



# ***E-vote 2011***

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**Use case specification: 9.1 Authentication**

**Project: E-vote 2011**

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## 1. Executive Summary

The system must facilitate the authentication of all users. The system shall interface with a common identity provider operated by DIFI, which in 2011 will provide authentication and signing services. It federates authentication over the SAML 2.0 protocol. The system must have functionality for:

1. Log in using approved electronic Ids
2. Login using temporary ID within a controlled environment (For voters that have arrived at the Polling Station without approved ID)
3. Login using other strong authentication method for other systems (e.g. Air gapped systems)

## 2. Purpose

The purpose of this use case is to ensure that the Election System has the necessary access controls needed to meet the security requirements.

## 3. Actors

Actor	Description
User	A person authorized to access the system
Common Authentication Infrastructure (CAI)	The common identity provider operated by DIFI, which in 2011 will provide authentication and signing services. It federates authentication over the SAML 2.0 protocol
ES	The Election System

## 4. Pre-Conditions

ID	Description	Comments
9.1.1	User owns approved ID	
9.1.2	User has a temporary ID	
9.1.3	User has ID required for other authentication methods	
9.1.4	User has access to the system either in a controlled, uncontrolled environment or isolated environment.	



## 5. Post-Conditions

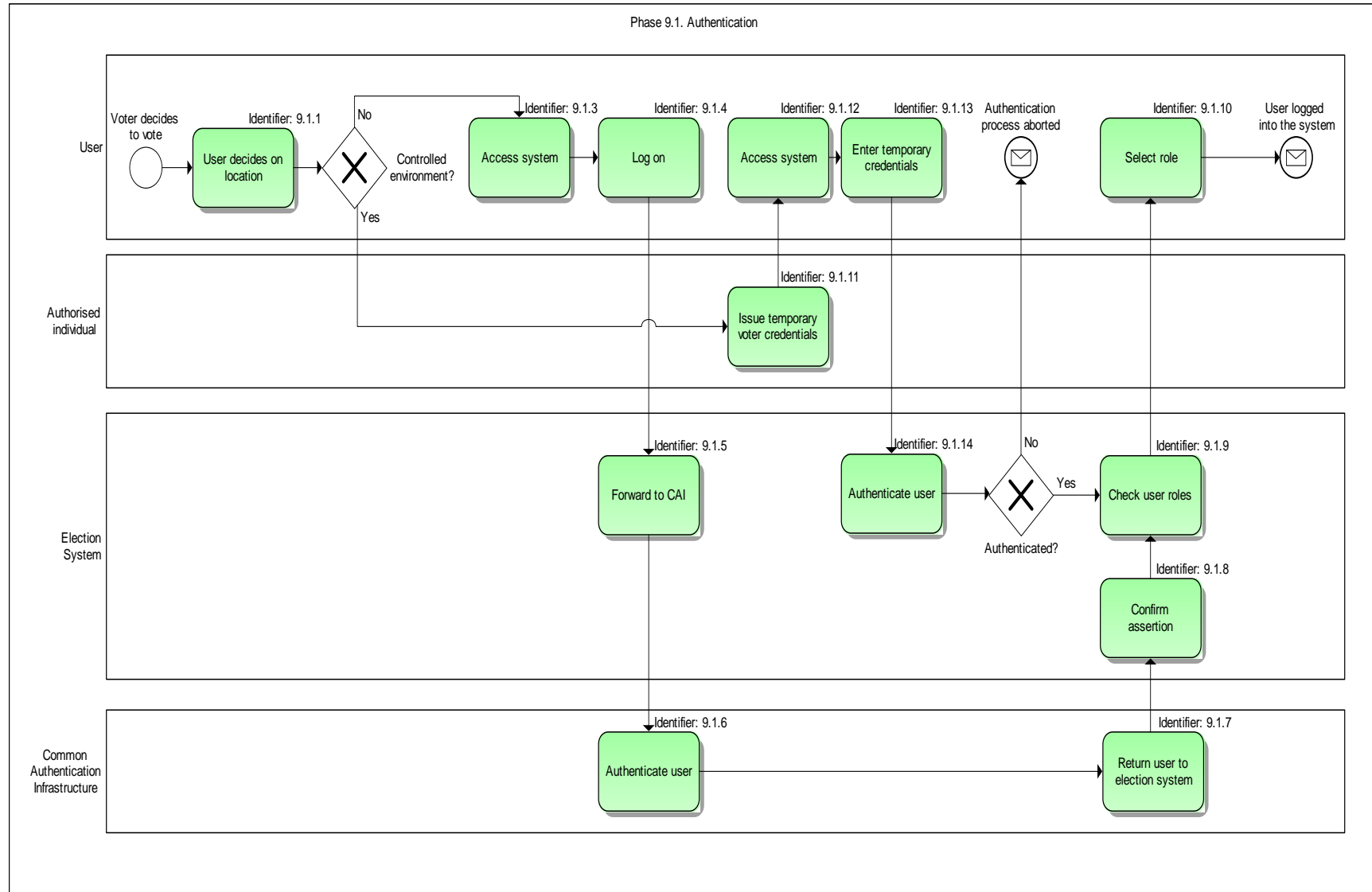
ID	Description	Comments
9.1.5	User is authenticated in the system.	

## 6. Trigger

There is a need for authenticating a user in the system.



## 7. Main Flow - Functional Requirements



**7.1. General functional requirements**

ID	Actor	Function (Requirement)	Requirement description	Ref
F 9.1.1	User	User decides on location	The user decides where they want to access the system from	A1
F 9.1.3	User	Access system	The user accesses the system	
F 9.1.4	User	Log on	The user enters log on credentials	
F 9.1.5	ES	Forward to CAI	The system forwards transaction to common identity provider operated by DIFI	
F 9.1.6	CAI	Authenticate user	CAI authenticates using the SAML 2.0 protocol. The Election System must be able to integrate with any identity provider via the SAML 2.0-protocol	
F 9.1.7	CAI	Return user to election system	The CAI automatically returns the authenticated user to the Election System	
F 9.1.8	ES	Confirm assertion	The election system receives user authentication assertion and confirms it with the CAI	
F 9.1.9	ES	Check User roles	The Election System checks user rights (Defined in use case 0.1. 'Definition of roles') and returns associated roles.	
F 9.1.10	User	Select role	The user must be able to select what role he/she wishes to proceed with.	

**7.2. Alternate flow 1 – Log on using temporary voter credentials (A1)**

ID	Actor	Function (Requirement)	Requirement description
F 9.1.11	AI	Issue temporary voter credentials	An authorized individual issues temporary credentials to voters that have arrived at the Polling Station without an approved e-ID. Temporary voter credentials can only be used once and within a limited configurable time period.
F 9.1.12	User	Access system	The user accesses the system.
F 9.1.13	User	Enter temporary credentials	The user enters temporary credentials
F 9.1.14	ES	Authenticate user	The system authenticates user. If the authentication fails, the use case terminates and the user is presented with a message. If the authentication succeeds, the system will check user rights and return associated roles to the user.



## 8. Non-Functional Requirements

### 8.1. Accessibility and usability

ID	Requirement description	Ref
9.1.6	See 'Accessibility and usability requirements'	8.1

### 8.2. Security

ID	Requirement description
OS1.2	The election system shall ensure identification of users in a way that they can unmistakably be distinguished from other persons (unique identification).
OS2.2	The election system shall be able to authenticate voters, party officials and election officers by means of the national eID and other approved electronic ID's in common use in Norway. The national authentication service 'Samtrafikknave fra DIFI' (CAI) will be used for validation. In addition, when required by EU regulations, the election system shall be able to validate eID from EU member states, if the eID from the EU member state offers a security level equivalent to the national eID requirement.
OS7.11	The election system shall protect authentication data so that unauthorised entities cannot misuse, intercept, modify, or otherwise gain knowledge of all or some of this data.
OS7.13	Passwords shall be stored as the hash-value of at least two secure one-way hashing algorithms, a unique salt shall be used when hashing each password
OS7.17	Administrator, operator and auditor access shall require strong authentication, i.e two factor authentication.



### 8.3. Rules & regulations

ID	Requirement description
9.1.7	This use case refers to regulations described in the Representation of the People Act (the Election Act) chapter 8 and 9. <a href="http://www.regjeringen.no/upload/KRD/Kampanjer/valgportal/Regelverk/Representation_of_the_People_Act170609.pdf">http://www.regjeringen.no/upload/KRD/Kampanjer/valgportal/Regelverk/Representation_of_the_People_Act170609.pdf</a>
9.1.8	This use case refers to regulations relating to parliamentary and local government elections (Representation of the People Regulations) <a href="http://www.regjeringen.no/upload/KRD/Kampanjer/valgportal/Regelverk/Regulations_2003_EN_170609.pdf">http://www.regjeringen.no/upload/KRD/Kampanjer/valgportal/Regelverk/Regulations_2003_EN_170609.pdf</a>
9.1.9	This use case also refer to the <a href="#">Council of Europe e-vote Recommendation Rec(2004) 11</a> . <a href="http://www.coe.int/t/dgap/democracy/activities/GGIS/E-voting/Key_Documents/Rec(2004)11_Eng_Evoting_and_Expl_Memo_en.pdf">http://www.coe.int/t/dgap/democracy/activities/GGIS/E-voting/Key_Documents/Rec(2004)11_Eng_Evoting_and_Expl_Memo_en.pdf</a>