value for a filter criteria always has a specific type and a target filter to be used. The filter data type represents the filter id as described in chapter Filter Types. With this id, the backend is able to apply type specific operands.	Sample 1: string Sample 2: multiselect
FilterOperator **REQUIRED**	Service, Business, Entity	String	min(2), max(20), alpha_num_white	Depending on the filter data type one or more operators can be applied to a filter criteria. See chapter Filter Criteria	Sample 1: equals Sample 2: contains
FilterValue **OPTIONAL**	Service, Business, Entity	String	refer to: Filter Criteria > Input Validation	Depending on the filter data type and reference id, the value part may differ from each other. The data model is kept generic and requires structured values to be stored in a single attribute. Simple filter values can be persisted as a plain text value while structured values must be stored as a RFC 8259 JSON representation.	Sample 1 (string): St. Gallen Sample 1 (date): 2022-10-13 Sample 1 (boolean): true Sample 1 (numeric): 3031 Sample 1 (select): 711 Sample 2 (multi-select): `["CH", "DE", "AU"]`

4. Filter Rules

Filters allow a user to create individual sets of persons who are eligible to vote for a particular contest. VOTING Stimmregister offers many filters, although for the scenarios in the scope of municipalities, cantons and special municipalities most often only a subset is required. In this concept the most common filter rules and corresponding use cases are described in detail. Filtering against a subset of persons in VOTING Stimmregister is based on two layers:
- Authorization Security Layer
- Custom user filters

Using intersection from the overall VOTING Stimmregister registry and the two layers, the result set is built and can be used for further processing, for example to create voting cards.

4.1 Security Layer
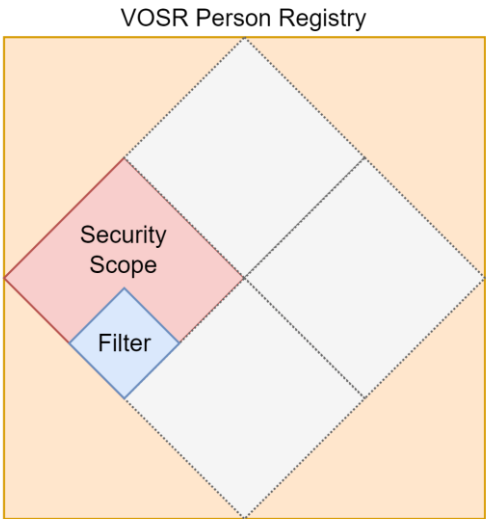
4.2 Overview - Standard Use Cases (UC)

Vote Type	Scope [S] Responsibility [R]	Filters	Common Value	Description
Federal Referendum *<Eidgenössische Volksabstimmung>* Cantonal Vote *<Kantonale Abstimmung>*	[S] Swiss abroad [R] SG: Canton [R] GR: Municipality	MunicipalityId	9170	A federal referendum and cantonal vote is created at the cantonal level and contains a restriction to a specific BFS municipality number for Swiss abroad. Swiss abroad are represented by a municipality with a defined BFS number.
		RestrictedVotingAnd ElectionRightFederat ion	false	A federal referendum and cantonal vote excludes all persons with a restricted voting right.

Vote Type	Scope [S] Responsibility [R]	Filters	Common Value	Description
		Age	>=18	A federal referendum and cantonal vote is open to persons 18 years of age and older.
		SwissCitizenship	true	Persons with Swiss nationality are eligible for a federal referendum and cantonal vote
		Nationality **CALCULATED**	-	Selection for Swiss citizenship requires filtering all persons with Country = 'CH'
Federal Referendum *<Eidgenössische Volksabstimmung>* Cantonal Vote *<Kantonale Abstimmung>* Municipal Vote *<Kommunale Abstimmung>*	[S] Swiss citizen [R] SG: Municipality [R] SG: Municipality	MunicipalityId	3203 (*Stadt St. Gallen*)	A municipal vote is created at the municipality level and therefore is restricted to a specific BFS number.
		RestrictedVotingAndElectionRightFederation	false	A municipal vote excludes all persons with a restricted voting right.
		Age	>=18	A municipal vote is open to persons 18 years of age and older. Depending on the legal basis of the municipality, the age may vary.
		SwissCitizenship	true	Persons with Swiss nationality are eligible for a municipal vote.
		Nationality **CALCULATED**	-	Selection for Swiss citizenship requires to filtering all persons with Country = 'CH'
		TypeOfResidence **CALCULATED**	-	The voting right based on HWS or NWS is already calculated based on the truth table from chapter Person → RestrictedVotingAndElectionRightFederation. Therefore, only the Restricted field can be used for evaluation. Not relevant
Evangelic Circle Vote *<Evangelischer Kreis Abstimmung>*	[S] Foreigners [R] SG: Municipality [R] GR: Municipality	MunicipalityId	3203 (*Stadt St. Gallen*)	A circle vote is created at the municipality level and therefore is restricted to a specific BFS number. The uniqueness for a circle can be determined only with the assignment of the associated BFS number.
		EvangelicCircleId	10	The circle id uniquely identifies the desired circle together with the municipality id.
		RestrictedVotingAndElectionRightFederation	false	A circle vote excludes all persons with a restricted voting right.
		Age	>=16	Depending on the circle's legal basis, the age may vary.
		SwissCitizenship	false	Persons with Swiss nationality are eligible for a municipal vote.

Vote Type	Scope [S] Responsibility [R]	Filters	Common Value	Description
		Nationality CALCULATED	-	Selection for non-Swiss citizenship (foreigners) requires to filtering all persons with Country != 'CH'
		Religion	111 (*evangelisch-reformierte (protestantische) Kirche*)	Votes for specific circle types often require additional criteria to be able to select to desired subset of persons.
		ResidencePermit ValidFrom CALCULATED	-	The residence permission valid from date must be part of the overall evaluation when foreigners are selected by the filter 'SwissCitizenship'. This evaluation is only applied in the backend and not a visually represented filter.
		ResidencePermit ValidTill CALCULATED	-	The residence permission valid to date must be part of the overall evaluation when foreigners are selected by the filter 'SwissCitizenship'. This evaluation is only applied in the backend and not a visually represented filter.
		ResidencePermit OPTIONAL	02 (B) + 03 (C)	Foreigners with the appropriate permission may be selected to be eligible to vote.

CALCULATED *Indicating that the defined filter is not explicitly set by the user but implicitly part of the overall voting right calculation for the corresponding vote type in the backend.*