VOTING Wahlvorschlag

Transport Security

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1.   Introduction

The following section outlines the transport security, i.e. the connection level security, between various system components.

Transport security ensures secure communication and data exchange within the application environment and with connected subsystems. The following key aspects are considered:

1. **Data Flow Protection:** Data transmitted between system components is encrypted to prevent interception and unauthorized access. This applies to both data in transit and data at rest.
2. **Consumer System Authentication:** Mechanisms are in place to verify and authenticate consumer systems, ensuring that only authorized systems can access and interact with internal components.
3. **Source System Verification:** Secure authentication of source systems helps prevent spoofing and unauthorized access to sensitive information or functionalities.
4. **Encryption Protocols:** Robust encryption standards, such as TLS/SSL, are implemented to protect data during transmission and to prevent eavesdropping or tampering.
5. **Authorization Control:** Strict access control measures are enforced to ensure that users and systems can only access resources and functionalities appropriate to their roles and permissions.

1.1 Component Interaction Overview
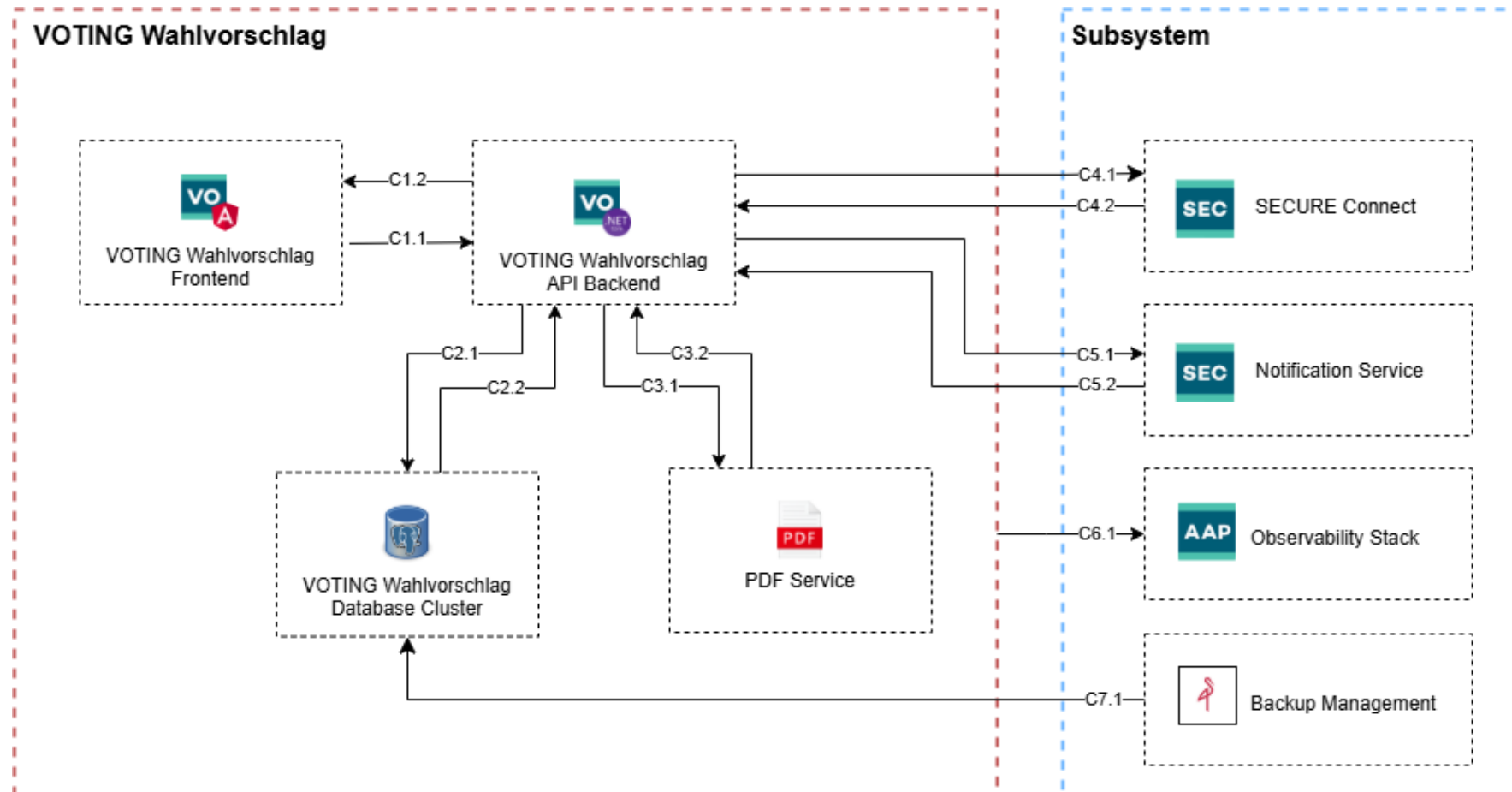
1.2 Connection Overview Table

Data flow	Consumer System	Target system	Encryption	Cluster internal*	Authorization mechanism
C1.1, C1.2	VOTING Wahlvorschlag Frontend	VOTING Wahlvorschlag API Backend	HTTPS	No	OpenId Connect (User Account) OIDC authorization code flow with PKCE and client-side refresh flow.
C2.1, C.2.2	VOTING Wahlvorschlag API Backend	VOTING Wahlvorschlag Database Cluster	-	Yes	Basic Credentials
C3.1, C3.2	VOTING Wahlvorschlag API Backend	PDF Service	-	Yes	-
C4.1, C4.2	VOTING Wahlvorschlag API Backend	SECURE Connect	HTTPS	No	OAuth 2.0 Client Credential (Service User)
C5.1, C5.2	VOTING Wahlvorschlag API Backend	Notification Service	HTTPS	No	OAuth 2.0 Client Credential (Service User)
C6.1	Software System Components	Observability Stack	-	Yes	*All backend services are connected with the observability stack using the same technical setup for data delivery.*
C7.1	Backup Management	VOTING Wahlvorschlag Database Cluster	-	Yes	Basic Credentials