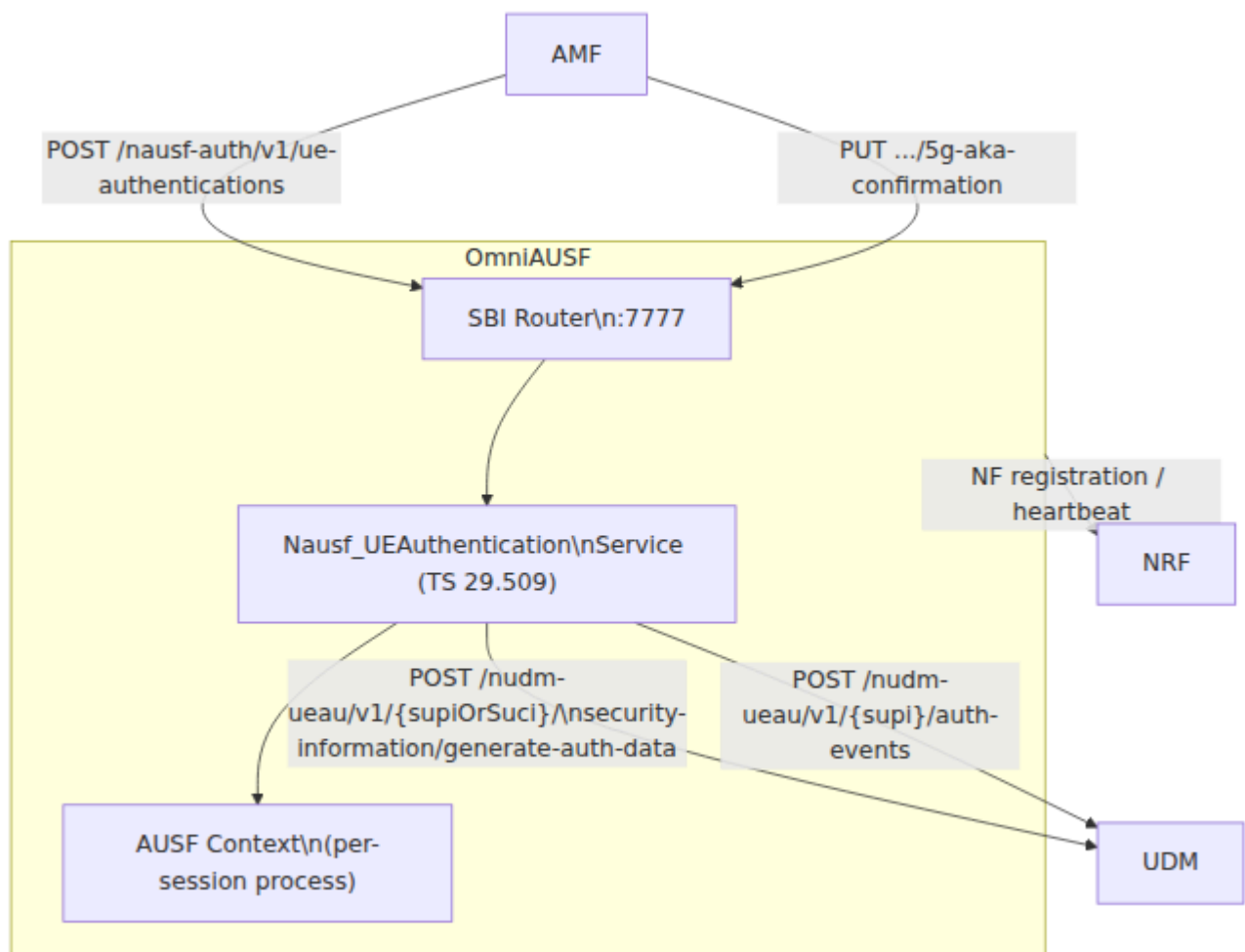


OmniAUSF

1. Overview

OmniAUSF is Omnitouch 5G Authentication Server Function (AUSF) that connects AMF to UDM and provides 5G-AKA authentication to UE. OmniAUSF connects to OmniUDM and provides NF services to SBI.

OmniAUSF provides the following services to SBI:



2. 3GPP

Entity	Specification
AUSF	TS 23.501 § 6.2.8
Nausf_UEAuthentication	TS 29.509
5G-AKA	TS 33.501 § 6.1.3
HXRES*/HRES*	TS 33.501 § A.5
KSEAF	TS 33.501 § A.6
UDM	TS 29.503 § 5.2.2
SN	TS 33.102 § 6.3.5 § TS 33.501 § 6.1.3.4

3. SBI

HTTP/1.1 Content-Type: application/json

Nausf_UEAuthentication (TS 29.509)

Method	URI	Description	Status
POST	/nausf-auth/v1/ue-authentications	UE (AMF -> AUSF)	201 Created
PUT	/nausf-auth/v1/ue-authentications/{authCtxId}/5g-aka-confirmation	5G-AKA (AMF § RES*)	200 OK

□□□□

HTTP □□	□□	□□
404	USER_NOT_FOUND	UDM □□ 404□□□□□□□□
401	AUTHENTICATION_FAILURE	HRES* □ HXRES* □□□
500	SYSTEM_FAILURE	□□□□□□□□ UDM

4. □□□□

OmniAUSF □□ Elixir □□□□□□□□ :omniausf □□□□□□□□

□□□□

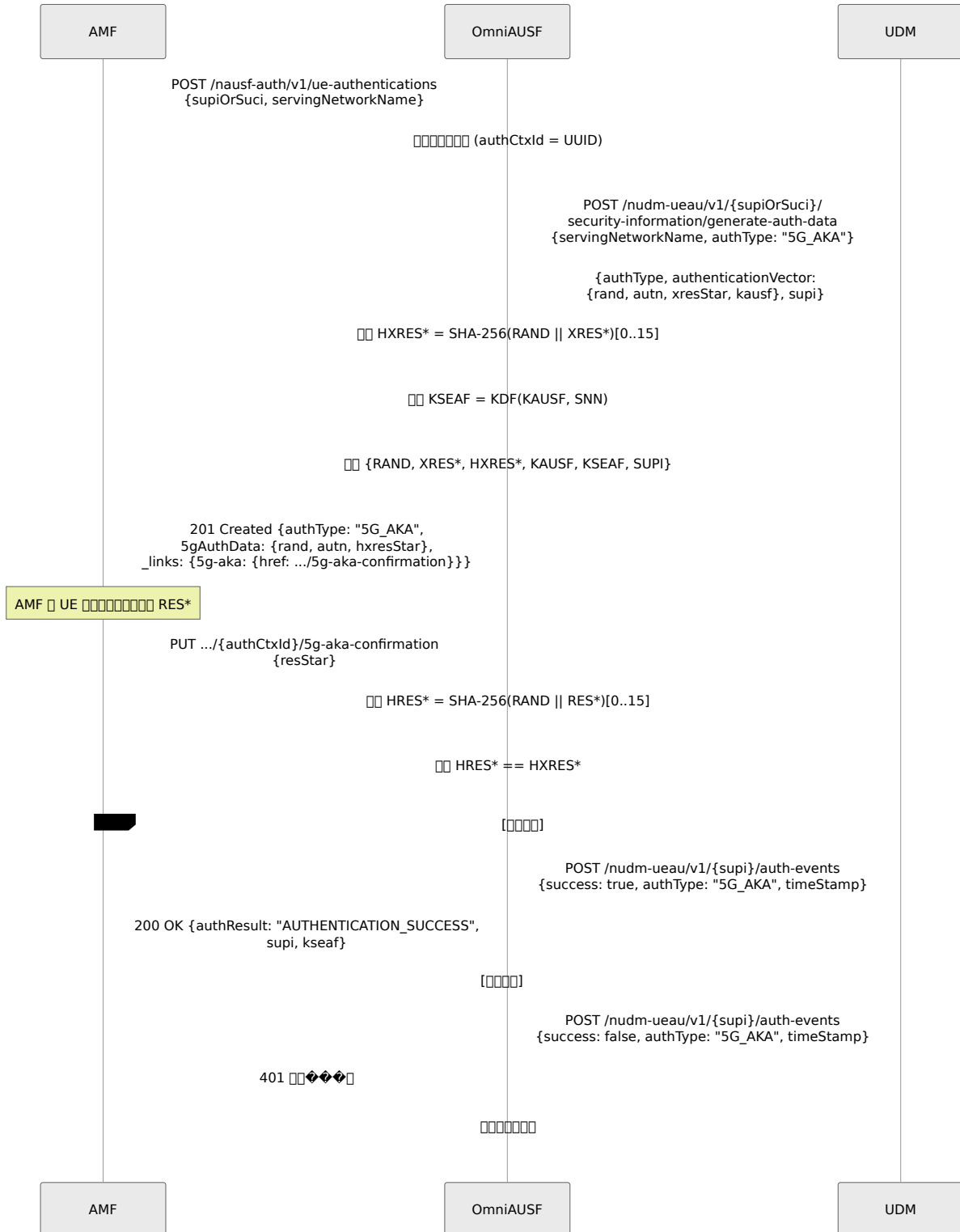
```
config :omniausf,
  sbi_scheme: "http",
  sbi_addr: "127.0.0.19",
  sbi_port: 7777,
  nrf_uri: "http://127.0.0.10:7777",
  udm_uri: "http://127.0.0.12:7777",
  mcc: "999",
  mnc: "70",
  heartbeat_interval: 10_000
```

配置

項目	単位	初期値	説明
sbi_scheme	文字列	"http"	SBI HTTP 通信の URI スキーム
sbi_addr	文字列	"127.0.0.19"	SBI HTTP 通信の IP アドレス
sbi_port	整数	7777	SBI HTTP 通信の TCP ポート番号
nrf_uri	文字列	"http://127.0.0.10:7777"	NRF 通信の URI (NF 機能)
udm_uri	文字列	"http://127.0.0.12:7777"	UDM 通信の URI (UDM 機能)
mcc	整数	"999"	PLMN 識別子 (MCC)
mnc	整数	"70"	PLMN 識別子 (MNC)
heartbeat_interval	整数 (秒)	10000	OmniAUSF からの NRF への PATCH 要求の送信間隔

5. □□□□

5.1 5G-AKA □□□□



6. Prometheus

AUSF

Label	Unit	Value	Description
omni_ausf.auth.count	count	result	Authentication result
omni_ausf.nrf.registration.status	count	nf_type	NRF registration status (1=success, 0=failure)
omni_ausf.active_contexts.count	count	--	Number of AUSF UE contexts

BEAM VM

Label	Unit	Description
beam.memory.total	bytes	BEAM total memory
beam.memory.processes	bytes	Erlang processes memory
beam.memory.system	bytes	System memory (ETS, atoms, code)
beam.processes.count	count	Erlang processes
beam.vm.uptime	seconds	VM uptime

7. 404

ID	Auth	Notes
AUSF-1	Basic	Authentication is performed by AUSF and AMF. The response is 404.
AUSF-2	EAP-AKA'	Authentication is performed by AUSF and AMF. The response is 404.
AUSF-3	Basic	AUSF sends resynchronizationInfo to UDM and AMF. The response is 404.

8. 401

404

UDM 404

- 1. udm_uri is OmniAUSF
- 2. IMSI is UDM/UDR/HSS
- 3. AMF SUCI

401

AUSF sends RES* HRES* HXRES* to UE (Ki, OPc) RAND/AUTN

UDM (500)

udm_uri AUSF UDM AUSF auth failed for {supi0rSuci}: {reason}

