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Design Team – SCHC Architecture

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Mandate and Scope

Why a Design Team?

CONTEXT

- draft-ietf-schc-architecture needs a substantial revision
- draft-lampin-minimal-architecture introduced a fresh, minimal vision
- Design Team chartered to integrate both into one coherent document

RULES OF ENGAGEMENT

- Consensus-based — no change lands without team agreement
- Informational document · target ~30–40 pages + Annexes
 - Annexes: use-cases and deployment examples
- No new Standards Track work in this document
 - New profiles (e.g. SCHC over Ethernet) → separate Std-Track drafts

DELIVERABLE

A single, clean draft-ietf-schc-architecture that works for every SCHC deployment —

from a tiny SCHClet on an LPWAN device

to

a multi-instance gateway over Ethernet.

Core Architectural Vocabulary

Agreed definitions — stable across the Design Team

Instance

The logical component that executes SCHC (C/D and/or F/R), with its own Context and Configuration.

Endpoint

A SCHC peer - container for one or more Instances + optional Dispatcher.

Dispatcher: A logical component of the Endpoint that routes packets to the appropriate Instances based on defined admission rules. It can be integrated into the network stack or implemented as a separate component.

Session

A communication relationship between two or more Instances sharing a common Context.

Context

A Set of Rules (SoR) + metadata, pre-shared between the Instances of a Session.

Current discussion

Should "Stratum" (the portion of the protocol stack where SCHC operates) be a first-class defined term?

Pro: precise language for multi-instance, multi-hop, dispatching scenarios

Ultra-minimal alternative: leave implicit; only name it in deployment Annexes

Deployment Coverage and Status

Four baseline technologies · Next steps

FOUR BASELINE TECHNOLOGIES		
Technology	Discriminator	Existing Work
IEEE 802.15.4/LPWAN	Pre-provisioned, topology- designed	RFC 9011, RFC 9442, 6lo-schc-15dot4
PPP	One Endpoint per connection	draft-ietf-schc-over-ppp
Ethernet	Ethertype=SCHC + Control Header	draft intarea-schc-protocol-numbers
OSCORE / CoAP	OSCORE security association	RFC 8824

STATUS	
Core terminology	Agreed
Architectural Principles	Agreed
SCHC Datagram format	Agreed
Deployment sections (text)	Draft ready
Stratum as named concept	Discussing
Annex structure	Planned

New profiles (wire formats, IANA) → separate Standards Track documents.

IMMEDIATE ACTIONS
• Complete Annex drafts: LPWAN, Ethernet, OSCORE deployment examples • Submit next revision of draft-ietf-schc-architecture before next IETF meeting • Review terminology: flag any inconsistency with RFC 8724 or existing profiles