



OVERVIEW AND UPDATES · CONTENT DELIVERY AND STREAMING

User Data Collection and Reporting

User data collection and reporting, and exposure of network events to consumers

3GPP

OCTOBER 2026 – www.5g-mag.com

About the project

The documents the project rests on

3GPP TS 26.531

Technical Specification

The generic architecture for collecting and reporting data in the 5G System: the logical functions and the reference points between them.

3GPP TS 26.532

Technical Specification

The APIs, resource structures and data models for the collection and reporting of UE data by the Data Collection AF.

3GPP TS 29.517

Technical Specification

The AF event exposure service, which carries the events to the NWDAF and to the Event Consumer AF.

FIND OUT MORE

Technical Analysis

Specifications

Reference Tools

Features

Provisioning, reporting and event exposure: the three steps of the data collection cycle

R1

Provisioning

The Provisioning AF provisions one set of information for each Event ID in the Data Collection AF. It embodies the agreement between the network operator and the Application Service Provider.

R2 TO R4

Reporting

Each data collection client first obtains a configuration from the Data Collection AF, then sends data reports under its sampling rules, reporting conditions and reporting rules.

R5 AND R6

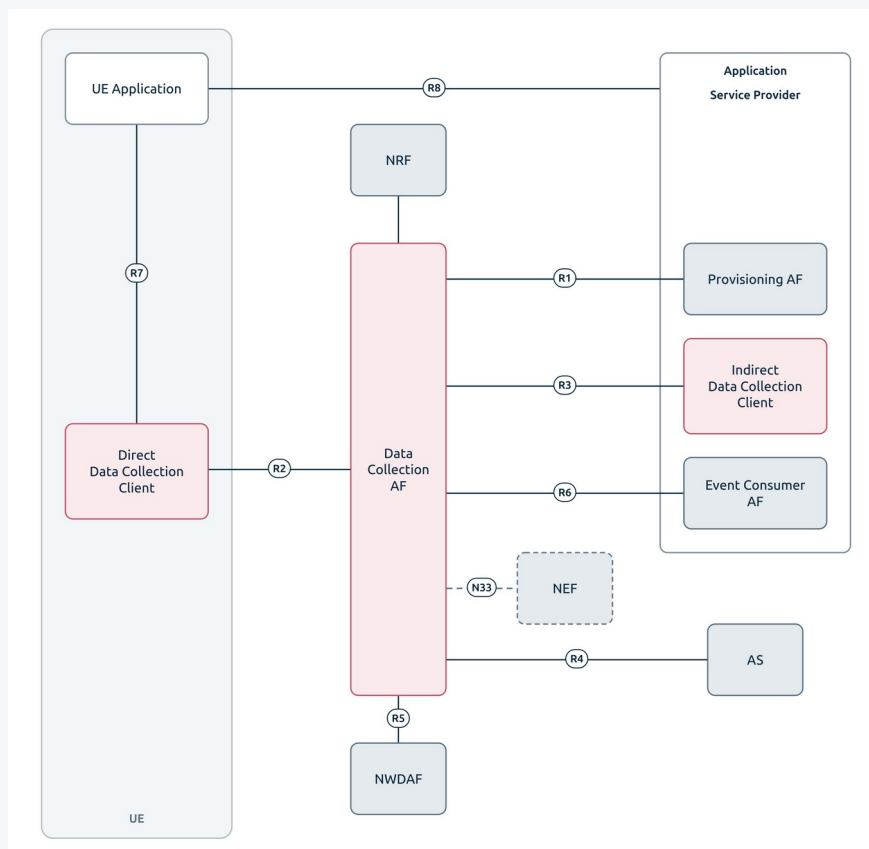
Event exposure

The NWDAF or an Event Consumer AF subscribes to a type of event. The Data Collection AF sends it event exposure notifications.

Data Access Profiles define the processing the Data Collection AF applies before any event leaves it, along time, user and location.

Architecture

The functions and reference points of the generic architecture



Data Collection AF

Manages the provisioning state, processes the collected UE data, and realises the Event Exposure Service.

Provisioning AF

Of the Application Service Provider: provisions data collection and reporting at R1.

Data collection clients

The Direct client in the UE (R2), the Indirect client of the provider (R3) and the AS (R4). Each obtains a configuration, then sends data reports.

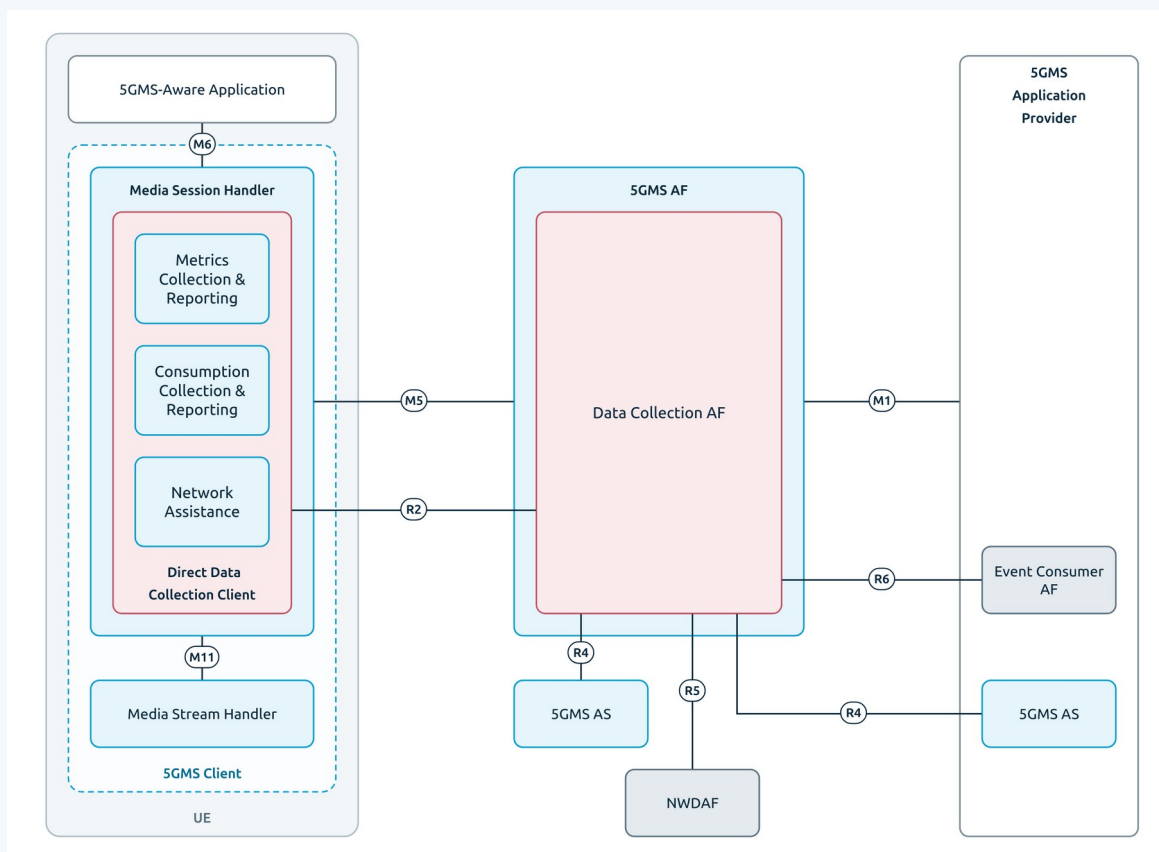
Event consumers

The NWDAF, the primary consumer of processed UE data (R5), and the Event Consumer AF of the provider (R6).

LEARN

In 5G Media Streaming

How 5G Media Streaming instantiates the architecture



Data Collection AF

Instantiated in the 5GMS AF. Data collection is provisioned at M1, so the Provisioning AF is not instantiated.

Direct Data Collection Client

Instantiated in the Media Session Handler. It reports QoE metrics and consumption over M5, and ANBR-based Network Assistance invocations at R2.

5GMS AS

Reports media streaming access activity at R4.

Event Consumer AF

Instantiated in the 5GMS Application Provider. The NWDAF subscribes at R5.

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How it grew

What each 3GPP release added to UE data collection, reporting and event exposure

RELEASE 17

Created

The EVEX work item (5GMS AF Event Exposure) creates TS 26.531 and TS 26.532, and instantiates them in TS 26.501 and TS 26.512.

RELEASE 18

Extended

A UE Application may instruct the Direct Data Collection Client to prioritise immediate delivery of a data report. ANBR-based Network Assistance invocations are reported at R2.

RELEASE 19

Carried forward

TS 26.531 and TS 26.532 carry the Release 18 content forward, with an update of the API info fields. TS 26.512 gains Common Media Client Data reporting.

The figures of TS 26.531 are the same in Release 17, 18 and 19. Release 20 (work plan of 28 September 2026): no work item lists TS 26.531 or TS 26.532.

IMPLEMENT

Repositories

The public repositories of the project, from their descriptions

REPOSITORY	WHAT IT IS	COVERS	LATEST RELEASE
rt-data-collection-application-function	a Data Collection Service Provider library and a standalone Application Function, for the interfaces R1 to R6	Provisioning and reporting Event exposure at R5, R6 NRF registration	● 1.1.0 13 May 2025 GitHub
cmcd-toolkit	tools to collect and analyze CMCD v2 data locally and across cloud providers	CMCD collectionCMCD analysis	● none yet GitHub

FIND OUT MORE

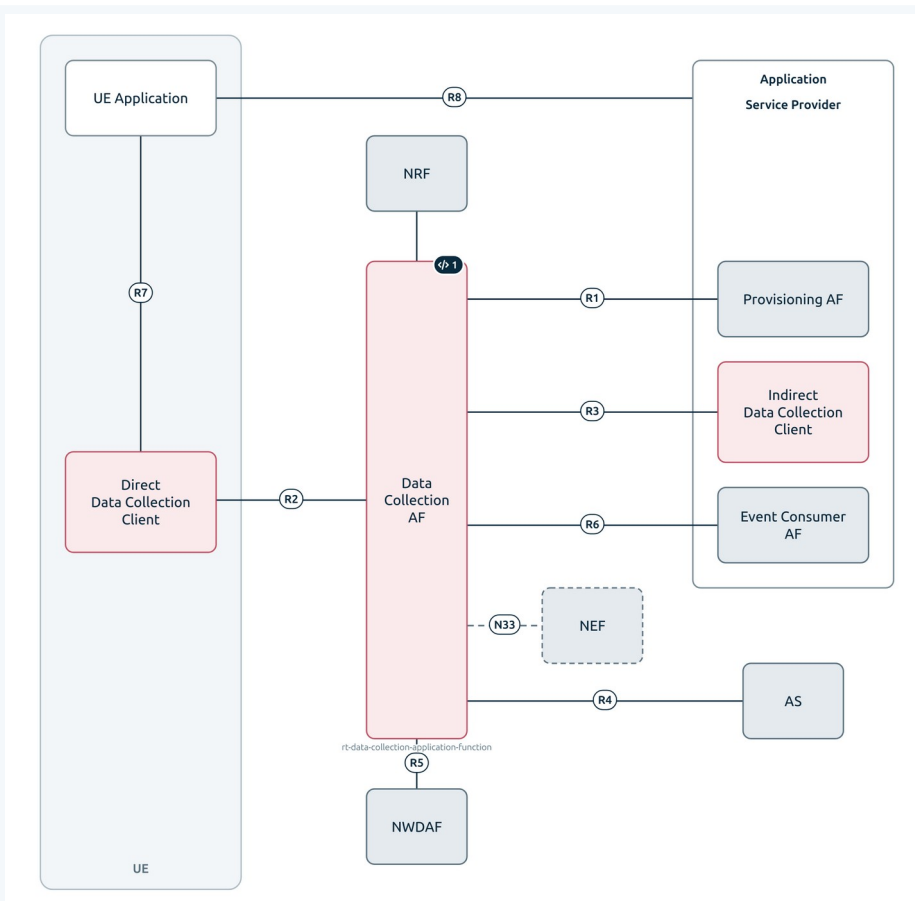
- Technical Analysis
- Specifications
- Reference Tools

● released ● no release yet

IMPLEMENT

Repositories in the architecture

The Reference Tools on the data collection architecture, as the figure generator draws them



PROVIDED BY THE REFERENCE TOOLS

- 1 **rt-data-collection-application-function**
- 2 **rt-common-shared**
auxiliary library, used by 1
- 3 **open5gs**
dependency, used by 1

See it and try it

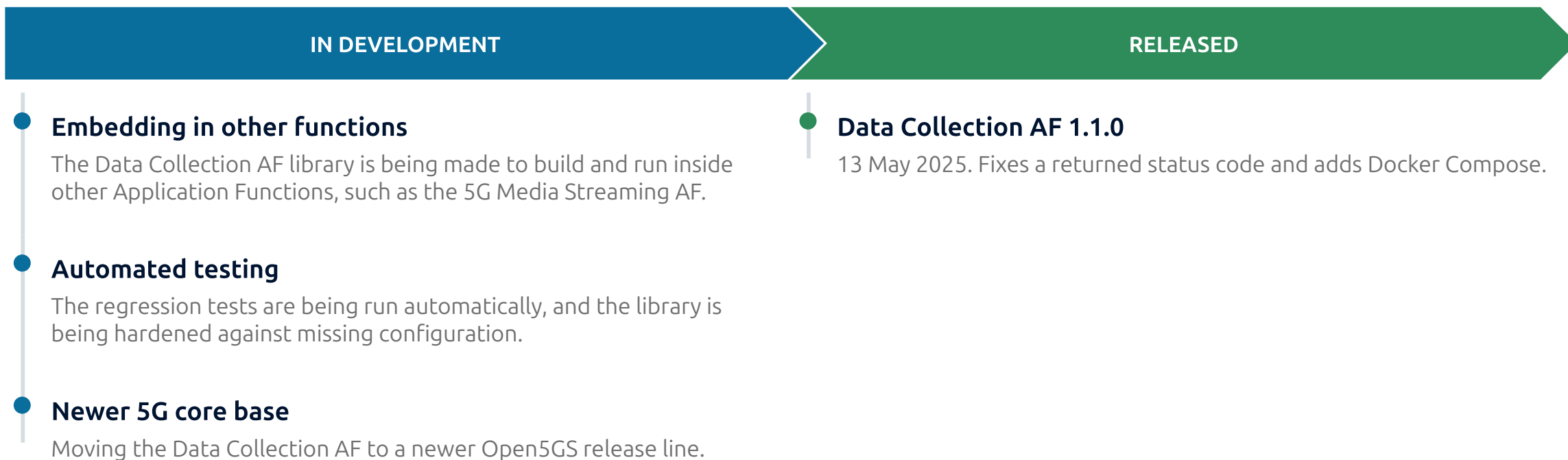
[illegible]

CMCD Toolkit dashboard



Latest updates and roadmap

Status on 23 October 2026



MERGED SINCE 1.1.0 2 pull requests in 1 repository

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