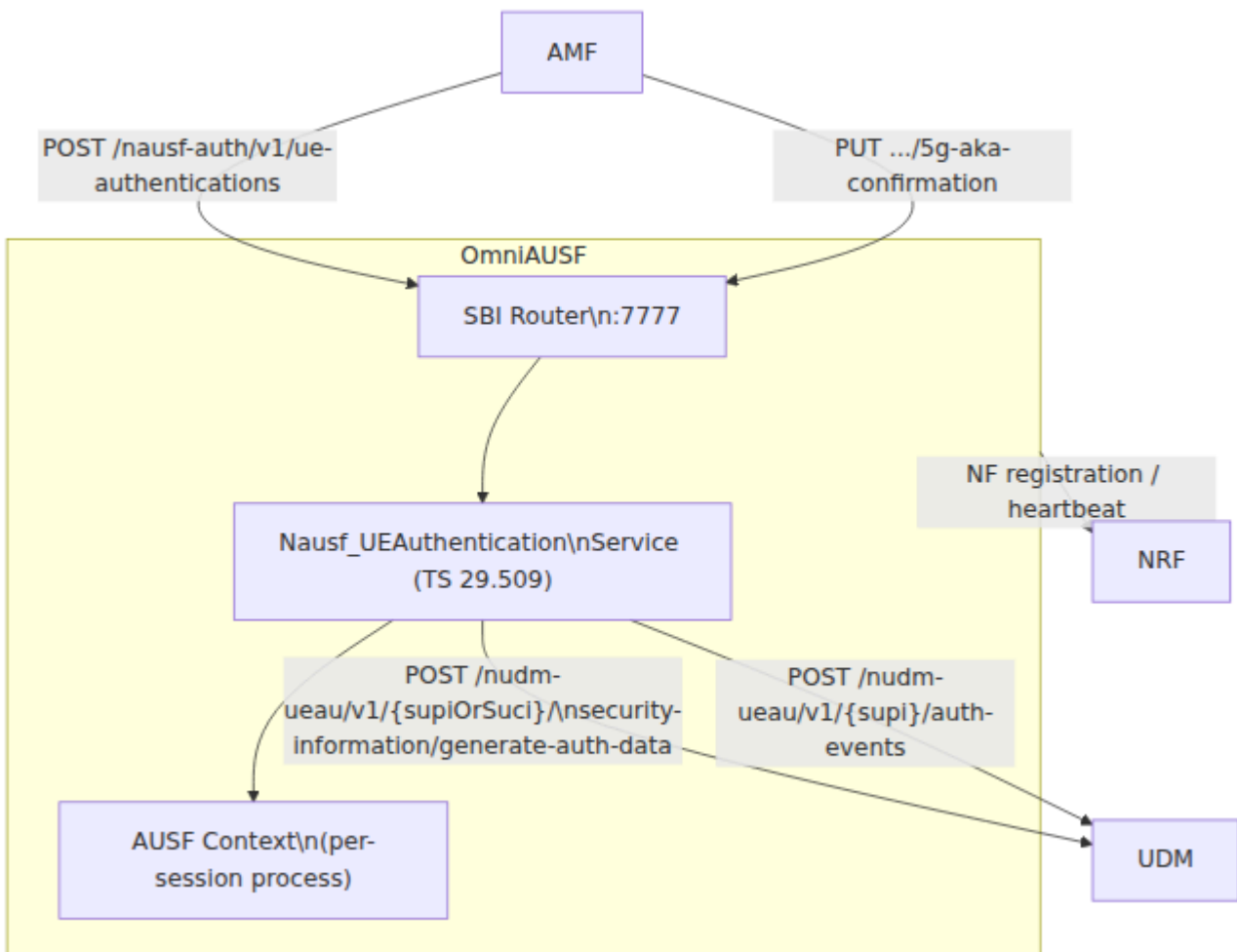


# OmniAUSF

## 1. Overview

OmniAUSF is a 5G AUSF implementation for Omnitouch 5G. It acts as a proxy between AMF and UDM, handling 5G-AKA authentication requests from UE and interacting with OmniUDM and SBI.

Architecture diagram showing the interaction between AMF, OmniAUSF, NRF, and UDM.



## 2. 3GPP

Entity	Reference
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
SQLN	TS 33.102 § 6.3.5 § TS 33.501 § 6.1.3.4

## 3. SBI

Content-Type: application/json

### Nausf\_UEAuthentication (TS 29.509)

Method	URI	Description	Response
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 □□□□□□□□

□□□□

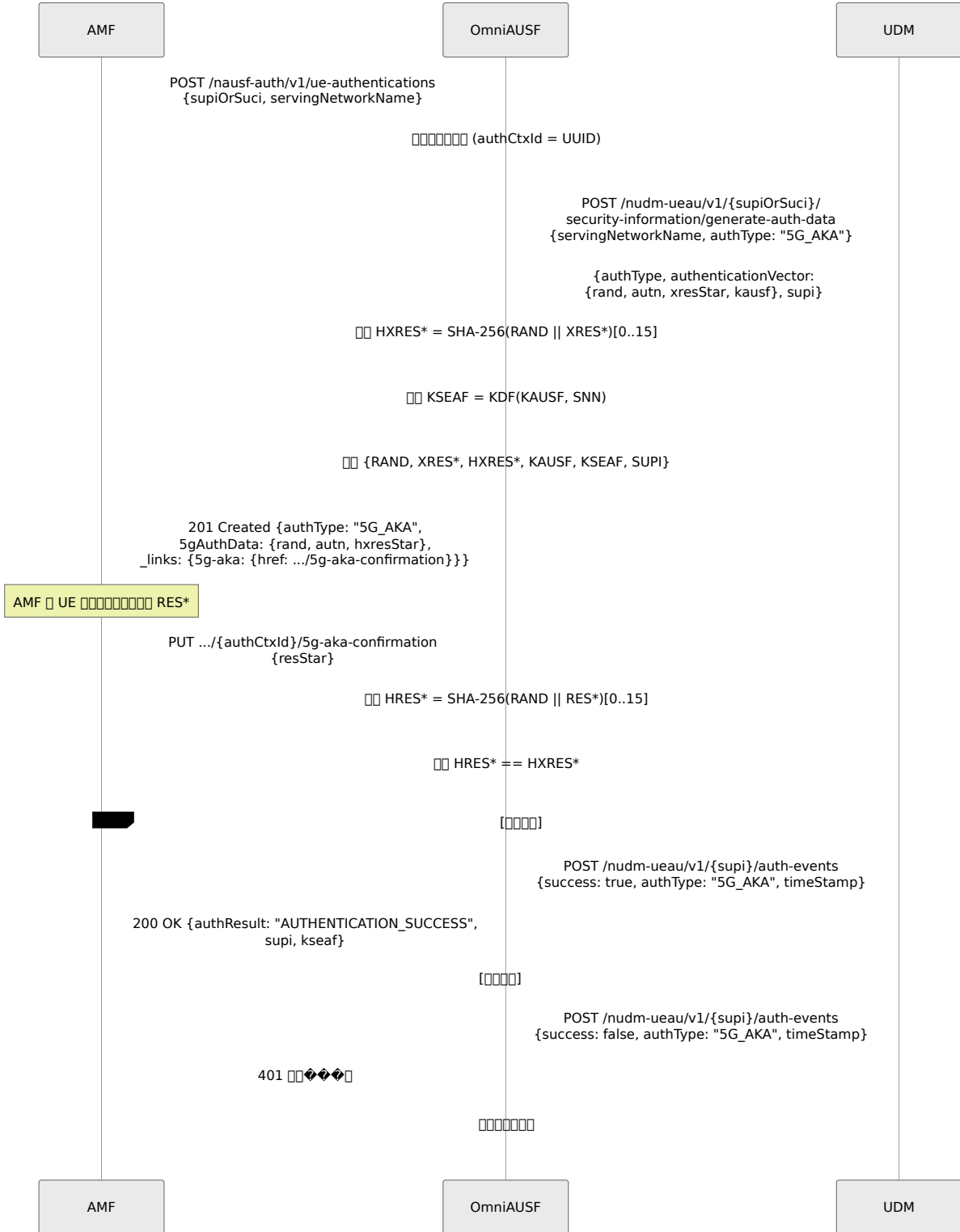
```
config :omniausf,  
  sbi_scheme: "http",  
  sbi_addr: "127.0.0.19",  
  sbi_port: 7777,  
  nrf_uri: "http://127.0.0.10:7777",  
  udm_uri: "http://127.0.0.12:7777",  
  mcc: "999",  
  mnc: "70",  
  heartbeat_interval: 10_000
```

□□□

□□	□□	□□□	□□
sbi_scheme	□□ □	"http"	SBI HTTP □□□□ URI □□
sbi_addr	□□ □	"127.0.0.19"	SBI HTTP □□□□ □□ IP □□
sbi_port	□□	7777	SBI HTTP □□□□ □□ TCP □□
nrf_uri	□□ □	"http://127.0.0.10:7777"	NRF □□□ URI□□ □ NF □□□□□
udm_uri	□□ □	"http://127.0.0.12:7777"	UDM □□□ URI□□ □□□□□□□□□□□□ □□
mcc	□□ □	"999"	□□ PLMN □□□□□ □□
mnc	□□ □	"70"	□□ PLMN □□□□□ □□
heartbeat_interval	□□ (□ □)	10000	OmniAUSF □□ NRF □□ PATCH □□□□□

# 5. □□□□

## 5.1 5G-AKA □□□□



# 6. Prometheus ☐☐

## AUSF ☐☐

☐☐	☐☐	☐☐	☐☐
<code>omni_ausf.auth.count</code>	☐☐ ☐	<code>result</code>	☐☐☐☐☐☐☐☐/☐☐/☐☐☐
<code>omni_ausf.nrf.registration.status</code>	☐☐	<code>nf_type</code>	NRF ☐☐☐☐ (1=☐☐☐☐, 0=☐☐☐☐)
<code>omni_ausf.active_contexts.count</code>	☐☐	--	☐☐ AUSF UE ☐☐☐☐☐☐☐☐☐

## BEAM VM ☐☐

☐☐	☐☐	☐☐
<code>beam.memory.total</code>	☐☐	BEAM ☐☐☐☐☐☐☐☐
<code>beam.memory.processes</code>	☐☐	Erlang ☐☐☐☐☐☐☐☐
<code>beam.memory.system</code>	☐☐	☐☐☐☐ (ETS, atoms, code)
<code>beam.processes.count</code>	☐☐	Erlang ☐☐☐☐☐☐
<code>beam.vm.uptime</code>	☐☐	VM ☐☐☐☐☐☐☐☐

## 7. 404

ID	404	404
AUSF-1	404	404 AUSF 404AMF 404
AUSF-2	EAP-AKA'	404 5G-AKA/EAP-AKA' 404 (TS 33.501 404 6.1.3.1 404) 404
AUSF-3	404	AUSF 404 resynchronizationInfo 404 UDM/AMF 404 resynchronizationInfo

## 8. 401

### 404

UDM 404

1. udm\_uri OmniAUSF
2. IMSI UDM/UDR/HSS
3. AMF SUCI

### 401

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

### UDM (500)

udm\_uri AUSF UDM AUSF auth failed for {supi0rSuci}: {reason}

