VOTING Ausmittlung

Domain Concept

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Contents

1. Introduction

This document contains the necessary information for defining the required domain for the product VOTING Ausmittlung. For this purpose, the domain concept defines the bounded contexts of the system to be handled and explains its relevant domain objects. Interfaces to other domain areas are also presented and explained here. This concept thus forms the basis for the construction of technical systems on the basis of the technical requirements and already addresses its structure in broad outlines.

2. General Conditions

2.1 Legal basis

The basis for the organization and conduct of elections and votes is provided by federal and cantonal legislation.

2.1.1 Federal legal bases for elections and votes

- Federal Act on Political Rights (SR 161.1; abbreviated as CPD)
- Ordinance on Political Rights (SR 161.11; abbreviated VPR)
- Federal Act on Swiss Persons and Institutions Abroad (SR 195.1; abbreviated ASG)
- Ordinance on Swiss Persons and Institutions Abroad (SR 195.11; abbreviated V-ASG)
- Act on the Administration of Civil and Criminal Justice (ZSRG; RB 271.1)
- Swiss Penal Code (StGB; SR 311.0)

2.1.2 Legal basis for elections and votes in the Canton of St.Gallen

- Constitution of the Canton of St.Gallen (sGS 111.1; abbreviated KV)
- Law on Elections and Voting (sGS 125.3; abbreviated WAG)
- Law on Referendum and Initiative (sGS 125.1; abbreviated RIG)

2.1.3 Legal basis for elections and votes in the Canton of Thurgau

- Constitution of the Canton of Thurgau (KV, RB 101)
- Law on Voting and Election Rights (StWG; RB 161.1)
- Ordinance to the Voting and Election Law (StWV; RB 161.11)

2.1.4 Legal basis for elections and votes in the Canton of Zürich

- Constitution of the Canton of Zürich (KV, LS 101)
- Law on political rights (LS 161)

2.2 Data protection

Based on Article 13 of the Swiss Federal Constitution and the data protection provisions of the Swiss Confederation, every person has the right to protection of his or her privacy and to protection against misuse of his or her personal data.

2.2.1 Legal basis for data protection in the Canton of St.Gallen

- Data Protection Act of the Canton of St.Gallen (sGS 142.1; abbreviated DSG)

2.2.2 Legal basis for data protection in the Canton of Thurgau

- Data Protection Act (TG DSG; RB 170.7)

2.2.3 Legal basis for data protection in the Canton of Zürich

- Law on information and data protection (LS 170.4)
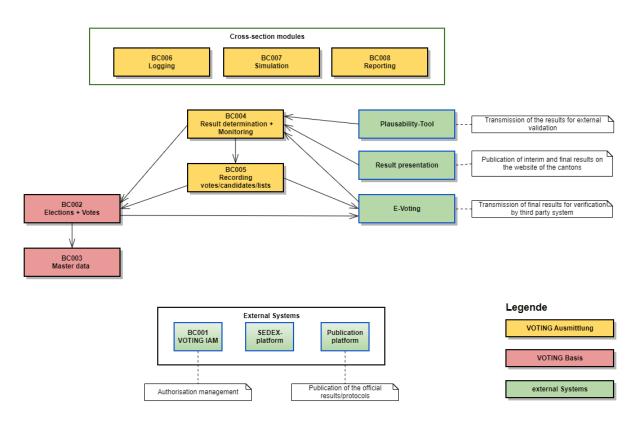
2.2.4 Further requirements

- Law of the Federal Office on electronic voting (E-Voting)

3. Domain Vision Statement

The present architectural definitions deal with the product VOTING Ausmittlung, The solution can be used at federal and cantonal as well as at regional and communal level.
VOTING Ausmittlung covers the recording of results, the determination of results of votes and elections, as well as the recording of minutes for the conclusion of a business transaction.
Interfaces to peripheral systems from the VOTING domain as well as external systems for plausibility checks of results or publication of results must be taken into account. Data exchange takes place via eCH standards.

4. Bounded Contexts

Code	Designation	System assignment	Description	Type
BC001	User administration	VOTING IAM	Manage clients and users	Generic Subdomain
BC002	Elections + Votes	VOTING Basis	Set up ballot incl. transactions, enclosure control (definition of voting documents/enclosures per transaction), export ballot	Generic Subdomain
BC003	Master data	VOTING Basis	Deposit of master data such as counting districts, constituencies as well as their "Value Objects".	Abstract Core
BC004	Result determination + Monitoring	VOTING Ausmittlung	Determining the results of substantive votes and elections Methods for the distribution of parliamentary mandates	Core Domain
BC005	Recording votes/candidates/lists	VOTING Ausmittlung	Capture ballots such as yes/no votes or candidates/lists, perform "Basis" validations, test run a ballot. Monitoring by the State Chancellery	Core Domain

Code	Designation	System as-signment	Description	Type
BC006	Logging	VOTING Ausmittlung	Transaction log	Generic Subdo-main
BC007	Simulation	VOTING Ausmittlung	Simulation of past ballots for use as a sys-tem check according to deployments	Generic Subdo-main
BC008	Reporting	VOTING Ausmittlung	Creation of reports, minutes of elections and votes, signing of minutes	Core Do-main

5.   Layered Architecture

The following layers are implemented:
- API layer
- Domain Logic
- Data Access Layer
- Infrastructure Layer (for cross cutting functionalities)

6.   Modules

Code	Designation	System assignment	Dependencies
M001	User administration	VOTING IAM	
M002	Master data	VOTING Basis Services	
M003	Setup Elections + Votes	VOTING Basis Services	M002
M004	Result determination	VOTING Ausmittlung	M002, M003, M006
M005	Recording ballot papers	VOTING Ausmittlung	M002, M003
M006	Logging	VOTING Ausmittlung	
M007	Simulation	VOTING Ausmittlung	M002, M003, M005, M006
M008	Reporting	VOTING Ausmittlung	M002, M003, M005, M006

7.   Aggregates

Code	Aggregates	Aggregate (de)	Associated entities	Root entity	Descrip-tion
A021	voteResult	Resultat Abstim-mung	Voting, re-sults Voting,	Voting result	

Code	Aggregates	Aggregate (de)	Associated entities	Root entity	Descrip-tion
			counting cir-cle		
A022	voteResultEndResult	Endresultat Ab-stimmung	Voting, final result Voting	Final result vote	
A023	voteResultBundle	Resultate Bund Abstimmung	Confedera-tion, ballot paper	Confedera-tion (Ballot Paper Con-federation)	
A024	majorityElectionResult	Resultat Ma-jorzwahl	Majoritarian election, re-sult Majoritar-ian election, counting cir-cle	Majority elec-tion result	
A025	majorityElectionEndResult	Endresultat Ma-jorzwahl	Majority vote, final result Majority vote	Final result majoritarian election	
A026	majorityElectionResultBun-dle	Resultate Bund Majorzwahl	Confedera-tion, ballot papers, can-didatures Ma-joritarian election	Confedera-tion (Ballot Paper Con-federation)	
A027	proportionalElectionResult	Resultat Propor-zwahl	Proportional representa-tion election, result Propor-tional repre-sentation election, counting cir-cle	Results of proportional representa-tion elections	
A028	proportionalElectionEn-dResult	Endresultat Pro-porzwahl	Proportional representa-tion, final re-sult Propor-tional representa-tion	Final result proportional representa-tion	
A029	proportionalElectionResult-Bundle	Resultate Bund Proporzwahl	Confedera-tion, list, bal-lot papers, candidacies Proportional	Confedera-tion (Ballot Paper Con-federation)	

Code	Aggregates	Aggregate (de)	Associated entities	Root entity	Descrip- tion
			representa- tion election		
A030	contestCountingCircleDe- tails	Statistikdaten Auszählungskreis	Ballot, count- ing circle, statistical data	Ballot + Counting Cir- cle	
A031	contestCountingCircleCon- tactPerson	Kontaktperson Auszählungskreis	Ballot, count- ing circle, contact per- son	Ballot + Counting Cir- cle	
A032	contestEventSignature	Event-Signatur	Ballot, event signature	Ballot + Event Signa- ture	
A033	contestResultImports	Resultat Imports	Ballot, result import	Ballot + Re- sult Import	
A034	countingCircleResult	Resultat Auszählungskreis	Counting dis- trict, result Counting dis- trict	Counting dis- trict result	
A035	resultExportConfiguration	Resultat Export Konfiguration	Result, export configuration	Result + Ex- port configu- ration	
A036	resultImport	Resultat Import	Result import	Result import	

8. Domain Events, Entities, Value Objects

All events can be found in the documentation of the proto-files: https://github.com/abraxas-labs/voting-ausmittlung-proto/blob/main/docs/api-specs/