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# List of metrics

All metrics are exported through a single `/metrics` endpoint in Prometheus text format. The name follows the rules of Prometheus: `epdg_<group>_<name>[_unit]`, the Counter type has the suffix `_total`, Histogram is the suffix `_seconds/_bytes`.

## 1. Config (2)

Name	Type	Appointment
<code>epdg_config_status</code>	Gauge	Component configuration status (0=error, 1=ok)
<code>epdg_config_reload_total</code>	Counter	Configuration download counter (success/failure)

## 2. Network (1)

Name	Type	Appointment
<code>epdg_network_connection_status</code>	Gauge	TCP/UDP connection status to a node (0=down, 1=up) — applies to PGW (S2b), AAA (SWm), HSS (SWx)

## 3. IKEv2 SWu (3)

Name	Type	Appointment
<code>epdg_ikev2_messages_total</code>	Counter	IKEv2 Message Counter (IKE_SA_INIT / IKE_AUTH / CREATE_CHILD_SA / INFORMATIONAL)
<code>epdg_ikev2_request_duration_seconds</code>	Histogram	IKEv2 response time
<code>epdg_ikev2_errors_total</code>	Counter	IKEv2 errors (NO_PROPOSAL_CHOSEN, AUTHENTICATION_FAILED, INVALID_SYNTAX, etc.)

## 4. GTPv2-C S2b (4)

Name	Type	Appointment
<code>epdg_gtp_messages_total</code>	Counter	GTPv2-C (Create/Modify/Delete Session, Echo)
<code>epdg_gtp_request_duration_seconds</code>	Histogram	Waiting time request → reply
<code>epdg_gtp_errors_total</code>	Counter	GTP-C error by Cause Code
<code>epdg_gtp_retransmissions_total</code>	Counter	Redirecting GTP-C requests

## 5. GTP-U data plane (3)

Name	Type	Appointment
<code>epdg_gtpu_packets_total</code>	Counter	Packages via GTP-U tunnel (uplink/downlink)
<code>epdg_gtpu_bytes_total</code>	Counter	Bytes through GTP-U tunnel
<code>epdg_gtpu_errors_total</code>	Counter	Tunneling errors (TEID mismatch, decap fail)

## 6. Diameter SWm/SWx/S6b (5)

Name	Type	Appointment
epdg_diameter_messages_total	Counter	DER/DEA (SWm), MAR/MAA (SWx), AAR/AAA (S6b), STR/STA
epdg_diameter_request_duration_seconds	Histogram	Waiting time request → reply by Diameter
epdg_diameter_errors_total	Counter	Errors by Experimental-Result-Code
epdg_diameter_watchdog_status	Gauge	DWR/DWA watchdog status to node (0=timeout, 1=ok)
epdg_diameter_connection_status	Gauge	Diameter connection status to node (0=disconnected, 1=connected)

## 7. Service KPI (4)

Name	Type	Appointment
epdg_service_attach_total	Counter	Attempts to connect (success/failure) via APN
epdg_service_attach_duration_seconds	Histogram	Duration of connection (IKE_SA_INIT → session ready)
epdg_service_availability	Gauge	Accessibility flag (0=down, 1=up)
epdg_service_uptime_seconds	Gauge	Service availability time

## 8. Session State (4)

Name	Type	Appointment
epdg_session_ike_sa_total	Gauge	Active IKE SA
epdg_session_child_sa_total	Gauge	Active Child SA (IPSec tunnels)
epdg_session_gtp_sessions_total	Gauge	Active GTP-C sessions on S2b
epdg_session_subscribers_total	Gauge	Unique subscribers (UE connected)

## 9. Application (3)

Name	Type	Appointment
epdg_app_threads_total	Gauge	Total number of work streams
epdg_app_memory_bytes	Gauge	Process memory by type
epdg_app_log_messages_total	Counter	Log messages by level (debug/info/warn/error/fatal)

## 10. System (4)

Name	Type	Appointment
epdg_system_cpu_usage_percent	Gauge	Download CPU
epdg_system_memory_bytes	Gauge	System memory
epdg_system_disk_bytes	Gauge	Disk space
epdg_system_open_fds	Gauge	Open file descriptions

## Types of metrics (reminder)

Type	Appointment
<b>Counter</b>	Monotonically growing counter (messages, errors, reboots)
<b>Gauge</b>	Current value (active sessions, memory, status)
<b>Histogram</b>	Distribution of values with automatic slices over intervals (duration, lifetime)