



**International
Standard**

ISO/IEC/IEEE 32857

**Telecommunications and
information exchange between
systems — Wireless Smart Utility
Network Field Area Network (FAN)**

*Télécommunications et échange d'information entre systèmes —
Réseau de terrain (FAN) sans fil pour services publics intelligents*

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Table of Contents

1	INTRODUCTION	1
1.1	Scope	1
1.2	Requirements Language	1
1.3	Structure of This Document	1
1.4	Acknowledgements	1
2	REFERENCES	3
2.1	Wi-SUN	3
2.2	IEEE	4
2.3	ANSI/TIA	4
2.4	IETF	4
3	DEFINITIONS AND ACRONYMS	6
3.1	Definitions	6
3.2	Acronyms.....	6
4	TECHNICAL REQUIREMENTS.....	9
4.1	General.....	9
4.2	Reliability Targets	9
4.3	Adjacent Node Time Synchronization	9
4.4	PHY Layer.....	9
4.4.1	Regional Requirements	9
4.4.2	Data Rates	9
4.5	Data Link Layer	9
4.5.1	Frequency Hopping	9
4.5.2	Routing and Forwarding.....	10
4.6	Network Layer	10
4.7	Transport Layer	10
4.8	Security.....	10
5	ARCHITECTURE	12
5.1	Overview	12

ISO/IEC/IEEE 32857:2026(en)

5.2	Upper Layer Considerations	14
5.3	Transport Service.....	14
5.3.1	General Principles.....	14
5.3.2	Node Behavior	14
5.4	Network Service	14
5.4.1	General Principles.....	14
5.4.2	Node Behavior	15
5.5	Data Link Service	15
5.5.1	General Principles.....	15
5.5.2	Node Behavior	15
5.6	PHY Service.....	21
5.6.1	General Principles.....	21
5.6.2	Node Behavior	22
5.7	Security.....	22
6	SPECIFICATION	23
6.1	Transport Layer	23
6.1.1	Operation	23
6.2	Network Layer	23
6.2.1	Constants.....	23
6.2.2	Data Structures.....	23
6.2.3	Operation	24
6.3	Data Link Layer	33
6.3.1	Constants.....	33
6.3.2	Data Structures.....	37
6.3.3	LLC Operation	58
6.3.4	MAC Operation.....	61
6.3.5	Service Access Points.....	75
6.4	PHY Layer.....	80
6.4.1	Operating Modes.....	81
6.4.2	Preamble Length	81
6.4.3	Radio Specifications.....	81
6.5	Security.....	81
6.5.1	Public Key Infrastructure	82
6.5.2	FAN Access Control and Group Key Placement.....	83
6.5.3	Node to Node Pairwise (N2NP) Authentication and Key Generation	92
6.5.4	Frame Security.....	125
6.5.5	Node Hardening	129
6.5.6	State Maintenance Through Power Cycling	129
7	APPENDIX A – TR51 CHANNEL FUNCTION	130
7.1	Random Number Generation.....	130
7.2	Channel Table Calculation	130

7.3	Calculating the First Element and Step Size	132
7.4	Computation of Hopping Sequence Channel Table.	133
8	APPENDIX B - UNICAST FRAME EXCHANGE EXAMPLES	135
8.1	Directed Frame Exchange:.....	135
8.1.1	Unacknowledged Data	135
8.1.2	Acknowledged Data.....	135
8.2	Extended Directed Frame Exchange:.....	136
8.2.1	Qualified Frame Exchange.....	136
8.2.2	Multi-Packet Frame Exchange.....	137
8.2.3	Frame Exchange with Initial Data.....	138
8.2.4	Bi Directional Frame Exchange.....	139
9	APPENDIX C DIRECT HASH CHANNEL FUNCTION.....	141
9.1	Example Usage of Jenkins Hash.....	141
9.2	The Jenkins Hash	142
9.3	Examples	146
10	APPENDIX D FAN IPV6 ADDRESSING ARCHITECTURE.....	148
11	APPENDIX E UNICAST / BROADCAST / DISCOVERY EXAMPLE.....	149
12	APPENDIX F IPV6 NEIGHBOR DISCOVERY OPTIMIZATIONS.	152
13	APPENDIX G FRAME COUNTER, FRAME SEQUENCE NUMBER, AND MPX-IE TRANSACTION ID.....	153
14	APPENDIX H UNICAST TIMING CALCULATION EXAMPLE	154
14.1	Node1 Timing Calculations.....	154
14.2	Node2 Timing Calculations.....	155
15	APPENDIX J FAN NODE BOOTSTRAP MESSAGING FLOW.....	156
16	APPENDIX K EAPOL TARGET SELECTION.....	157
17	APPENDIX L KEY REINSTALLATION ATTACK (KRACK).....	158
18	APPENDIX M PHYSICAL LAYER.....	160
18.1	PHY Specification.....	160
18.1.1	PPDU Format	160
18.1.2	Modulation and Coding.....	160

ISO/IEC/IEEE 32857:2026(en)

18.1.3	Symbol rate and Modulation Index.....	160
18.1.4	Frequency Bands and Channel Parameters.....	161
18.1.5	FEC.....	163
18.1.6	Data Whitening.....	163
18.2	PHY RF Requirements.....	163
18.2.1	Transmit Spectral Mask.....	163
18.3	Regional Considerations.....	163
18.3.1	Brazil Region.....	163
18.4	PHY Test Mode Requirements.....	164

Table of Figures

FIGURE 5-1 COMMUNICATIONS REFERENCE MODEL	12
FIGURE 5-2 SAMPLE LAYER 3 ROUTED FAN.....	13
FIGURE 5-3 SAMPLE LAYER 2 ROUTED FAN.....	14
FIGURE 5-4 UPPER LAYER PROTOCOL DISPATCH	16
FIGURE 5-5 UNICAST FREQUENCY HOPPING.....	19
FIGURE 5-6 BROADCAST FREQUENCY HOPPING	20
FIGURE 5-7 BROADCAST AND UNICAST SCHEDULES.....	21
FIGURE 6-1 EAPOL RELAY DATAGRAM.....	24
FIGURE 6-2 ADDRESS REGISTRATION	32
FIGURE 6-3 PA FRAME FORMAT.....	37
FIGURE 6-4 PA FRAME CONTROL FORMAT	37
FIGURE 6-5 PAS FRAME FORMAT.....	38
FIGURE 6-6 PAS FRAME CONTROL FORMAT	38
FIGURE 6-7 PC FRAME FORMAT.....	38
FIGURE 6-8 PC FRAME CONTROL FORMAT	39
FIGURE 6-9 PCS FRAME FORMAT.....	39
FIGURE 6-10 PCS FRAME CONTROL FORMAT	39
FIGURE 6-11 ULAD FORMAT.....	40
FIGURE 6-12 ULAD FRAME CONTROL FORMAT	40
FIGURE 6-13 ACKNOWLEDGEMENT FRAME FORMAT	41
FIGURE 6-14 ACKNOWLEDGEMENT FRAME CONTROL FORMAT	41
FIGURE 6-15 EAPOL FRAME FORMAT	42
FIGURE 6-16 EAPOL FRAME CONTROL FORMAT.....	42
FIGURE 6-17 WI-SUN HEADER IE	44
FIGURE 6-18 UNICAST TIMING IE	44
FIGURE 6-19 FRAME TYPES	44
FIGURE 6-20 BROADCAST TIMING IE.....	45
FIGURE 6-21 FLOW CONTROL IE.....	45
FIGURE 6-22 RSL IE	46
FIGURE 6-23 MHDS-IE	46
FIGURE 6-24 VENDOR EXTENSION IE	46
FIGURE 6-25 WI-SUN PAYLOAD IE.....	47
FIGURE 6-26 UNICAST SCHEDULE IE.....	48
FIGURE 6-27 BROADCAST SCHEDULE IE	48
FIGURE 6-28 CHANNEL INFORMATION FIELDS.....	48
FIGURE 6-29 EXCLUDED CHANNEL RANGES FIELD.....	50
FIGURE 6-30 CHANNEL MASK BIT ORDER ILLUSTRATION (TRANSMIT ORDER ... LEFT TO RIGHT)	51
FIGURE 6-31 VENDOR EXTENSION IE	51
FIGURE 6-32 PAN IE.....	51
FIGURE 6-33 NETWORK NAME IE.....	52
FIGURE 6-34 PAN VERSION IE.....	52
FIGURE 6-35 GTK HASH IE	53
FIGURE 6-36 L2 MESH PDU STRUCTURE AND FORMAT	56
FIGURE 6-37 L2 MESH PDU HEADER STRUCTURE AND FORMAT	56
FIGURE 6-38 L2 MESH PDU HEADER MHD-CONTROL FIELD FORMAT	56
FIGURE 6-39 L2 MESH PDU HEADER ADDRESS LIST STRUCTURE AND FORMAT.....	56
FIGURE 6-40 L2 MESH PDU DATA STRUCTURE AND FORMAT	57
FIGURE 6-41 L2 MESH PDU DATA ELEMENT STRUCTURE AND FORMAT	57
FIGURE 6-42 STATE TRANSITION DIAGRAM FOR DFE	63
FIGURE 6-43 STATE TRANSITION DIAGRAM FOR EDFE	64
FIGURE 6-44 FAN JOIN STATES.....	72
FIGURE 6-45 SERVICE ACCESS POINTS (SAP)	76
FIGURE 6-46 AUTHENTICATION AND GROUP KEY ACQUISITION FLOWS.....	84

ISO/IEC/IEEE 32857:2026(en)

FIGURE 6-47 SHARED SECRET INITIATION	93
FIGURE 6-48 - UML ASSOCIATION MANAGEMENT STATE MACHINE.....	97
FIGURE 6-49 - STATE MACHINE SHAPES KEY.....	97
FIGURE 6-50 - START STATE TRANSITIONS.....	99
FIGURE 6-51 - ASSOCIATIONWAIT STATE TRANSITIONS	100
FIGURE 6-52 - ACKWAIT STATE TRANSITIONS.....	100
FIGURE 6-53 - SESSIONVALID STATE TRANSITIONS.....	101
FIGURE 6-54 - COMMON TRANSITIONS	102
FIGURE 6-55 ESTKEYTRUST PROCEDURE FLOW	103
FIGURE 6-56 START STATE TRANSITIONS PART 1.....	106
FIGURE 6-57 START STATE TRANSITIONS - PART 2.....	107
FIGURE 6-58 SESSIONPENDING1 STATE TRANSITIONS.....	108
FIGURE 6-59 SESSIONPENDING2 STATE TRANSITIONS.....	110
FIGURE 6-60 SESSIONVALID STATE TRANSITIONS	111
FIGURE 6-61 SESSIONOPEN STATE TRANSITIONS	112
FIGURE 6-62 COMMON TRANSITIONS	113
FIGURE 6-63 NEWASSOCIATION MESSAGE.....	115
FIGURE 6-64 ASSOCIATIONRESPONSE MESSAGE	116
FIGURE 6-65 ASSOCIATIONACK MESSAGE	117
FIGURE 6-66 GETCERTS MESSAGE.....	118
FIGURE 6-67 SENDCERTS MESSAGE	118
FIGURE 6-68 CLOSEASSOCIATION MESSAGE.....	119
FIGURE 6-69 NS SHARED SECRET INITIATION.....	120
FIGURE 6-70 NS SHARED SECRET RESPONSE.....	120
FIGURE 6-71 SM SPECIFIC ERROR MESSAGE	123
FIGURE 6-72 GTK CYCLING	128
FIGURE 8-1 DFE NON-ACKNOWLEDGED EXCHANGE.....	135
FIGURE 8-2 DFE ACKNOWLEDGED EXCHANGE.....	136
FIGURE 8-3 EDFE QUALIFIED FRAME EXCHANGE	137
FIGURE 8-4 EDFE 2 MULTI-PACKET DATA EXCHANGE.....	138
FIGURE 8-5 EDFE FRAME EXCHANGE WITH INITIAL DATA	139
FIGURE 8-6 EDFE BI-DIRECTIONAL FRAME EXCHANGE	140
FIGURE 15-1 JOINING NODE BOOTSTRAP MESSAGING FLOW (L3 ROUTING).....	156

Table of Tables

TABLE 6-1 NETWORK LAYER CONSTANTS	23
TABLE 6-2 DATA LINK LAYER CONSTANTS	33
TABLE 6-3 MULTIPLEX IDS	54
TABLE 6-4 INFORMATION ELEMENT REQUIREMENTS FOR FRAMES	55
TABLE 6-5 MLME-WS-ASYNC-FRAME.REQUEST PARAMETERS	79
TABLE 6-6 MLME-WS-ASYNC-FRAME.CONFIRM PARAMETERS	80
TABLE 6-7 MLME-WS-ASYNC-FRAME.INDICATION PARAMETERS	80
TABLE 6-8 - PREAMBLE LENGTHS PER OPERATING MODES	81
TABLE 6-9 - RADIO SPECIFICATION	81
TABLE 6-10 AUTHENTICATION AND PMK INSTALLATION FLOW	87
TABLE 6-11 PTK AND GTK INSTALLATION FLOW	90
TABLE 6-12 GROUP KEY UPDATE FLOW	91
TABLE 18-1 - PHY OPERATING MODES AND SYMBOL RATES	161
TABLE 18-2: SUPPORTED FREQUENCY BANDS AND CHANNEL PARAMETERS	161
TABLE 18-3: EXCLUDED CHANNELS IN BRAZIL	163

1 Introduction

1.1 Scope

This document defines the technical implementation and behavior of a Wi-SUN Field Area Network which fulfills the marketing requirements specified in [MRD]. With the details presented in this document, an implementer is enabled to construct an interoperable and certifiable implementation of the Wi-SUN FAN.

1.2 Requirements Language

Requirements are specified using the terminology and conventions as described in [RFC2119]. Requirements key words described in [RFC2119] must be capitalized.

1.3 Structure of This Document

The FAN Technical Profile Specification is developed in an iterative process as described in [FWGDP]. A brief overview of each TPS section is provided below. Unless noted otherwise, all sections are informative.

1. Introduction. Self-explanatory.
2. References. Self-explanatory.
3. Definitions and Acronyms. Self-explanatory.
4. Technical Requirements (normative). This section defines the requirements which must be met by the Specification section. It defines what functionality must be provided by the TPS. It does not define the technical specifics of how the Technical Requirements are met, nor test cases required to verify that functionality.
5. Architecture. Overview of the design and operation of the FAN.
6. Specification (normative). The technical specifics of how the mechanisms of the FAN are to be implemented. Normative clauses within this section require corresponding test case coverage be incorporated into the Wi-SUN FAN Compliance and Interoperability Test Plans.
7. Appendix A. (normative). Description of the TR51 Channel Function.
8. Appendix B. Unicast Frame Exchange examples.
9. Appendix C. (normative). Description of the Direct Hash Channel Function.
10. Appendix D. Guidance for FAN IPv6 Addressing Architecture.
11. Appendix E. Unicast / Broadcast / Discovery Example.
12. Appendix F. Description of IPv6 Neighbor Discovery Optimizations.
13. Appendix G. Description of Frame Counter, Frame Sequence Number, and MPX-IE Transaction ID interaction.
14. Appendix H. Unicast Timing Calculation Example.
15. Appendix J. FAN Node Bootstrap Messaging Flow.
16. Appendix K. EAPOL Target Selection.
17. Appendix L. Key Reinstallation Attack.

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ISO/IEC/IEEE 32857:2026(en)

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