

Demonstration of the Global Monitor of GISC Beijing

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Overview

- **Overview of GM**
- **Gobal Services Metrics**
- **GM Alert**
- **GM Dashboards**
- **Demonstration of the operational environment**

01

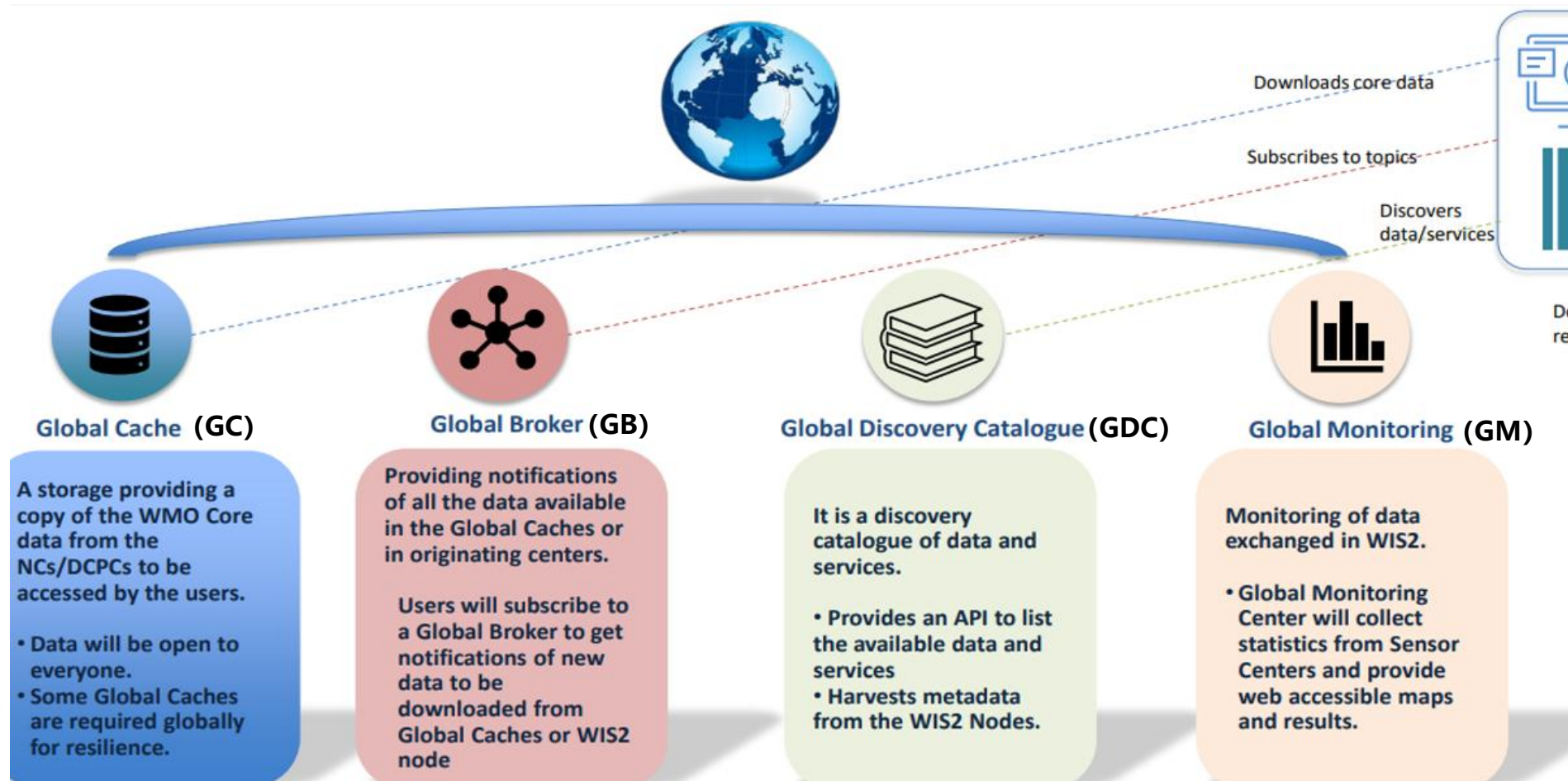
Overview of GM



WIS2.0 Global Services(GS)

Global Monitor: Provides monitoring dashboards based on metrics collected from other Global Services and alerting mechanism to ensure 24/7 operations.

- GM CMA scrapes the metrics from the other Global Services and displays them on the **dashboard**, and raises **alerts** according the rules.



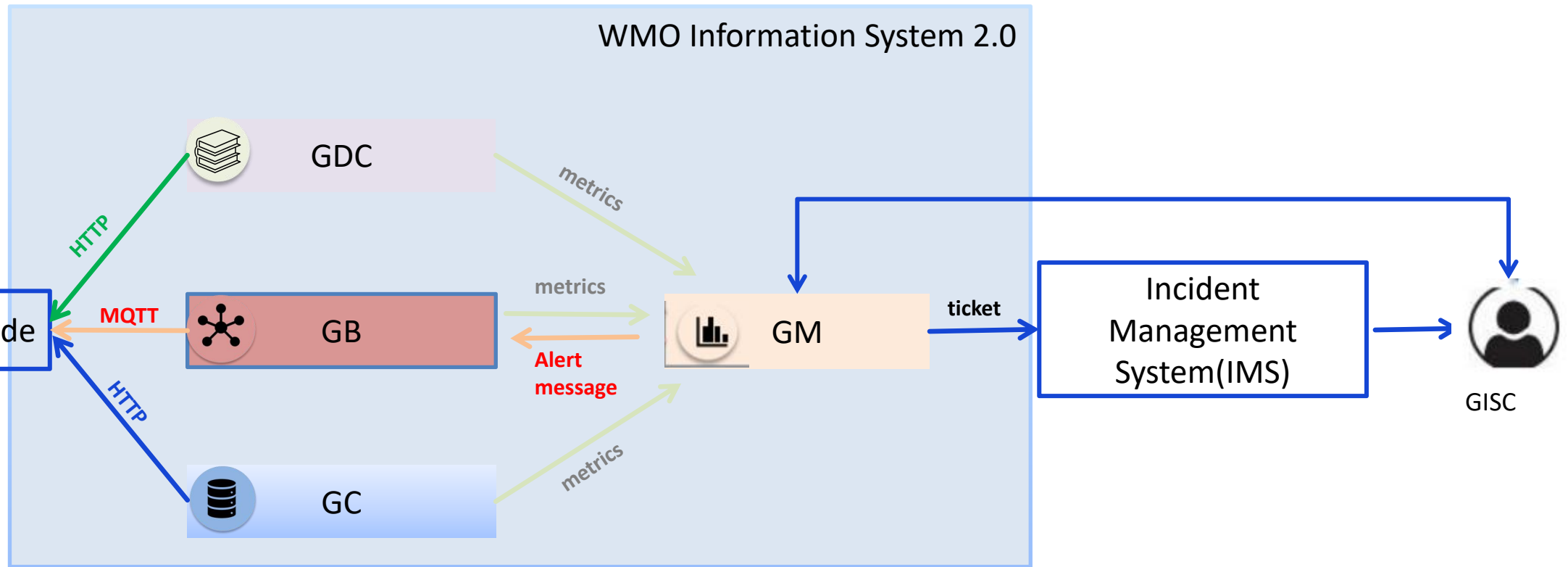
Global Monitor Workflow

GM collects metrics from Global Services (GB, GC, and GDC).

GM provides alert information to both GB and the WMO's Incident Management System (IMS)

GISC subscribes to all alert messages through GB and obtains critical alerts via IMS.

Please note: there is no direct interaction between GM and WIS 2.0 nodes.



02

Global Services Metrics



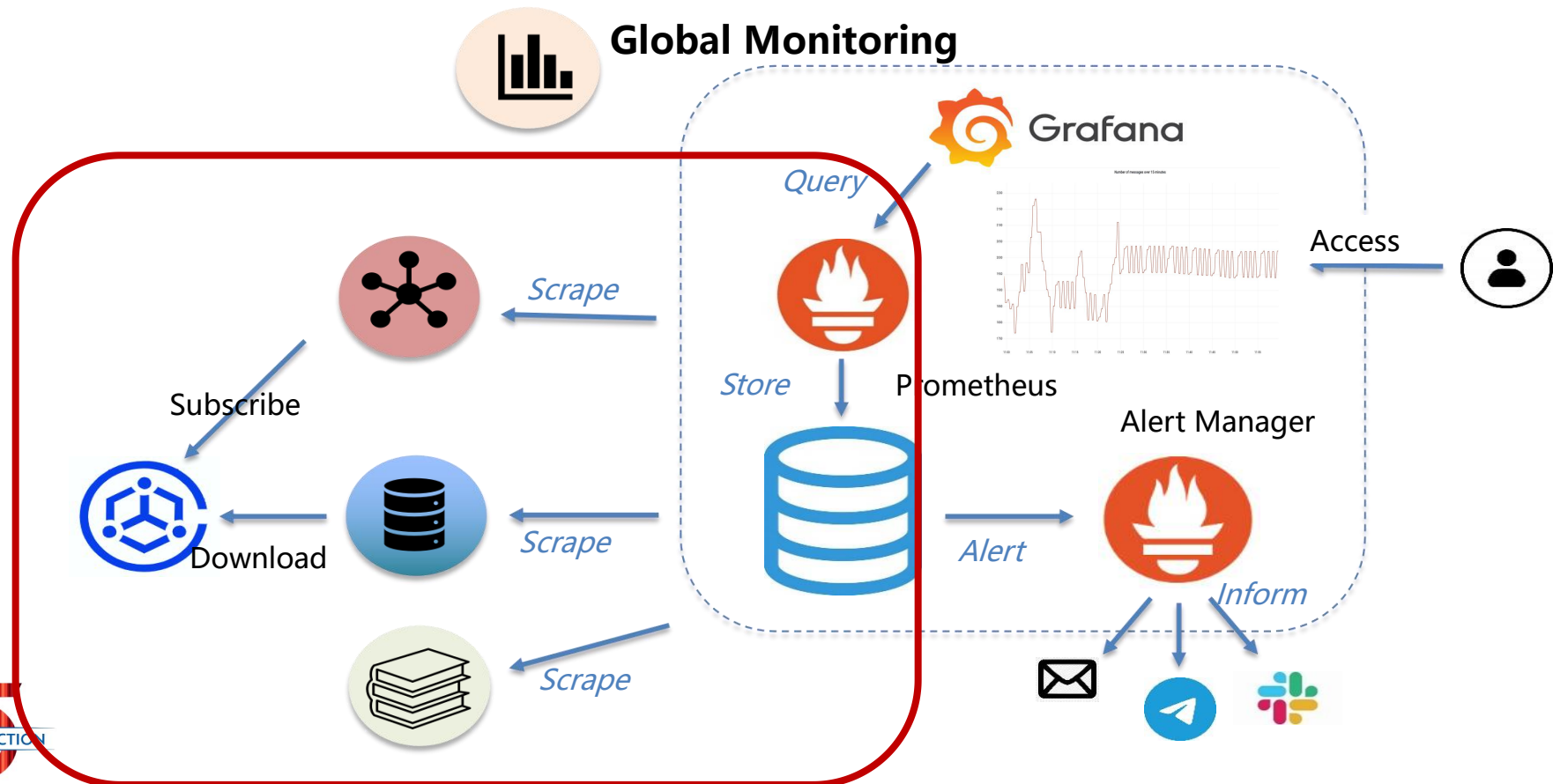
How GM collects metrics

Global Services monitors the process of subscribing to messages, obtaining data and metadata.

Global Services generates metrics endpoints accordance with OpenMetrics specification.

GM collects metrics from the endpoints of each GS.

Please note: WIS2 Nodes are not required to publish metrics.



Global Services Metrics Endpoint

WIS 2.0 has established 15 global services. each Global Services generates its own metrics in compliance with the OpenMetrics specification and exposes them on its own metrics endpoint.

WIS 2.0 Global Services

Global Broker	France	Météo-France	fr-meteofrance-global-broker
Global Broker	China	CMA	cn-cma-global-broker
Global Broker	United States of America	NOAA	us-noaa-global-broker
Global Broker	Brazil	INMET	br-inmet-global-broker
Global Cache	Germany	DWD	de-dwd-global-cache
Global Cache	Japan	JMA	jp-jma-global-cache
Global Cache	Republic of Korea	KMA	kr-kma-global-cache
Global Cache	China	CMA	cn-cma-global-cache
Global Cache	UK&USA	MetOffice&NOAA	data-metoffice-noaa-global-cache
Global Cache	Saudi Arabia	NCM	sa-ncm-global-cache
Global Discovery Catalogue	Canada	ECCC	ca-eccc-global-discovery-catalogue
Global Discovery Catalogue	China	CMA	cn-cma-global-discovery-catalogue
Global Discovery Catalogue	Germany	DWD	de-dwd-global-discovery-catalogue
Global Monitor	China	CMA	cn-cma-global-monitor
Global Monitor	Morocco	DGM	ma-marocmeteo-global-monitor

CMA metrics endpoints:

https://gc.wis.cma.cn/test/wis2/cache/metrics/gbMessages/gb_metrics.txt

https://gc.wis.cma.cn/test/wis2/cache/metrics/globalcache/gc_metrics.txt

https://gc.wis.cma.cn/test/wis2/cache/metrics/gdcMessages/gdc_metrics.txt

Metrics Generation

OpenMetrics is an open standard for monitoring data, designed to unify the format of metric exposure and transmission.

```
1 # TYPE Metric Name 1 untyped
2 Metric_Name_1{centre_id="centre1_name", report_by="metric_reporting_source"} <metric_value> <timestamp>
3 Metric_Name_1{centre_id="centre2_name", report_by="metric_reporting_source"} <metric_value> <timestamp>
4 ... (Omit)
5 # TYPE Metric Name 2 untyped
6 Metric_Name_2{centre_id="centre1_name", report_by="metric_reporting_source"} <metric_value> <timestamp>
7 Metric_Name_2{centre_id="centre2_name", report_by="metric_reporting_source"} <metric_value> <timestamp>
8 ... (Omit)
9 # TYPE Metric Name 3 untyped
10 Metric_Name_3{centre_id="centre1_name", report_by="metric_reporting_source"} <metric_value> <timestamp>
11 Metric_Name_3{centre_id="centre2_name", report_by="metric_reporting_source"} <metric_value> <timestamp>
```

Examples : The metrics include labels for the WIS2 Node, allowing for clear visibility into the status of each Node.

```
# TYPE wmo_wis2_gb_messages_no_metadata_total untyped
wmo_wis2_gb_messages_no_metadata_total{centre_id="br-inmet",report_by="cn-cma-global-broker"} 93944 1737701595004
wmo_wis2_gb_messages_no_metadata_total{centre_id="bs-metservice",report_by="cn-cma-global-broker"} 94 1737701595004

# TYPE wmo_wis2_gc_downloaded_total gauge
wmo_wis2_gc_downloaded_total{centre_id="ag-antiguamet",report_by="sa-ncm-global-cache"} 165
wmo_wis2_gc_downloaded_total{centre_id="ai-metservice",report_by="sa-ncm-global-cache"} 1118

# TYPE wmo_wis2_gdc_passed_total untyped
wmo_wis2_gdc_passed_total{centre_id="ag-antiguamet",report_by="cn-cma-global-discovery-catalogue"} 2 1756902780001
wmo_wis2_gdc_passed_total{centre_id="ai-metservice",report_by="cn-cma-global-discovery-catalogue"} 1 1756902780001
```



GB Metrics

As the core service for message notification data, GB focuses primarily on message transmission status and is monitored through the following seven metrics.

No.	Name	Labels	Description
1	wmo_wis2_gb_messages_no_metadata_total	centre_id report_by	Number of messages received without corresponding metadata from centre
2	wmo_wis2_gb_messages_invalid_topic_total	centre_id report_by	Number of messages received on an invalid topic from centre
3	wmo_wis2_gb_messages_invalid_format_total	centre_id report_by	Number of invalid messages from centre
4	wmo_wis2_gb_messages_published_total	centre_id report_by	Number of messages published by broker
5	wmo_wis2_gb_messages_received_total	centre_id report_by	Number of messages received by broker
6	wmo_wis2_gb_connected_flag	centre_id report_by	Connection status from broker to centre
7	wmo_wis2_gb_last_message_timestamp_seconds	centre_id report_by	Timestamp of last message received from centre

Display of GB Metrics

GB CMA Endpoint : https://gc.wis.cma.cn/test/wis2/cache/metrics/gbMessages/gb_metrics.txt

TYPE wmo_wis2_gb_messages_no_metadata_total untyped

wmo_wis2_gb_messages_no_metadata_total{centre_id="hk-hko",report_by="cn-cma-global-broker",monitor="wis2_chn"} 0 1757416359845

wmo_wis2_gb_messages_no_metadata_total{centre_id="hk-hko-swic",report_by="cn-cma-global-broker",monitor="wis2_chn"} 0 1757416359845

wmo_wis2_gb_messages_no_metadata_total{centre_id="cn-cma",report_by="cn-cma-global-broker",monitor="wis2_chn"} 0 1757416359845

TYPE wmo_wis2_gb_messages_invalid_topic_total untyped

wmo_wis2_gb_messages_invalid_topic_total{centre_id="hk-hko",report_by="cn-cma-global-broker",monitor="wis2_chn"} 0 1757416359845

wmo_wis2_gb_messages_invalid_topic_total{centre_id="hk-hko-swic",report_by="cn-cma-global-broker",monitor="wis2_chn"} 0 1757416359845

wmo_wis2_gb_messages_invalid_topic_total{centre_id="cn-cma",report_by="cn-cma-global-broker",monitor="wis2_chn"} 0 1757416359845

TYPE wmo_wis2_gb_messages_invalid_format_total untyped

wmo_wis2_gb_messages_invalid_format_total{centre_id="hk-hko",report_by="cn-cma-global-broker",monitor="wis2_chn"} 0 1757416359845

wmo_wis2_gb_messages_invalid_format_total{centre_id="hk-hko-swic",report_by="cn-cma-global-broker",monitor="wis2_chn"} 0 1757416359845

wmo_wis2_gb_messages_invalid_format_total{centre_id="cn-cma",report_by="cn-cma-global-broker",monitor="wis2_chn"} 0 1757416359845

GISC GISC Beijing centre_id All gb_report_id cn-cma-global-broker

Global Cache (Data)

Global Discovery Catalogue (Metadata)

GB for GISCs

★ Notification Messages (GISC: GISC Beijing, centre: All, report by: cn-cma-global-broker)

WIS2 Nodes Total Messages



WIS2 Nodes Total Messages

centre_id	Received	Published
hk-hko-swic	3076	3075
cn-cma	1667	1667
hk-hko	91	91

Publishing Without Metadata



Publishing Without Metadata

No data

Using Invalid Message Format



Using Invalid Message Format

No data

Using Invalid Message Topic



Using Invalid Message Topic

No data

Display of GB Metrics

GB CMA Endpoint : https://gc.wis.cma.cn/test/wis2/cache/metrics/gbMessages/gb_metrics.txt

```
# TYPE wmo_wis2_gb_messages_published_total untyped
wmo_wis2_gb_messages_published_total{centre_id="hk-hko-swic",report_by="cn-cma-global-broker",monitor="wis2_chn"} 3075 1757416359845
wmo_wis2_gb_messages_published_total{centre_id="cn-cma",report_by="cn-cma-global-broker",monitor="wis2_chn"} 1667 1757416359845
wmo_wis2_gb_messages_published_total{centre_id="hk-hko",report_by="cn-cma-global-broker",monitor="wis2_chn"} 91 1757416359845
# TYPE wmo_wis2_gb_messages_received_total untyped
wmo_wis2_gb_messages_received_total{centre_id="hk-hko-swic",report_by="cn-cma-global-broker",monitor="wis2_chn"} 3076 1757416359845
wmo_wis2_gb_messages_received_total{centre_id="cn-cma",report_by="cn-cma-global-broker",monitor="wis2_chn"} 1667 1757416359845
wmo_wis2_gb_messages_received_total{centre_id="hk-hko",report_by="cn-cma-global-broker",monitor="wis2_chn"} 91 1757416359845
# TYPE wmo_wis2_gb_connected_flag untyped
wmo_wis2_gb_connected_flag{centre_id="hk-hko-swic",report_by="cn-cma-global-broker",monitor="wis2_chn"} 1 1757416359845
wmo_wis2_gb_connected_flag{centre_id="cn-cma",report_by="cn-cma-global-broker",monitor="wis2_chn"} 1 1757416359845
wmo_wis2_gb_connected_flag{centre_id="hk-hko",report_by="cn-cma-global-broker",monitor="wis2_chn"} 1 1757416359845
```

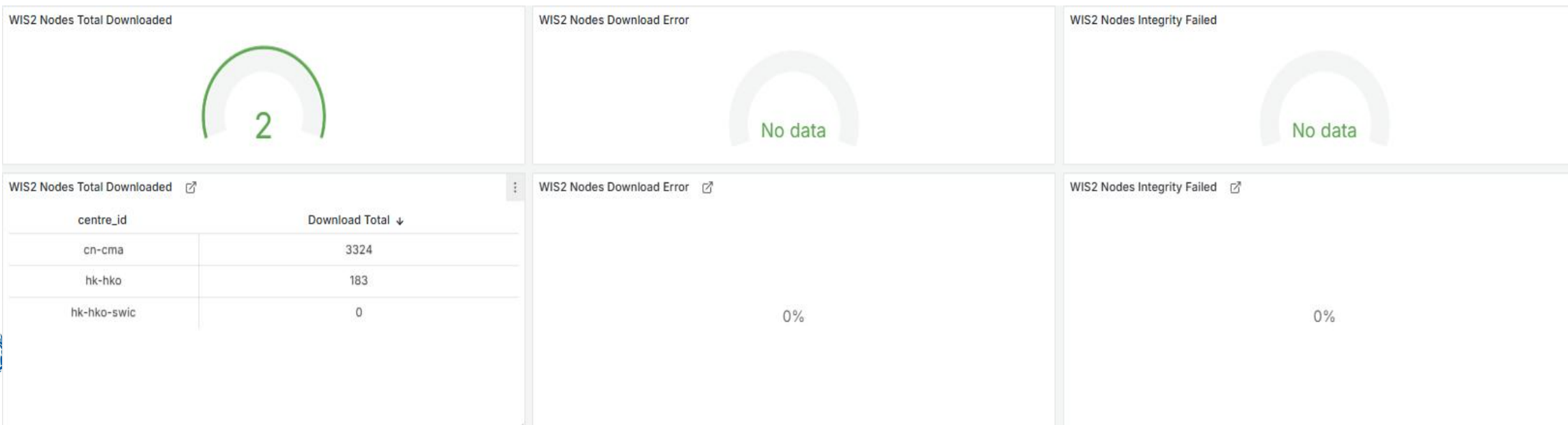


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GC Metrics

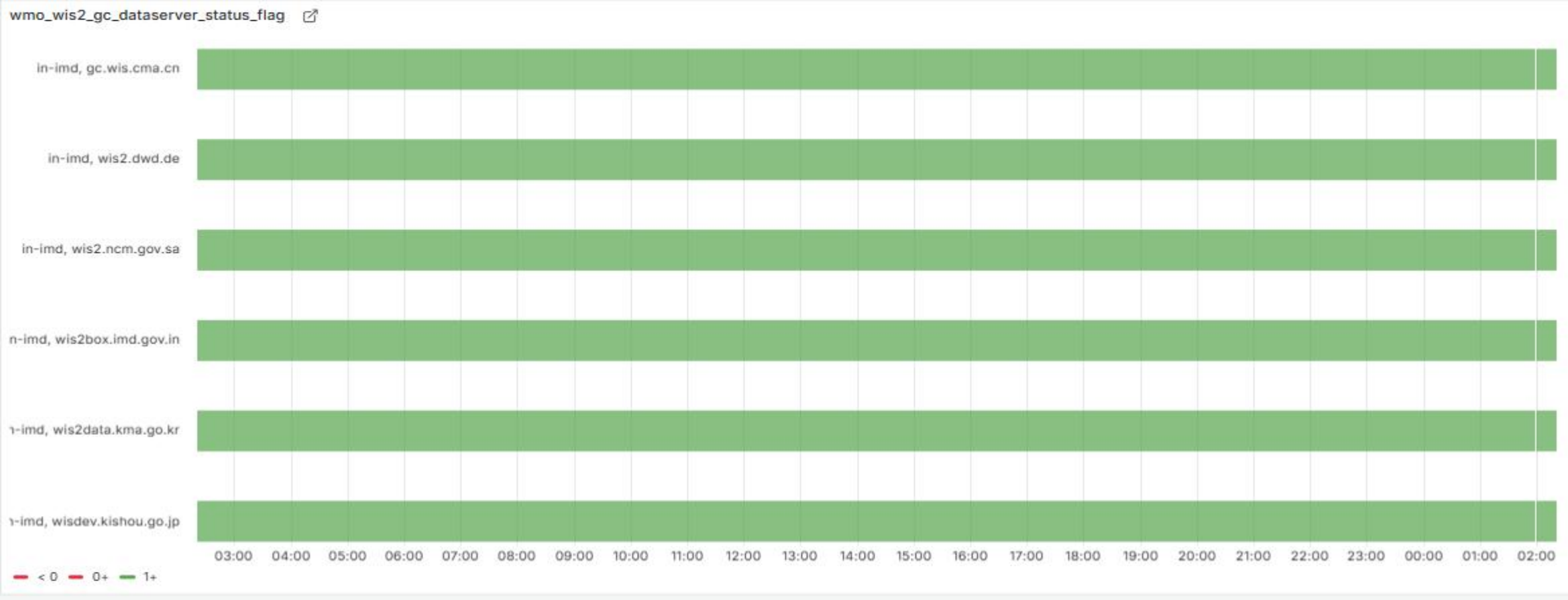
The GC (Global Cache), functioning as a data download and buffer which has been designed with **eight** monitoring metrics .

No.	Name	Labels	Description
1	wmo_wis2_gc_dataserver_status_flag	centre_id dataserver report_by	Status of WIS2 Node dataserver (1-up and 0-down)
2	wmo_wis2_gc_downloaded_total	centre_id report_by	Number of data items downloaded to Global Cache
3	wmo_wis2_gc_downloaded_errors_total	centre_id dataserver report_by	Number of download errors for Global Cache data
4	wmo_wis2_gc_integrity_failed_total	centre_id report_by	Number of messages for which the integrity check failed



GC Metrics

No.	Name	Labels	Description
5	wmo_wis2_gc_dataserver_status_flag	centre_id dataserver report_by	Status of WIS2 Node dataserver (1-up and 0-down)



GC Metrics

No.	Name	Labels	Description
6	wmo_wis2_gc_last_metadata_timestamp_seconds	centre_id dataserver report_by	Timestamp of last succesful download
7	wmo_wis2_gc_no_cache_total	centre_id report_by	Number of data objects that Global Cache has been requested not to cache (based on the properties.cache flag)
8	wmo_wis2_gc_cache_override_total	centre_id report_by	Number of messages for which the Global Cache overrides the cache flag

us-noaa-nws	7.46 mins
uk-metoffice	28.7 mins
ar-smn	14.5 mins
se-smhi	9.10 mins
kr-kma	7.81 mins
hk-hko	18.6 mins
fr-meteofrance	9.15 mins
pe-senamhi	8.15 mins
ma-marocmeteo	8.16 mins
na-meteona	22.1 mins
int-eumetsat	14.0 mins
id-bmkg	9.11 mins
cn-cma	39.1 mins
zw-msd	4.85 days
tt-trin-met	26.1 mins
ke-meteo	30.1 mins
cm-meteocameroon	5.67 days
ms-metservice	27.1 mins



GDC Metrics

The GDC (Global Data Catalog) serves as a metadata management system, primarily focusing on monitoring the compliance of metadata from each WIS node, assessing metadata quality, tracking retrieval frequency, and supervising the operational status and service capacity of the GDC itself. GDC has been designed with **twelve** monitoring metrics .

No.	Name	Labels	Description
1	wmo_wis2_gdc_passed_total	centre_id report_by	Number of metadata records passed validation
2	wmo_wis2_gdc_failed_total	centre_id report_by	Number of metadata records failed validation
3	wmo_wis2_gdc_downloaded_errors_total	centre_id report_by	Number of metadata download errors
4	wmo_wis2_gdc_recommended_total	centre_id report_by	Number of recommended metadata records

WIS2 Nodes gdc passed total



WIS2 Nodes KPI Percentage Average



WIS2 Nodes Failed Total



WIS2 Nodes Downloaded Errors



WIS2 Nodes gdc passed total

centre_id	Passed Total ↓
ca-ecccc-msc	107
hk-hko	19
fr-meteofrance	19
us-noaa-nws	17
br-inmet	10
kr-kma	6

WIS2 Nodes KPI Percentage Average

centre_id	KPI Percentage Average
bz-nms	79
dm-dms	50
ml-malimeteo	73
kn-metservice	50
cn-cma	85
vc-metservice	77

WIS2 Nodes Failed Total

centre_id	Failed ↓	%Total Failure
uk-metoffice	4	200.00%
kr-kma	4	66.67%
tz-tma	3	0%
dz-meteoalgerie	3	0%
mw-dccms	2	0%
us-ucsd-scripps-ldl	2	0%

WIS2 Nodes Downloaded Errors

centre_id	Value
se-smhi	4



GDC Metrics

The GDC (Global Data Catalog) serves as a metadata management system, primarily focusing on monitoring the compliance of metadata from each WIS node, assessing metadata quality, tracking retrieval frequency, and supervising the operational status and service capacity of the GDC itself.

No.	Name	Labels	Description
5	wmo_wis2_gdc_kpi_percentage_total	metadata_id centre_id report_by	KPI percentage for a single metadata record (metadata_id equals WCMP2 id)
6	wmo_wis2_gdc_kpi_percentage_average	centre_id report_by	Average KPI percentage
7	wmo_wis2_gdc_kpi_percentage_over80_total	centre_id report_by	Number of metadata records with KPI percentage over 80
8	wmo_wis2_gdc_core_total	centre_id report_by	Number of core metadata records
9	wmo_wis2_gdc_search_total	centre_id report_by	Number of search requests (during last monitoring period)
10	wmo_wis2_gdc_search_terms	top centre_id report_by	Most popular search terms (e.g. top=1 to top=5)
11	wmo_wis2_gdc_connected_flag	centre_id report_by	Connection status from GDC to to centre
12	wmo_wis2_gdc_api_status	centre_id	Status of GDC API

GDC Metrics

The metrics include individual metadata scores published by each WIS2 node, as well as the average score of all metadata.

wmo_wis2_gdc_kpi_percentage_average ⓘ					wmo_wis2_gdc_kpi_percentage_total ⓘ				
centre_id ▼	cn-cma-global-disco ▼	ca-eccc-msc-global- ▼	de-dwd-global-disco ▼		metadata_id ▼	cn-cma-global-disco ▼	ca-eccc-msc-global- ▼	de-dwd-global-disco ▼	
bz-nms 🔍 🔍	79	79	79		urn:wmo:md:de-dwd:we	90	90	90	
dm-dms	50	50	50		urn:wmo:md:ir-irimo:core	73	73	73	
ml-malimeteo	73	73	73		urn:x-wmo:md:us-noaa-r	62	62	62	
kn-metservice	50	50	50		urn:x-wmo:md:us-noaa-l	58	58	58	
cn-cma	85	85	85		urn:wmo:md:fr-meteofra	73	73	73	
vc-metservice	77	77	77		urn:wmo:md:cn-cma:dat	82	82	82	
my-metmalaysia	82	82	82		urn:wmo:md:fr-meteofra	73	73	73	
bf-anam	68	68	68		urn:wmo:md:ca-eccc-ms	88	88	88	
br-inmet	79	79	79		urn:wmo:md:cn-cma:dat	82	82	82	
ai-metservice	61	61	61		urn:wmo:md:hk-hko:core	68	68	68	
il-ims	93	93	93		urn:wmo:md:ru-aviamett	82	82	82	
sx-metservice	73	73	73		urn:wmo:md:ca-eccc-ms	85	85	85	
lc-metservice	63	63	63		urn:wmo:md:kr-kma:core	73	73	73	
gy-hydromet	63	63	63		urn:wmo:md:ru-aviamett	73	73	73	
int-eumetsat	80	80	80		urn:wmo:md:br-inmet:up	73	73	73	
ma-marocmeteo	84	84	84		urn:wmo:md:in-imd:satel	86	86	86	
hk-hko	70	70	70		urn:wmo:md:tc-metservi	73	73	73	
tc-metservice	73	73	73		urn:wmo:md:ca-eccc-ms	89	89	89	
jm-msj	73	73	73		urn:wmo:md:ky-cinws:cc	77	77	77	
uk-metoffice	71	71	71		urn:wmo:md:us-noaa-nw	69	69	69	
fr-meteofrance	74	74	74		urn:wmo:md:us-noaa-nw	69	69	69	
cl-meteochile	81	81	81		urn:wmo:md:gd-metserv	73	73	73	
gn-anm	73	73	73		urn:wmo:md:hk-hko:surf	95	95	95	
vg-metservice	73	73	73		urn:wmo:md:ca-eccc-ms	88	88	88	
in-imd	81	81	81		urn:wmo:md:ca-eccc-ms	89	89	89	



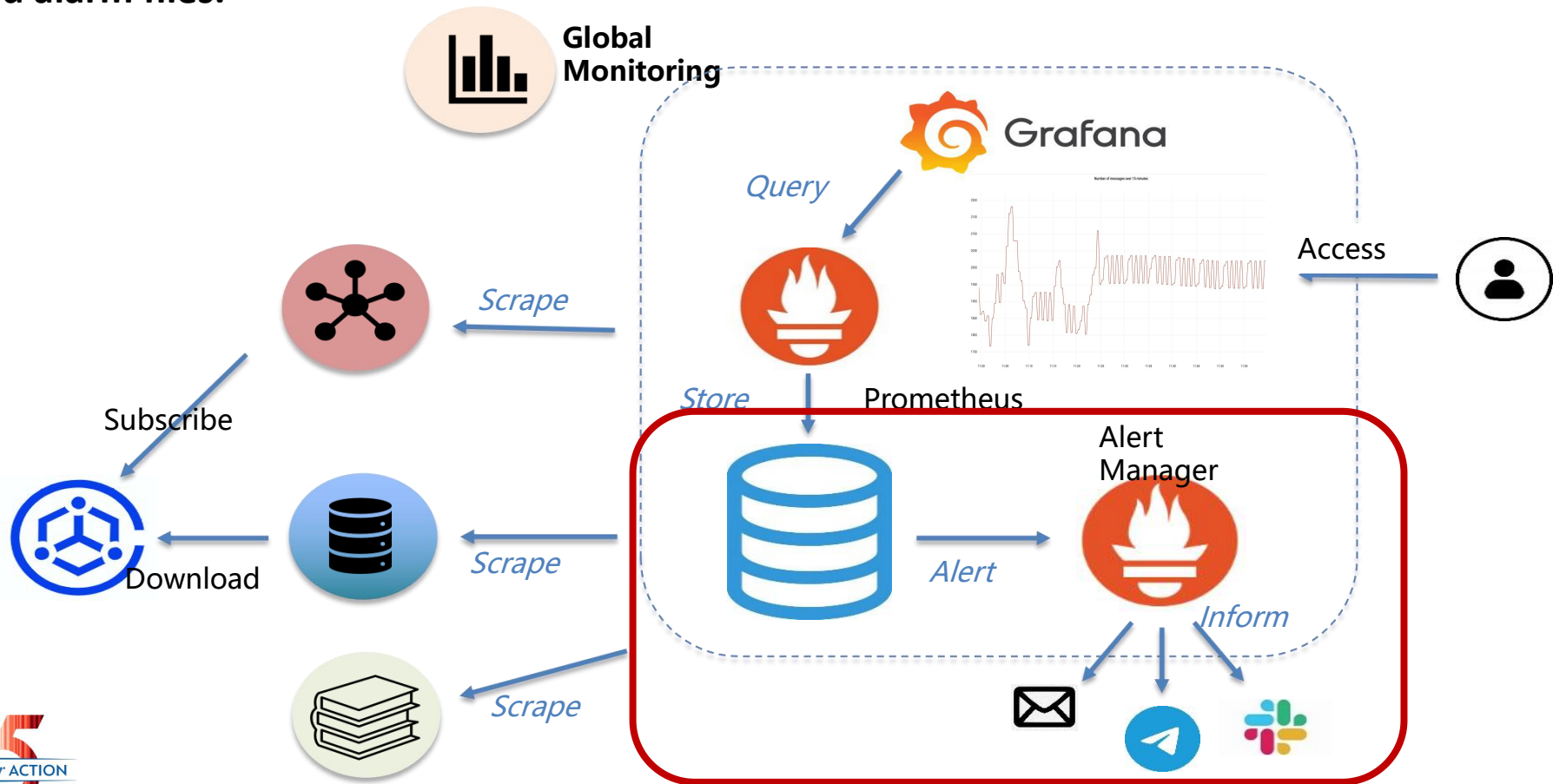
03

GM Alert



Alert Generation

- GM CMA scrapes the metrics from the other Global Services and raises alerts according the rules.
- GM sends alerts to the local broker. GB subscribes to the GM's monitor topic, and after GISC subscribes to the alarms, it can provide them to responsible countries via various methods such as email, websites, message forwarding, and alarm files.



Alert Generation

The alert rules consist of five components. Once the triggering conditions are met, an alert will be generated.

```
1 - alert: disconnectedwis2nodeallgb
2   expr: (globalmonitor:wmo_wis2_gm_gb_connectivity:total-count by (centre_id)
         ( wmo_wis2_gb_connected_flag == 0 ) == 0 )
         for: 30m
1   labels:
2   severity: critical
3   annotations:
4   summary: Disconnected WIS2 Node from all Global Brokers
```

Q wmo_wis2_gb_connected_flag{centre_id="zw-msd"}

Table

Graph



Evaluation time



wmo_wis2_gb_connected_flag(centre_id="zw-msd", instance="gc.wis.cma.cn:443", job="CMA-GB", monitor="wis2_chn", producer_id="cn-cma-global-monitor", report_by="cn-cma-global-broker", target_id="cn-cma-global-broker")	0
wmo_wis2_gb_connected_flag(centre_id="zw-msd", instance="traefik:80", job="zw-msd", producer_id="cn-cma-global-monitor", report_by="fr-meteofrance-global-broker", target_id="fr-meteofrance-global-broker")	0
wmo_wis2_gb_connected_flag(centre_id="zw-msd", instance="wis2globalbroker.nws.noaa.gov:443", job="US-GB", producer_id="cn-cma-global-monitor", report_by="us-noaa-global-broker", target_id="us-noaa-global-broker")	0
wmo_wis2_gb_connected_flag(centre_id="zw-msd", instance="traefik:80", job="zw-msd", producer_id="cn-cma-global-monitor", report_by="br-inmet-global-broker", target_id="br-inmet-global-broker")	0

Topic: monitor/a/wis2/cn-cma-global-monitor/zw-msd QoS: 0 Retained

```
{
  "datacontenttype": "application/json",
  "data": {
    "level": "critical",
    "text": "Disconnected WIS2 Node from all Global Brokers"
  },
  "subject": "zw-msd",
  "source": "cn-cma-global-monitor",
  "type": "int.wmo.codes.performance",
  "dataschema": "int.wmo.codes.event.data.v",
  "specversion": "1.0",
  "id": "220d3b28aed844dfa7c83ac42949f164",
  "time": "2025-09-11T12:52:50Z"
}
```

ecute

It series: 4

Remove Panel

GB alert rules

In GM's core processing pipeline, GB has configured three critical alert rules.

Please note: the alerts I have highlighted in red are all related to WIS2 nodes. Please give more attention.

```
- name: GlobalBroker
1 rules:
2 - alert: disconnectedwis2nodeonegb
3   expr: wmo_wis2_gb_connected_flag == 0
4   for: 10m
5   labels:
6   severity: warning
7   annotations:
8     summary: Disconnected WIS2 Node from one Global Broker
9 - alert: disconnectedwis2nodemultiplegb
10  expr: count by (centre_id) ( wmo_wis2_gb_connected_flag == 0 ) > 1
11  for: 20m
12  labels:
13  severity: error
14  annotations:
15    summary: Disconnected WIS2 Node from multiple Global Brokers
16 - alert: disconnectedwis2nodeallgb
17  expr: (globalmonitor:wmo_wis2_gm_gb_connectivity:total-count by (centre_id)
        ( wmo_wis2_gb_connected_flag == 0 ) == 0 )
        for: 30m
1  labels:
2  severity: critical
3  annotations:
4    summary: Disconnected WIS2 Node from all Global Brokers
```

GC alert rules

Global Cache has **11 alert rules** that comprehensively define severity levels based on data download status and failure duration, ensuring robust safeguarding of system stability.

```
1  - name: GlobalCache
2  rules:
3    # No data is received from that centre over the last 6 hours
4    - alert: No_data_from_centre
5      expr: group by (centre_id,report_by) (delta (wmo_wis2_gc_downloaded_total[1h]) == 0) > 0
6      for: 5h
7      labels:
8        severity: warning
9      annotations:
10       summary: No data is received from that centre over the last 6 hours.
11
12   # No data is received from that centre by all caches over the last 6 hours
13   - alert: No_data_from_centre_all_caches
14     expr: sum by (centre_id) (group by (centre_id,report_by) (delta (wmo_wis2_gc_downloaded_total[1h]) == 0)) > 2
15     for: 5h
16     labels:
17       severity: error
18     annotations:
19       summary: No cache is receiving data from that centre over the last 6 hours.
20
21   # No data is received by Global Cache over the last hour
22   - alert: No_data
23     expr: sum by (report_by) (delta(wmo_wis2_gc_downloaded_total[1h])) == 0
24     for: 15m
25     labels:
26       severity: critical
27     annotations:
28       summary: The Global cache is not receiving any data since 1 hour.
```


GC alert rules

```
- name: GlobalCache
groups:
1   # More than 10 download errors from centre in the last hour for 6 hours
2   - alert: Download_errors_from_centre
3     expr: group by (centre_id,report_by) (delta (wmo_wis2_gc_downloaded_errors_total[1h]) > 10) > 0
4     for: 6h
5     labels:
6       severity: warning
7     annotations:
8       summary: The Global cache has more than 10 download errors from centre in 1 hour over the last 6 hours
9
10  # More than 10 download errors from centre in the last hour for 6 hours at all caches
11  - alert: Download_errors_all_caches
12    expr: sum by (centre_id) (group by (centre_id,report_by) (delta (wmo_wis2_gc_downloaded_errors_total[1h])>10)) >
13      2
14    for: 6h
15    labels:
16      severity: error
17    annotations:
18      summary: All caches have more than 10 download errors from centre in 1 hour over the last 6 hours
19
20  # More than 10 centres have download errors in the last hour over 1 hour
21  - alert: Download_errors
22    expr: sum by (report_by) (group by (centre_id,report_by) (delta (wmo_wis2_gc_downloaded_errors_total[1h])>10)) >
23      10
24    for: 1h
25    labels:
26      severity: error
27    annotations:
28      summary: The Global Cache has download errors for more than 10 centres per 1 hour over the last 1 hour
```


GC alert rules

```
- name: GlobalCache
groups:
1  # More than 20 centres have download errors in the last hour over 1 hour
2  - alert: Download_errors_critical
3    expr: sum by (report_by) (group by (centre_id,report_by) (delta (wmo_wis2_gc_downloaded_errors_total[1h])>10)) > 20
4    for: 1h
5    labels:
6      severity: critical
7    annotations:
8      summary: The Global Cache has download errors for more than 20 centres per 1 hour over the last 1 hour
9
10 # Connection error to dataserver over 24h
11 - alert: Dataserver_connection
12   expr: group by (centre_id,report_by,dataserver) (wmo_wis2_gc_dataserver_status_flag == 0) == 1
13   for: 24h
14   labels:
15     severity: warning
16   annotations:
17     summary: The Global Cache can not connect to the dataserver for 24 hours
18
19 # Connection error to data server over 24h from all caches
20 - alert: Dataserver_connection_all_caches
21   expr: sum by (centre_id,dataserver) (group by (centre_id,report_by,dataserver) (wmo_wis2_gc_dataserver_status_flag == 0))
22   > 2
23   for: 24h
24   labels:
25     severity: error
26   annotations:
27     summary: No cache can connect to the dataserver for 24 hours
```



GC alert rules

```
- name: GlobalCache
groups:
1  # Connection errors to more than 10 data servers for 1h
2  - alert: No_connection_error
3    expr: sum by (report_by) (group by (centre_id,report_by,dataserver) (wmo_wis2_gc_dataserver_status_flag == 0)) > 10
4    for: 1h
5    labels:
6      severity: error
7    annotations:
8      summary: The Global Cache can not connect to more than 10 dataservers in the last hour
9
10 # Connection errors to more than 20 data servers for 1h
11 - alert: No_connection_critical
12   expr: sum by (report_by) (group by (centre_id,report_by,dataserver) (wmo_wis2_gc_dataserver_status_flag == 0)) > 20
13   for: 1h
14   labels:
15     severity: critical
16   annotations:
17     summary: The Global Cache can not connect to more than 20 dataservers in the last hour
```

GDC alert rules

GDC has set up three alarm rules which monitor the connectivity between GDC and GB, GC, and check whether archiving has been completed within the last 24 hours.

```
- name: GlobalDiscoveryCatalogue
rules:
  - alert: Connection_lost_from_global_broker
    expr: group by (centre_id) (wmo_wis2_gdc_connected_flag{centre_id =~ ".*global-broker"} == 0) > 0
    for: 10m
    labels:
      severity: critical
    annotations:
      summary: Connection to a Global Broker is lost
  - alert: Download_errors_from_global_cache
    expr: group by (centre_id) (delta (wmo_wis2_gdc_downloaded_errors_total{centre_id =~ ".*global-cache"}[1h]) > 0)
    > 0
    for: 1h
    labels:
      severity: warning
    annotations:
      summary: Download errors from Global Cache in the last hour
  - alert: Metadata_archive_older_than_24_hours
    expr: time() - wmo_wis2_gc_last_metadata_timestamp_seconds{centre_id =~ ".*global-discovery-catalogue"} > 86400
    labels:
      severity: warning
    annotations:
      summary: Last metadata archive is older than 24 hours
```

IMS Ticket

The IMS is an alarm/event management system built by the WMO. For major failures, critical alarms are pushed (automatically or manually) to the IMS, and a responsible GISC is assigned. If the GISC identifies the alarm as originating from a WIS node in its domain, it will notify that WIS2 node.

The screenshot displays the IMS interface. On the left, a sidebar titled "Open issues" lists several tickets, including WI-37 (IMS-test-cma), WI-36, WI-35, WI-34, WI-33, WI-32, WI-31, WI-30, WI-29, WI-28, WI-27, and WI-26. A blue box highlights this list. The main area shows the details for ticket WI-37, titled "IMS-test-cma". The ticket is marked as an "Incident" with a "High" priority and a "GC" label. The resolution is "Unresolved". The description field contains a JSON object: {"specversion": "1.0", "type": "int.wmo.codes.performance", "source": "cn-cma-global-monitor", "subject": "sa-ncm-global-cache", "id": "33cdfbd07e74eaa9a9ec595f3d8b621", "instance": "wis2.ncm.gov.sa:443", "time": "2025-03-17T07:48:50Z", "datacontenttype": "application/json"}. The right sidebar shows the "People" section with the assignee and reporter as "GISC-Beijing WIS2-IMS-Experts". The "Dates" section shows the ticket was created and updated "Just now". The "Agile" section has a link to "Find on a board". A blue box highlights the "List of tickets opened in IMS" text, which is a callout pointing to the ticket list in the sidebar.

Open issues Switch filter

Order by Created

WI-37
IMS-test-cma

WI-36
No cache is receiving data from that...

WI-35
Target wis2.ncm.gov.sa:443 is down

WI-34
Target wis2.ncm.gov.sa:443 is down

WI-33
Target x.x.x.x is down -Test

WI-32
Target x.x.x.x is down -Test

WI-31
test-cma-0317

WI-30
problem in accessing data from Sau...

WI-29
GM(Morocco) centre-id

WI-28
WIS2 nodes (cm-meteocameroun an...

WI-27
Download Failures from WIS2 node (...)

WI-26

+ Create issue

WIS2 IMS / WI-37
IMS-test-cma

Edit Add comment Assign More Triage

Details

Type: Incident Resolution: Unresolved

Priority: High

Labels: GC

Description

```
{
  "specversion": "1.0",
  "type": "int.wmo.codes.performance",
  "source": "cn-cma-global-monitor",
  "subject": "sa-ncm-global-cache",
  "id": "33cdfbd07e74eaa9a9ec595f3d8b621",
  "instance": "wis2.ncm.gov.sa:443",
  "time": "2025-03-17T07:48:50Z",
  "datacontenttype": "application/json"
}
```

Comment

Amro About again Please help to deal with

People

Assignee: GISC-Beijing WIS2-IMS-Experts

Reporter: GISC-Beijing WIS2-IMS-Experts

Votes: 0

Watchers: 1 Stop watching this issue

Dates

Created: Just now

Updated: Just now

Agile

Find on a board

1 of 20

Export

译

List of tickets opened in IMS

WORLD METEOROLOGICAL ORGANIZATION

IMS Ticket

Details of a ticket include details such as the Summary, priority, tags, a detailed description of the issue, as well as information about the creator, assignee, and watchers , etc.

 WORLD METEOROLOGICAL ORGANIZATION

Dashboards ▾

Projects ▾

Issues ▾

Boards ▾

Create

 TEST-WIS2-IMS / TESTWIS-184

cr-imn : Disconnected WIS2 Node from all Global Brokers

Edit

Add comment

Assign

More ▾

To Do ▾

Details

Type: Incident

Priority: Medium

Labels: None

Description

cr-imn : Disconnected WIS2 Node from all Global Brokers

Alert triggered at: 2025-08-29T21:10:12.528Z

Reported By: ma-marocmeteo-global-monitor

Details of a ticket

Summary:Alert's Title
Priority:Alert Severity
Project:Alert grouping
Subject:Alarm object
Time:when an alarm is released
Description:Details of the alarm
Assignee:Who gets assigned the alert

04

GM Dashboards



Dashboard – users and content

The dashboards have been set up with gisc-user .

- ✓ **gisc-user:** The main monitoring content includes the connectivity of countries within its area of responsibility, erroneous topic message metadata, etc.

No.	GM	Dashboard	Pannel
1	gisc-user	wis2-gisc-GB	WIS2 Nodes Total Messages、 Publishing Without Metadata、 Using Invalid Message Format、 Using Invalid Message Topic、 wmo_wis2_gb_connected_flag
2		wis2-gisc-GC	WIS2 Nodes Total Downloaded、 WIS2 Nodes Download Error、 WIS2 Nodes Integrity Failed、 wmo_wis2_gc_dataserver_status_flag
3		wis2-gisc-GDC	WIS2 Nodes gdc passed total、 WIS2 Nodes KPI Percentage Average、 WIS2 Nodes Failed Total、 WIS2 Nodes Downloaded Errors、 wmo_wis2_gdc_connected_flag
4		Global Brokers Connection Status	Overview of the connectivity of 4 GBs and other GSs of WIS, as well as WIS2 nodes

Demonstration

- GM China <https://gm.wis.cma.cn>
- WMO's Incident Management System (IMS)

Thank you
Merci
Gracias
شكرا
谢谢