



EULYNX Initiative

Security services specification

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ID	Type	Eu.Doc.121	Valid for
Eu.SSP.1	Head	1 Introduction	
Eu.SSP.2	Head	1.1 Release information	
Eu.SSP.3	Info	[Eu.Doc.121] Security services specification CENELEC Phase: 4 Version: 1.1 (0.A) Approval date: 15.06.2023	--
Eu.SSP.4	Info	Version history	--
Eu.SSP.5	Info	version number: 0.1 (0.A) date: 25.03.2022 author: Marius Rennmann, Max Schubert, Richard Poschinger, Ulrich Meier review: security cluster changes: initial version in Doors	--
Eu.SSP.202	Info	version number: 1.0 (0.A) date: 18.05.2022 author: Marius Rennmann, Max Schubert, Richard Poschinger, Ulrich Meier review: CCB changes: editorial corrections and changes from CCB and UNIFE review	--
Eu.SSP.205	Info	version number: 1.1 (0.A) date: 28.06.2023 author: Ulrich Meier, Richard Poschinger, Nicolas Poyet, André Rumbold, Max Schubert, Tobias Wothge review: Security cluster + CCB changes: Full rework for Baseline 4 Release 2	--
Eu.SSP.6	Head	1.2 Impressum	
Eu.SSP.7	Info	Publisher: EULYNX Initiative A full list of the EULYNX Partners can be found on www.eulynx.eu/index.php/members	--
Eu.SSP.8	Info	Responsible for this document: EULYNX Project Management Office www.eulynx.eu	--
Eu.SSP.9	Info	Copyright EULYNX Partners All information included or disclosed in this document is licensed under the European Union Public Licence EUPL, Version 1.2 or later.	--
Eu.SSP.10	Head	1.3 Purpose	
Eu.SSP.11	Info	This document describes the service functions related to security. It also describes the requirements for the Subsystem - Security Services Platform (SSP).	--
Eu.SSP.13	Info	The Subsystem - SSP is a logical/virtual platform providing the services functions using the Standard Security Interface (SSI).	--
Eu.SSP.14	Info	The service functions for security are a logical group of services used to support security functionality/measures. The following services functions for security are identified: <ul style="list-style-type: none"> • Service function Identity and Access Management (IAM) • Service function Public Key Infrastructure (PKI) • Service function Security Logging (SLOG) • Service function Backup Services (BKP) 	--
Eu.SSP.197	Info	The Subsystem - SSP also provides shared security services. The following shared security service is identified: <ul style="list-style-type: none"> • Time Service (SSP-TME) 	--

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Eu.SSP.12	Info	<p>This document is intended for the following users:</p> <ul style="list-style-type: none"> • safety authorities • infrastructure managers • safety assessors • signalling system suppliers • validators • security assessors 	--
Eu.SSP.198	Info	<p>The applicability of each requirement either exclusively for the infrastructure manager or for all relevant parties is indicated by the column "Valid for".</p> <p>Note: 'All parties' may include suppliers of signalling system components and suppliers of other components dedicated to IT security.</p>	--
Eu.SSP.199	Info	<p>The following statements should be considered before applying the specification:</p> <ul style="list-style-type: none"> • The security documents of the following enumeration shall be referred and used only as a complete set. <ul style="list-style-type: none"> o Eu.Doc.15 o Eu.Doc.114 o Eu.Doc.115 o Eu.Doc.116 o Eu.Doc.117 o Eu.Doc.121 • Development of the specification is based on IEC 62443 process, together with TS 50701 railway specification application suggestions. • If the infrastructure manager (IM) applies the Security Specification, the IM must be aware that successful implementation requires a detailed analysis and adoption of, at least, the IM's rollout and maintenance procedures. • The specifications contains options that need to be decided carefully by the IM due to impact to feasibility in migration, business activity, process adoption for operation (rollout, maintenance,...), tender process, possible suppliers, and costs (CAPEX, OPEX). • The current specification does not contain testing requirements for the suppliers. So, the test type (testing, audit, analysis, demonstration) and its acceptance criteria should be defined before using the documents in tender process. 	--
Eu.SSP.17	Head	1.4 Applicable standards and regulations	
Eu.SSP.18	Info	A list of applicable standards and regulations used in EULYNX is listed in the EULYNX Reference Document List [Eu.Doc.12].	--
Eu.SSP.19	Head	1.5 Applicable documents	
Eu.SSP.20	Info	The current versions of EULYNX documents used as input or related to this document are listed in the EULYNX Documentation Plan [Eu.Doc.11]. The relationships between the documents are displayed in the Appendix A1 Documentation plan and structure [Eu.Doc.11_A1].	--
Eu.SSP.21	Head	1.6 Terms and abbreviations	
Eu.SSP.22	Info	The terms and abbreviations are listed in the EULYNX Glossary [Eu.Doc.9].	--
Eu.SSP.23	Head	1.7 Variability management	
Eu.SSP.24	Info	This document is valid for the complete EULYNX System. Variability management is not used in this document.	--
Eu.SSP.25	Head	1.8 Definition of object types	
Eu.SSP.26	Info	The following definition for object types is applied in this document:	--
Eu.SSP.27	Info	<ul style="list-style-type: none"> • "Req" - This denotes a mandatory requirement. 	--
Eu.SSP.28	Info	<ul style="list-style-type: none"> • "Info" - This denotes additional information to help understand the specification. These objects do not specify any additional requirements. 	--
Eu.SSP.29	Info	<ul style="list-style-type: none"> • "Head" - This denotes chapter headings. 	--
Eu.SSP.30	Head	2 Requirements	
Eu.SSP.31	Head	2.1 Generic	

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Eu.SSP.32	Info	The Subsystem - Security Services Platform provides the centralized service functions for security.	--
Eu.SSP.34	Info	The following service functions for security are provided by the Subsystem - Security Services Platform: <ul style="list-style-type: none"> • SSP-IAM: Service function Identity and Access Management • SSP-PKI: Service function Public Key Infrastructure • SSP-SLOG: Service function Security Logging • SSP-BKP: Service function Backup Services 	--
Eu.SSP.48	Head	2.1.1 Physical interface	
Eu.SSP.49	Info	The lower layers (network layer, data link layer and physical layer) are defined by the PoS-Signalling [Eu.Doc.100].	--
Eu.SSP.54	Head	2.1.2 Availability	
Eu.SSP.55	Req	The IM shall define the availability targets for the services provided by the SSP.	IM
Eu.SSP.67	Head	2.2 SSP-IAM Service: Identity and Access Management	
Eu.SSP.68	Info	The Identity and Access Management service provides identity management for personnel interacting with machines. This identification procedure ensures correct authentication. Based on roles assigned to these identities, access management information is generated and provided to subsystems. The permissions are mapped to roles. The permissions include for example granting communication setup or use of a functionality or capability of a subsystem/device.	--
Eu.SSP.71	Info	The Identity and Access Management service is referenced as SSP-IAM.	--
Eu.SSP.72	Info	The Interface definition and specification SSI [Eu.Doc.117] is not defining the interface used by the SSP-IAM Service.	--
Eu.SSP.89	Head	2.3 SSP-PKI Service: Public Key Infrastructure	
Eu.SSP.90	Info	The Public Key Infrastructure service provides the digital representation of the identity of an entity in the form of certificates used for public-key cryptography (encryption and integrity protection). It provides technical services to issue, renew and validate certificates.	--
Eu.SSP.93	Info	The Public Key Infrastructure service is referenced as SSP-PKI.	--
Eu.SSP.96	Req	The SSP-PKI Service shall use SSI-XX-PKI.	All
Eu.SSP.97	Info	The SSP-PKI Service functionality is documented in RFC3647.	--
Eu.SSP.121	Head	2.4 SSP-SLOG Service: Security Logging	
Eu.SSP.122	Info	The Security Logging service is the data sink for all security related log and monitoring information. It collects and stores the data and provides data to systems entitled to use them. It ensures confidentiality, integrity, availability, and non-repudiation of the data received. The service is able to fulfil near-real-time requirements e.g., required by SIEM services.	--
Eu.SSP.124	Info	The Security Logging service is referenced as SSP-SLOG.	--
Eu.SSP.196	Req	The SSP-SLOG Service shall use SSI-XX-SLOG to receive logging data from EULYNX subsystems.	All
Eu.SSP.206	Info	The SSP-SLOG Service may use SSI-XX-SLOG to provide logging data to other services.	--
Eu.SSP.207	Info	The SSP-SLOG Service provides real time logging data to the SIEM.	--
Eu.SSP.142	Head	2.5 SSP-BKP Service: Backup Services	
Eu.SSP.143	Info	The Backup Service offers backup services to store a copy of relevant data needed for recovery scenarios using restore processes. It needs to ensure confidentiality, integrity, and availability. All action to secure the information is done by the Backup Service itself on the SSP.	--
Eu.SSP.147	Info	The Backup Service is referenced as SSP-BKP.	--
Eu.SSP.148	Info	The Interface definition and specification SSI [Eu.Doc.117] is not defining the interface used by the SSP-BKP Service.	--