ZABBIX FORUM
MEXICO 2023

Speakers

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nubiral

Zabbix Partner

Argentina y México

ZABBIX
CERTIFIED PARTNER

ZABBIX
CERTIFIED SPECIALIST

Índice

1. Principales desafíos de la industria
2. Caso de Negocio
3. La tecnología de ZABBIX aplicada al negocio
4. Conclusiones

Principales desafíos de la industria

- La necesidad de un servicio al cliente rápido y personalizado
- Procesos operativos complejos
- Trabajo a distancia
- Seguridad de la red
- Aprovechar a los jugadores más destacados
  - Teléfonos inteligentes
  - Aplicaciones de mensajería

Cómo superar los retos

- Migrar hacia canales digitales
- Automatizar servicios de atención a clientes utilizando chatbot
- Utilización de asistentes virtuales para escenarios más complejos.
- Tecnologías en la nube
- Explotación de datos y utilización de la IA
- Aseguramiento de los SLA’s de servicios

KPI’s de la industria de Telecomunicaciones

- Aumento de las ventas
- Mayor retención de clientes
- Reducción del fraude
- Mejora de la gestión de riesgos
- Disminución de los costes operativos
- Mejora de las operaciones, racionalización de los procesos y respuesta rápida a las tendencias futuras
- Previsión precisa
- Venta cruzada y venta ascendente de productos y servicios de forma eficaz
- Analizar la fidelidad y el comportamiento de los clientes para impulsar los procesos de marketing y ventas
- Creación de modelos de predicción

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Incrementando tu visión de negocio en entornos Multi Nube

Categoría del Servicio:
Observability

Necesidad del cliente:

El cliente cuenta con una aplicación de distribución de contenido en múltiples proveedores de nube y zonas geográficas.
Se encontraba con la dificultad de falta de visibilidad en tiempo real de la disponibilidad y niveles de servicio ofrecidos por los principales *hyperscalers* que le permita tomar mejores decisiones respecto a dicha distribución.
Buscaba así obtener monitoreo de los SLAs ofrecidos de una fuente diferente a las APIs de GCP, Azure y AWS.

Solución:

Nubiral propuso una solución utilizando servicios nativos de Zabbix que le permitan contar con dashboards que visualizan los SLAs y SLOs de cada una de las regiones de dichos proveedores de nube. La solución permite identificar así incidentes masivos ocurridos en las diferentes zonas.

Resultados:

Se logró disminuir entre 20 y 25 minutos los tiempos de respuesta ante incidentes masivos de la nube.

El cliente pudo medir los SLA de las nubes, tomar decisiones para la distribución de contenido, y contar con evidencias ante indisponibilidad de servicio, sin costo por el uso de APIs

Se logró el monitoreo de servicios con templates nativos de zabbix y templates específicos por aplicación.

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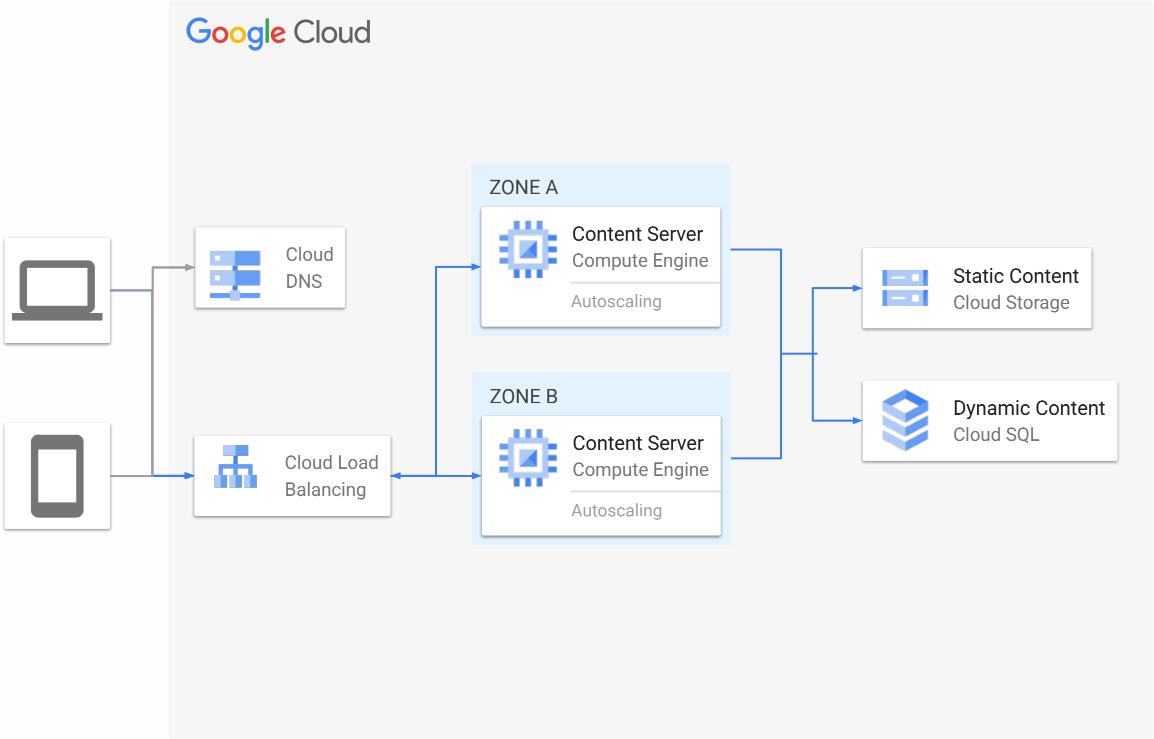
La tecnología de zabbix aplicada al negocio

Caso Telco
Monitoreo Infraestructura Cloud


Google Cloud
Cloud DNS
Cloud Load Balancing
ZONE A
Content Server
Compute Engine
Autoscaling
ZONE B
Content Server
Compute Engine
Autoscaling
Static Content
Cloud Storage
Dynamic Content
Cloud SQL

- **Aplicación de distribución de contenido en múltiples regiones**
- **Necesidad de conocer el SLA completo del servicio**
- **Monitoreo de servicios con templates nativos de zabbix para GCP y templates específicos por aplicación**

Caso Telco
Business Service Monitoring

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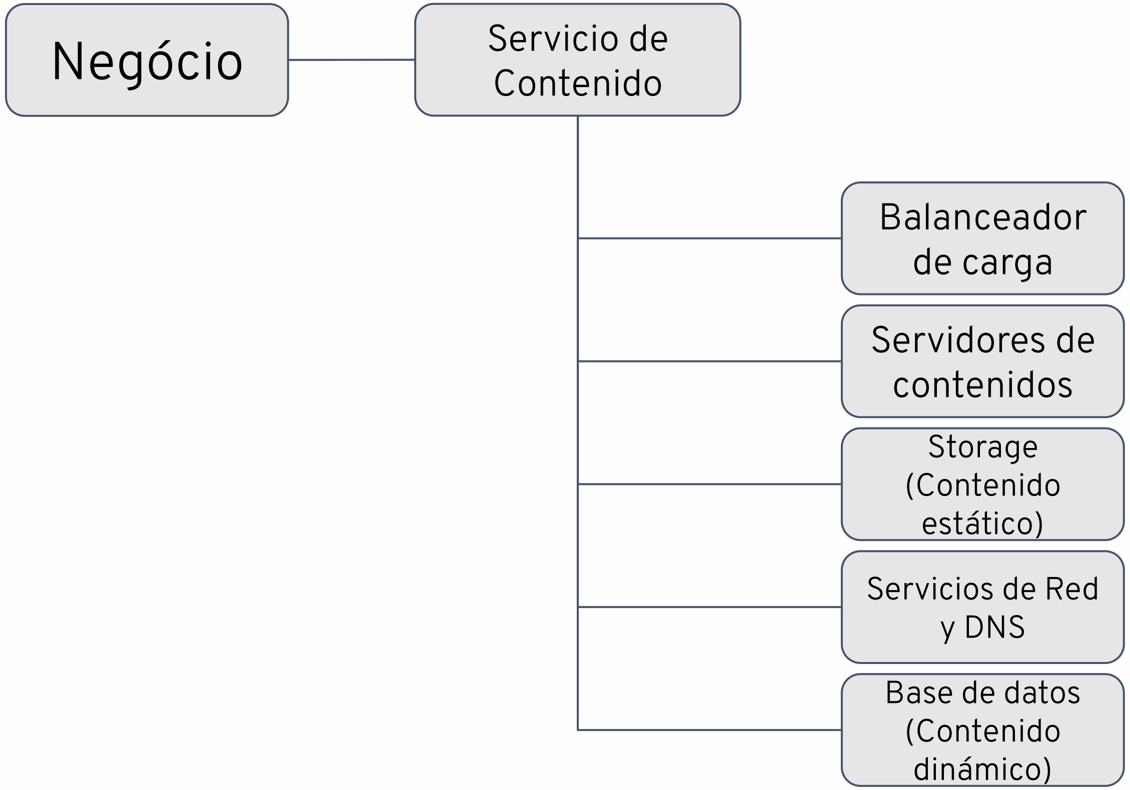

Negócio

Servicio de Contenido

Balanceador de carga

Servidores de contenidos

Storage (Contenido estático)

Servicios de Red y DNS

Base de datos (Contenido dinámico)

Regiones de GCP??

Servicios de GCP??

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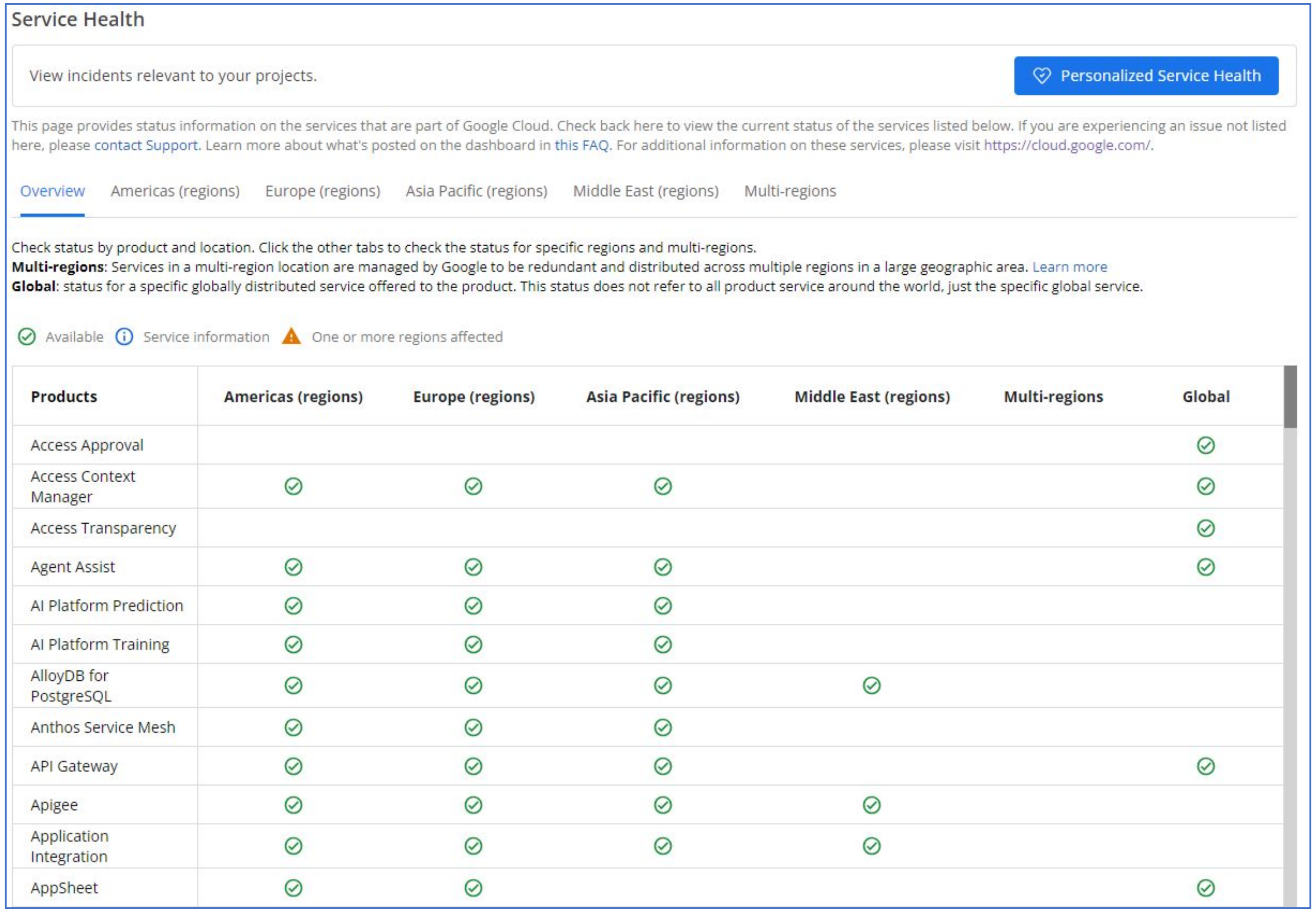
Caso Telco

Monitoreo Global de GCP

- Obtener el monitoreo de una fuente diferente a las APIs de GCP, Azure y AWS.
- Sin costo de uso de APIs
- Información General del SLA de los proveedores de nube
- Poder medir el SLA de las nubes y reclamar este SLA ante la indisponibilidad con evidencias.

https://status.cloud.google.com/



Service Health

View incidents relevant to your projects.

This page provides status information on the services that are part of Google Cloud. Check back here to view the current status of the services listed below. If you are experiencing an issue not listed here, please contact Support. Learn more about what's posted on the dashboard in this FAQ. For additional information on these services, please visit https://cloud.google.com/.

Check status by product and location. Click the other tabs to check the status for specific regions and multi-regions.
Multi-regions: Services in a multi-region location are managed by Google to be redundant and distributed across multiple regions in a large geographic area. Learn more
Global: status for a specific globally distributed service offered to the product. This status does not refer to all product service around the world, just the specific global service.

✓ Available ⓘ Service information ⚠ One or more regions affected

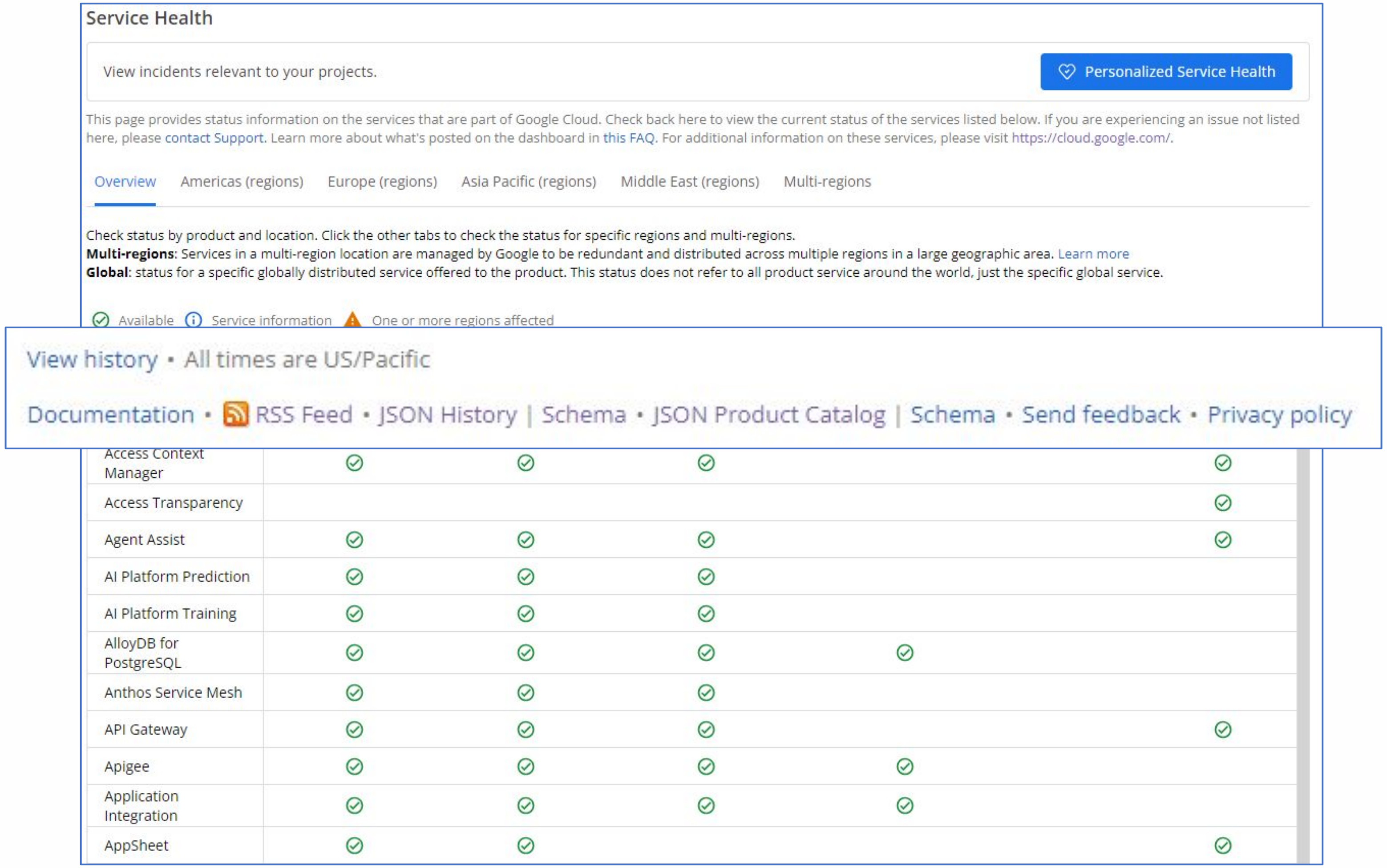
Products	Americas (regions)	Europe (regions)	Asia Pacific (regions)	Middle East (regions)	Multi-regions	Global
Access Approval						✓
Access Context Manager	✓	✓	✓			✓
Access Transparency						✓
Agent Assist	✓	✓	✓			✓
AI Platform Prediction	✓	✓	✓			
AI Platform Training	✓	✓	✓			
AlloyDB for PostgreSQL	✓	✓	✓	✓		
Anthos Service Mesh	✓	✓	✓			
API Gateway	✓	✓	✓			✓
Apigee	✓	✓	✓	✓		
Application Integration	✓	✓	✓	✓		
AppSheet	✓	✓				✓

Caso Telco

Monitoreo Global de GCP

- La información sale del sitio de Google Service Health que posee una página con la información en formato json de todos los incidentes actuales y pasados.
- También la definición de los productos para realizar las búsquedas correctamente.

https://status.cloud.google.com/



Service Health

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✓ Available ⓘ Service information ⚠ One or more regions affected

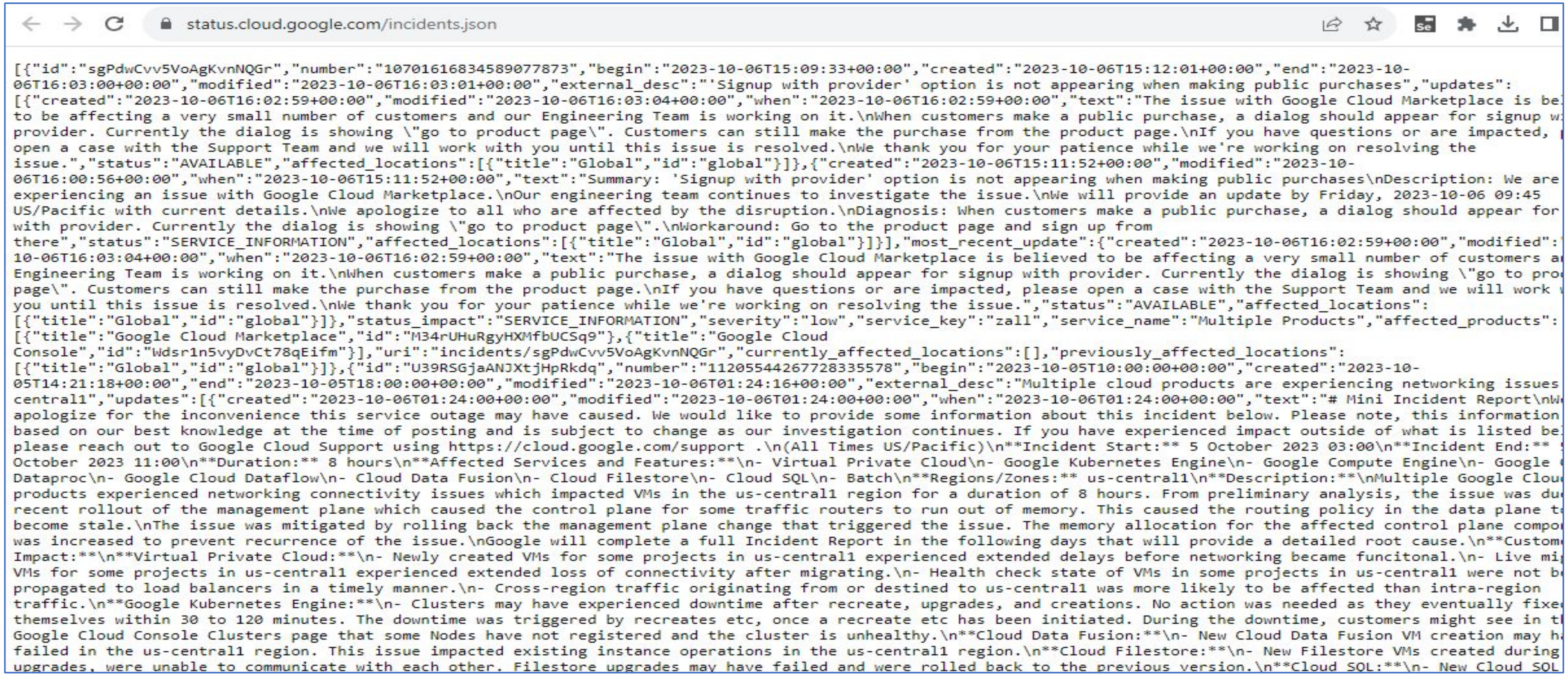
View history • All times are US/Pacific

Documentation • RSS Feed • JSON History | Schema • JSON Product Catalog | Schema • Send feedback • Privacy policy

Access Context Manager	✓	✓	✓		✓
Access Transparency					✓
Agent Assist	✓	✓	✓		✓
AI Platform Prediction	✓	✓	✓		
AI Platform Training	✓	✓	✓		
AlloyDB for PostgreSQL	✓	✓	✓	✓	
Anthos Service Mesh	✓	✓	✓		
API Gateway	✓	✓	✓		✓
Apigee	✓	✓	✓	✓	
Application Integration	✓	✓	✓	✓	
AppSheet	✓	✓			✓

Caso Telco

Monitoreo Global de GCP



```
[{"id":"sgPdwCvv5VoAgKvnNQGr","number":"10701616834589077873","begin":"2023-10-06T15:09:33+00:00","created":"2023-10-06T15:12:01+00:00","end":"2023-10-
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to be affecting a very small number of customers and our Engineering Team is working on it.\nWhen customers make a public purchase, a dialog should appear for signup w
provider. Currently the dialog is showing \"go to product page\". Customers can still make the purchase from the product page.\nIf you have questions or are impacted,
open a case with the Support Team and we will work with you until this issue is resolved.\nWe thank you for your patience while we're working on resolving the
issue.","status":"AVAILABLE","affected_locations":[{"title":"Global","id":"global"}]},{"created":"2023-10-06T15:11:52+00:00","modified":"2023-10-
06T16:00:56+00:00","when":"2023-10-06T15:11:52+00:00","text":"Summary: 'Signup with provider' option is not appearing when making public purchases\nDescription: We are
experiencing an issue with Google Cloud Marketplace.\nOur engineering team continues to investigate the issue.\nWe will provide an update by Friday, 2023-10-06 09:45
US/Pacific with current details.\nWe apologize to all who are affected by the disruption.\nDiagnosis: When customers make a public purchase, a dialog should appear for
with provider. Currently the dialog is showing \"go to product page\".\nWorkaround: Go to the product page and sign up from
there","status":"SERVICE_INFORMATION","affected_locations":[{"title":"Global","id":"global"}]}],"most_recent_update":{"created":"2023-10-06T16:02:59+00:00","modified":
10-06T16:03:04+00:00","when":"2023-10-06T16:02:59+00:00","text":"The issue with Google Cloud Marketplace is believed to be affecting a very small number of customers a
Engineering Team is working on it.\nWhen customers make a public purchase, a dialog should appear for signup with provider. Currently the dialog is showing \"go to pro
page\". Customers can still make the purchase from the product page.\nIf you have questions or are impacted, please open a case with the Support Team and we will work
you until this issue is resolved.\nWe thank you for your patience while we're working on resolving the issue.","status":"AVAILABLE","affected_locations":
[{"title":"Global","id":"global"}]},"status_impact":"SERVICE_INFORMATION","severity":"low","service_key":"zall","service_name":"Multiple Products","affected_products":
[{"title":"Google Cloud Marketplace","id":"M34rUHuRgyHXMfbUCSq9"},{"title":"Google Cloud
Console","id":"Wdsr1n5vyDvCt78qEifm"}],"uri":"incidents/sgPdwCvv5VoAgKvnNQGr","currently_affected_locations":[],"previously_affected_locations":
[{"title":"Global","id":"global"}]},{"id":"U39RSGjaANJXtjHpRkdq","number":"11205544267728335578","begin":"2023-10-05T10:00:00+00:00","created":"2023-10-
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central1","updates":[{"created":"2023-10-06T01:24:00+00:00","modified":"2023-10-06T01:24:00+00:00","when":"2023-10-06T01:24:00+00:00","text":"# Mini Incident Report\nW
apologize for the inconvenience this service outage may have caused. We would like to provide some information about this incident below. Please note, this information
based on our best knowledge at the time of posting and is subject to change as our investigation continues. If you have experienced impact outside of what is listed be
please reach out to Google Cloud Support using https://cloud.google.com/support .\n(All Times US/Pacific)\n**Incident Start:** 5 October 2023 03:00\n**Incident End:**
October 2023 11:00\n**Duration:** 8 hours\n**Affected Services and Features:**\n- Virtual Private Cloud\n- Google Kubernetes Engine\n- Google Compute Engine\n- Google
Dataproc\n- Google Cloud Dataflow\n- Cloud Data Fusion\n- Cloud Filestore\n- Cloud SQL\n- Batch\n**Regions/Zones:** us-central1\n**Description:**\nMultiple Google Clou
products experienced networking connectivity issues which impacted VMs in the us-central1 region for a duration of 8 hours. From preliminary analysis, the issue was du
recent rollout of the management plane which caused the control plane for some traffic routers to run out of memory. This caused the routing policy in the data plane t
become stale.\nThe issue was mitigated by rolling back the management plane change that triggered the issue. The memory allocation for the affected control plane compo
was increased to prevent recurrence of the issue.\nGoogle will complete a full Incident Report in the following days that will provide a detailed root cause.\n**Custom
Impact:**\n**Virtual Private Cloud:**\n- Newly created VMs for some projects in us-central1 experienced extended delays before networking became funcitonal.\n- Live mi
VMs for some projects in us-central1 experienced extended loss of connectivity after migrating.\n- Health check state of VMs in some projects in us-central1 were not b
propagated to load balancers in a timely manner.\n- Cross-region traffic originating from or destined to us-central1 was more likely to be affected than intra-region
traffic.\n**Google Kubernetes Engine:**\n- Clusters may have experienced downtime after recreate, upgrades, and creations. No action was needed as they eventually fixe
themselves within 30 to 120 minutes. The downtime was triggered by recreates etc, once a recreate etc has been initiated. During the downtime, customers might see in t
Google Cloud Console Clusters page that some Nodes have not registered and the cluster is unhealthy.\n**Cloud Data Fusion:**\n- New Cloud Data Fusion VM creation may h
failed in the us-central1 region. This issue impacted existing instance operations in the us-central1 region.\n**Cloud Filestore:**\n- New Filestore VMs created during
upgrades, were unable to communicate with each other. Filestore upgrades may have failed and were rolled back to the previous version.\n**Cloud SQL:**\n- New Cloud SQL
```

https://status.cloud.google.com/

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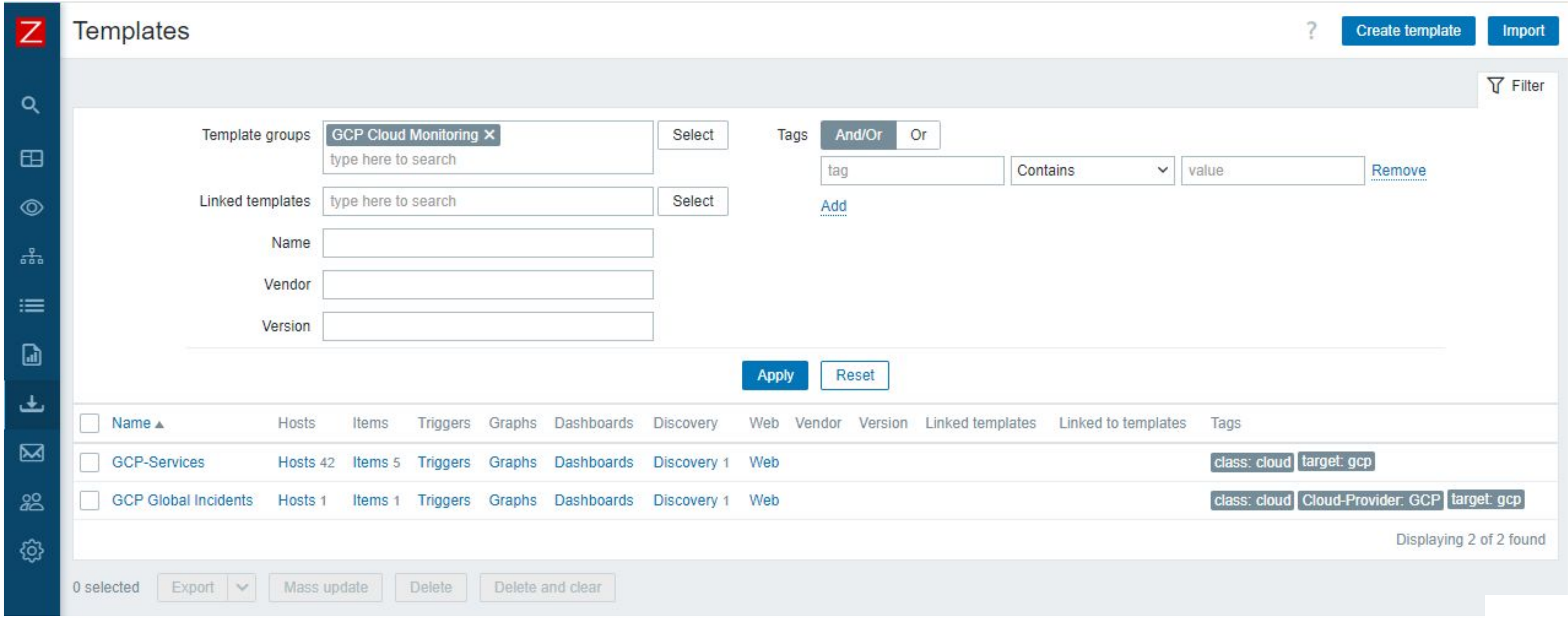
Zabbix Templates Nativos


Templates
?
Create template
Import
Filter
Select
Select
And/Or
Or
Remove
Add
Apply
Reset
Export
Mass update
Delete
Delete and clear

Template groups: GCP Cloud Monitoring ✕
type here to search

Linked templates: type here to search

Name:

Vendor:

Version:

Tags: And/Or
tag | Contains | value

☐	Name ▲	Hosts	Items	Triggers	Graphs	Dashboards	Discovery	Web	Vendor	Version	Linked templates	Linked to templates	Tags
☐	GCP-Services	Hosts 42	Items 5	Triggers	Graphs	Dashboards	Discovery 1	Web					class: cloud target: gcp
☐	GCP Global Incidents	Hosts 1	Items 1	Triggers	Graphs	Dashboards	Discovery 1	Web					class: cloud Cloud-Provider: GCP target: gcp

Displaying 2 of 2 found

0 selected

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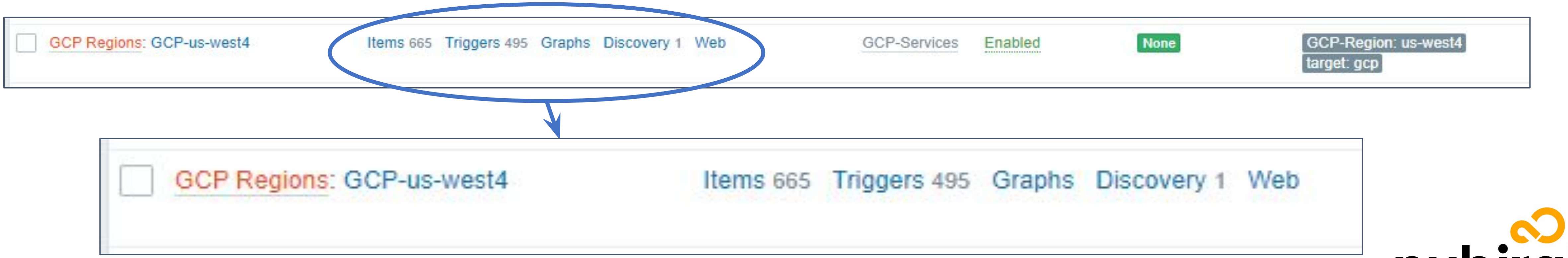
Mejorando la performance

- **Evitar descubrir todas las regiones y todos los servicios**
- **Aplicar correctamente las etiquetas para ser identificadas en BSM**



☐ GCP Regions: GCP-us-west4 Items 665 Triggers 495 Graphs Discovery 1 Web GCP-Services Enabled None GCP-Region: us-west4 target: gcp

☐ GCP Regions: GCP-us-west4 Items 665 Triggers 495 Graphs Discovery 1 Web

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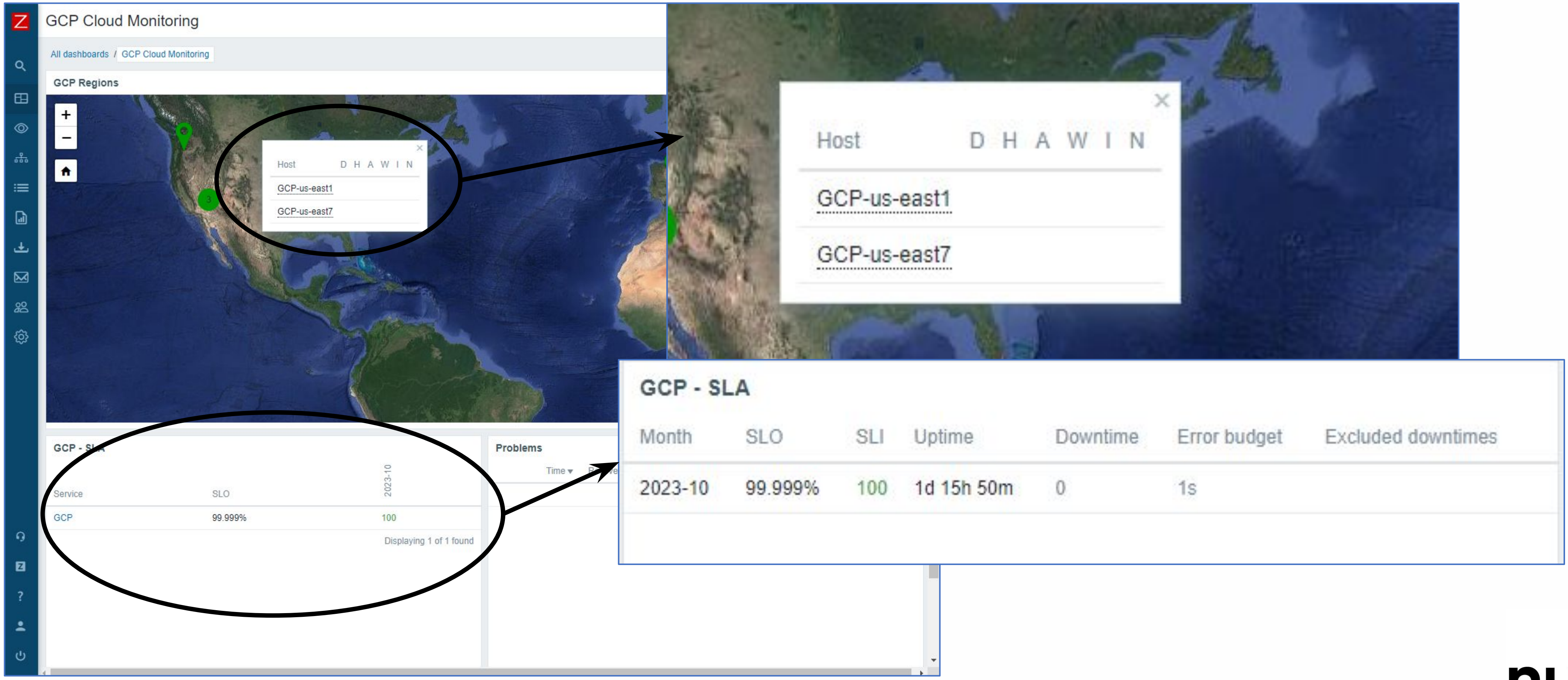
Dashboard Global de GCP


GCP Cloud Monitoring
All dashboards / GCP Cloud Monitoring
GCP Regions
Problems
Time ▾

Host	D	H	A	W	I	N
GCP-us-east1						
GCP-us-east7						

GCP - SLA

Service	SLO	2023-10
GCP	99.999%	100

Displaying 1 of 1 found

GCP - SLA

Month	SLO	SLI	Uptime	Downtime	Error budget	Excluded downtimes
2023-10	99.999%	100	1d 15h 50m	0	1s	

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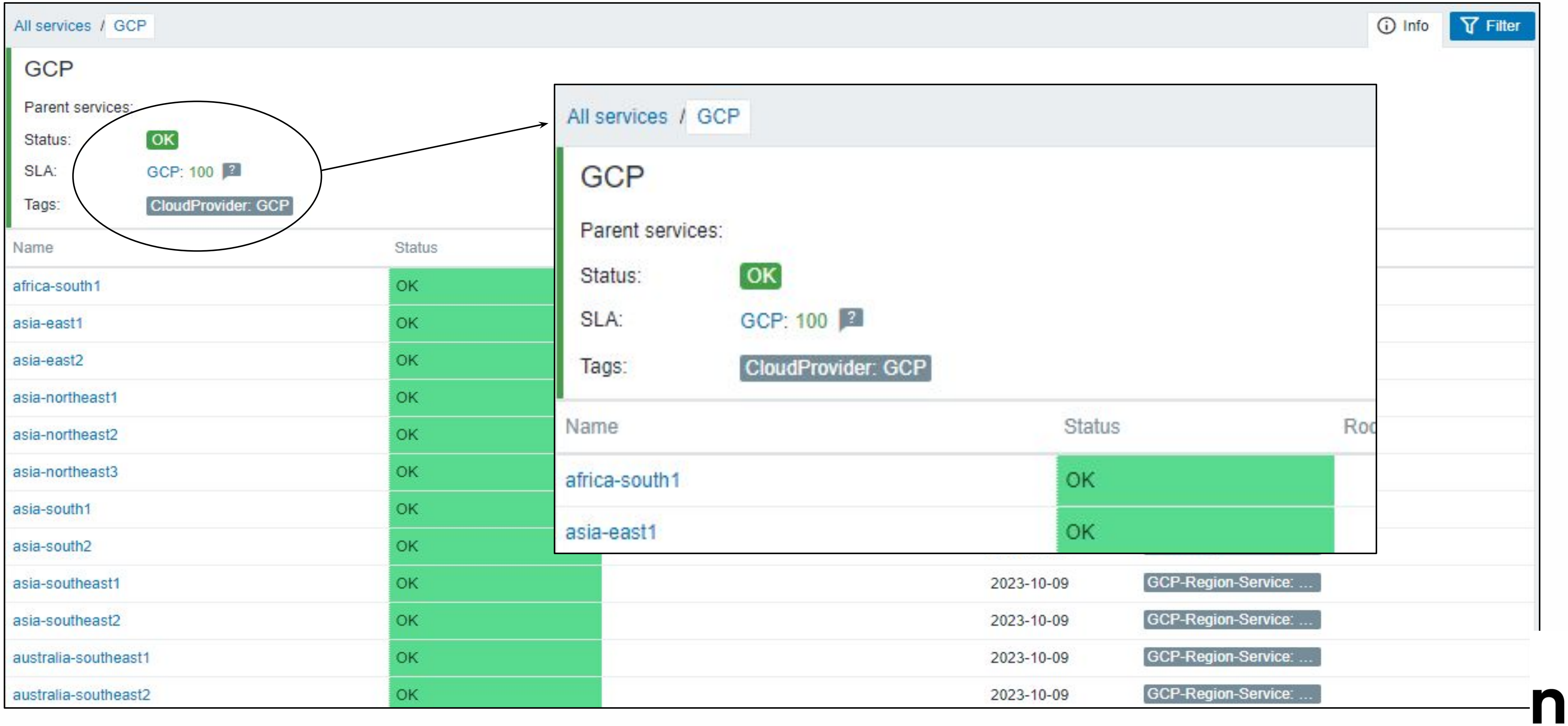
Business Service Monitoring de GCP



All services / GCP

GCP

Parent services:

Status: OK

SLA: GCP: 100

Tags: CloudProvider: GCP

Name	Status		
africa-south1	OK		
asia-east1	OK		
asia-east2	OK		
asia-northeast1	OK		
asia-northeast2	OK		
asia-northeast3	OK		
asia-south1	OK		
asia-south2	OK		
asia-southeast1	OK	2023-10-09	GCP-Region-Service: ...
asia-southeast2	OK	2023-10-09	GCP-Region-Service: ...
australia-southeast1	OK	2023-10-09	GCP-Region-Service: ...
australia-southeast2	OK	2023-10-09	GCP-Region-Service: ...

All services / GCP

GCP

Parent services:

Status: OK

SLA: GCP: 100

Tags: CloudProvider: GCP

Name	Status	Roo
africa-south1	OK	
asia-east1	OK	

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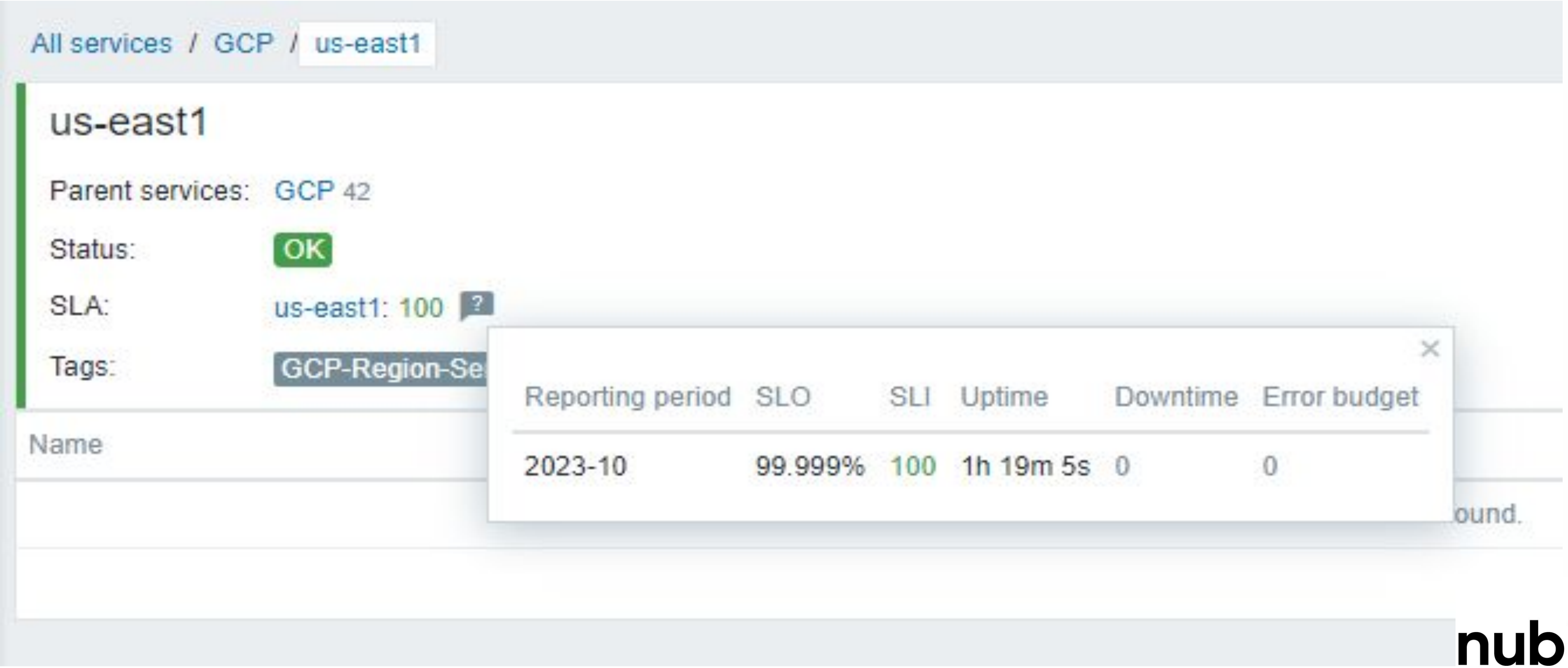
SLA y SLO de GCP



All services / GCP / us-east1

us-east1

Parent services: GCP 42

Status: OK

SLA: us-east1: 100

Tags: GCP-Region-Se

Name

ound.

Reporting period	SLO	SLI	Uptime	Downtime	Error budget
2023-10	99.999%	100	1h 19m 5s	0	0

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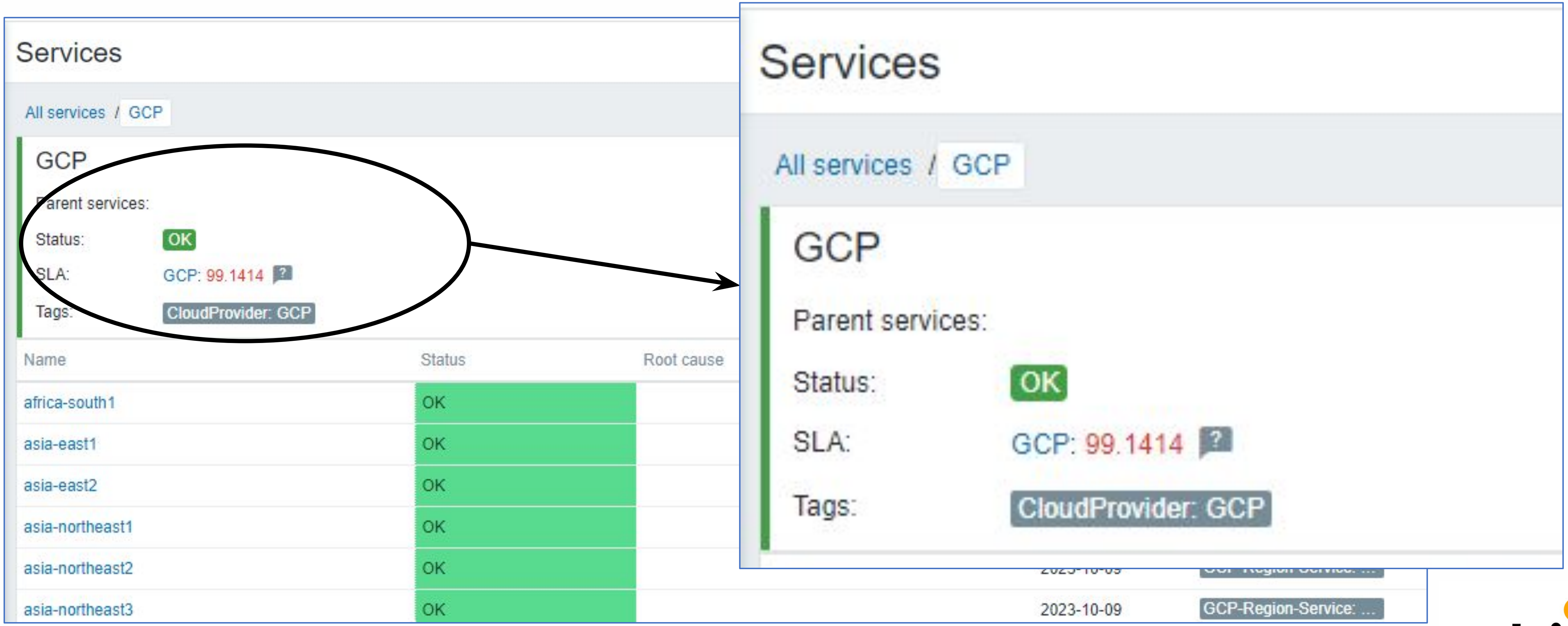
SLA y SLO de GCP



Services

All services / GCP

GCP

Parent services:

Status: OK

SLA: GCP: 99.1414

Tags: CloudProvider: GCP

Name	Status	Root cause		
africa-south1	OK			
asia-east1	OK			
asia-east2	OK			
asia-northeast1	OK			
asia-northeast2	OK			
asia-northeast3	OK		2023-10-09	GCP-Region-Service: ...

Services

All services / GCP

GCP

Parent services:

Status: OK

SLA: GCP: 99.1414

Tags: CloudProvider: GCP

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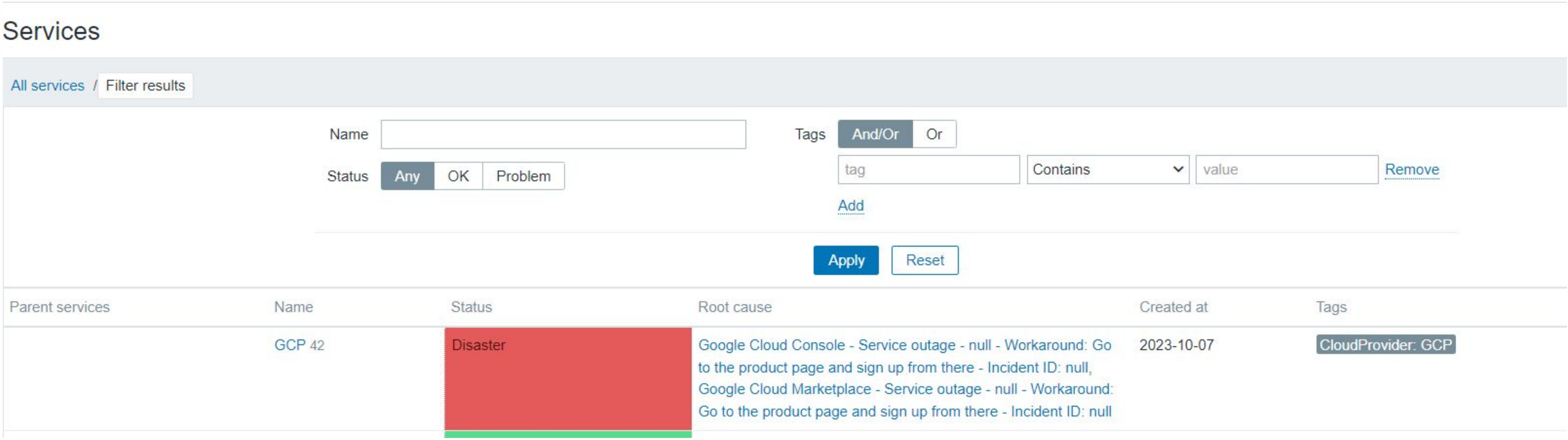
Root Cause de incidentes globales



Services

All services / Filter results
Name
Status
Any
OK
Problem
Tags
And/Or
Or
tag
Contains
value
Remove
Add
Apply
Reset

Parent services	Name	Status	Root cause	Created at	Tags
	GCP 42	Disaster	Google Cloud Console - Service outage - null - Workaround: Go to the product page and sign up from there - Incident ID: null, Google Cloud Marketplace - Service outage - null - Workaround: Go to the product page and sign up from there - Incident ID: null	2023-10-07	CloudProvider: GCP

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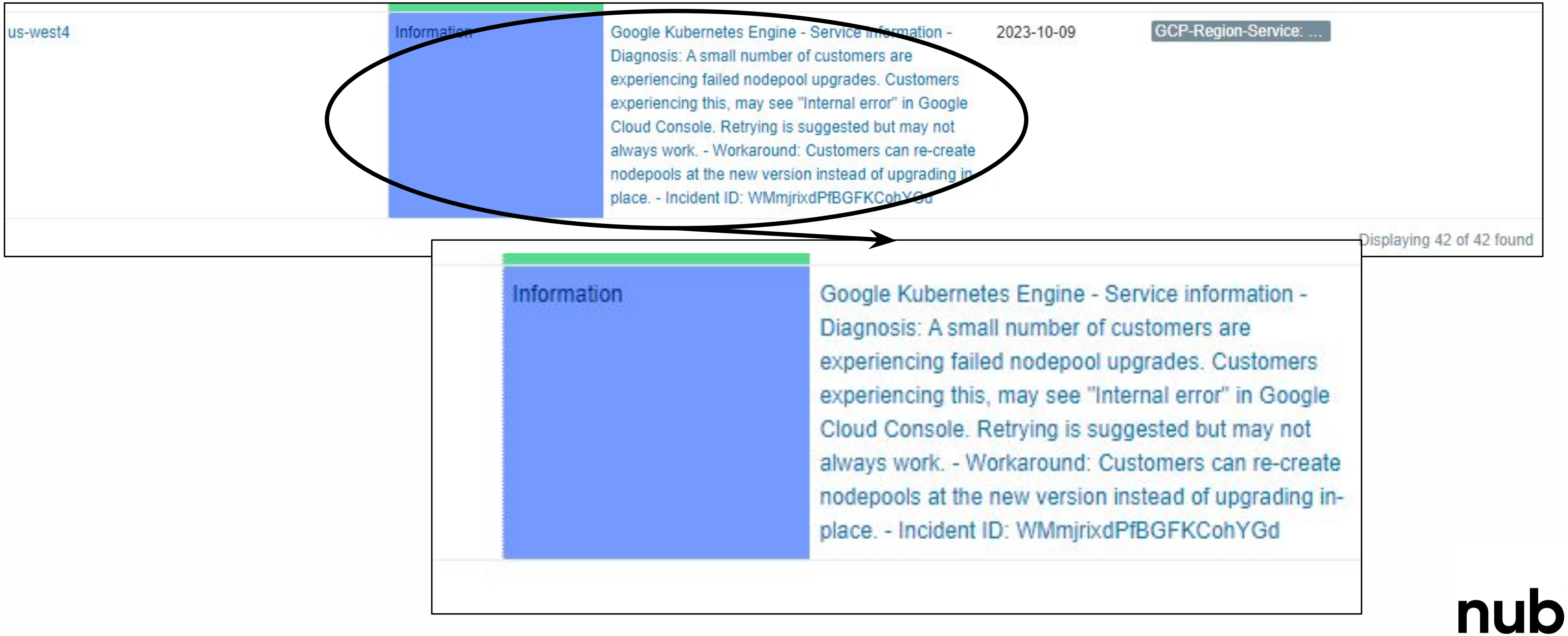
Root Cause de incidentes globales



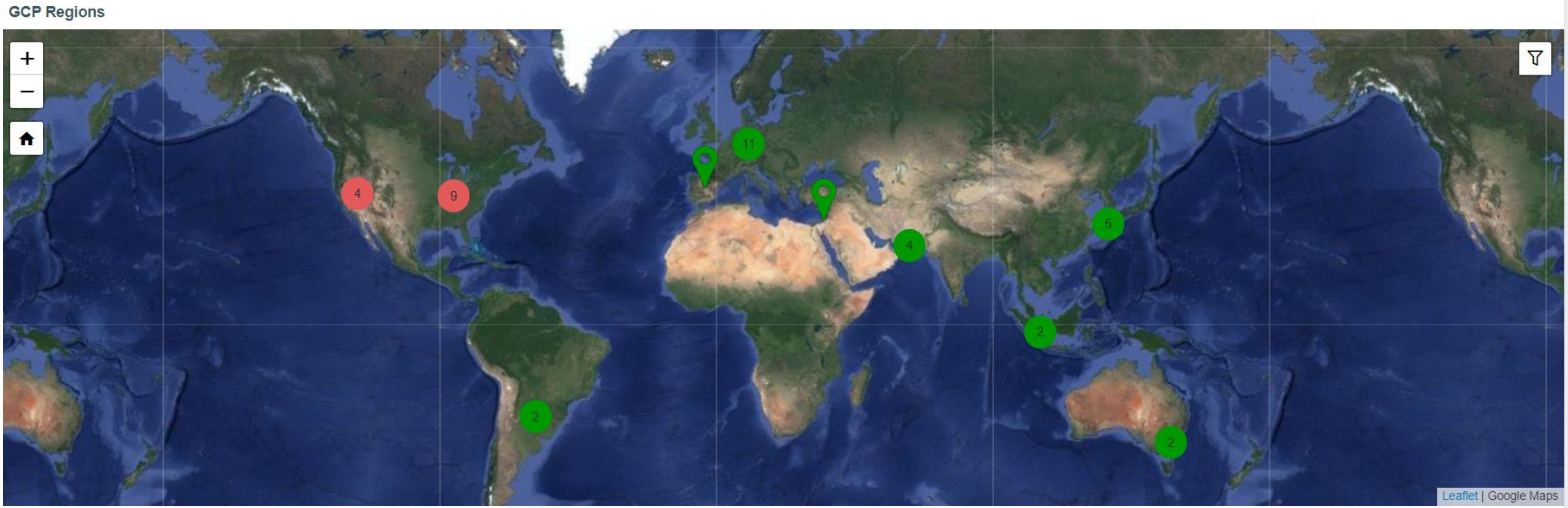
us-west4	Information	Google Kubernetes Engine - Service information - Diagnosis: A small number of customers are experiencing failed nodepool upgrades. Customers experiencing this, may see "Internal error" in Google Cloud Console. Retrying is suggested but may not always work. - Workaround: Customers can re-create nodepools at the new version instead of upgrading in-place. - Incident ID: WMmjrixdPfBGFKCohYGd	2023-10-09	GCP-Region-Service: ...

Displaying 42 of 42 found

Information

Google Kubernetes Engine - Service information - Diagnosis: A small number of customers are experiencing failed nodepool upgrades. Customers experiencing this, may see "Internal error" in Google Cloud Console. Retrying is suggested but may not always work. - Workaround: Customers can re-create nodepools at the new version instead of upgrading in-place. - Incident ID: WMmjrixdPfBGFKCohYGd

Visión Global de GCP



GCP Regions
+
−
4
9
11
4
5
2
2
2
Leaflet | Google Maps

Conclusiones

El cliente:

- Se logró disminuir entre 20 y 25 minutos los tiempos de respuesta ante incidentes masivos de la nube.
- El cliente cuenta con información confiable de los incidentes globales de sus proveedores de nube y puede ejecutar cláusulas de SLA no cumplidos.
- El cliente tiene la capacidad de analizar el SLA de las regiones y de los proveedores de nube y seleccionar el más conveniente técnicamente desde el punto de vista de los SLA.

Zabbix y Nubiral:

- Al poder utilizar servicios nativos de zabbix, sin depender de ejecuciones externas de código no se requiere configurar nada en ningun servidor más que en el frontend de zabbix.
- Los templates no poseen información de arquitectura del cliente por lo que son reutilizables.
- Solución en despliegue para otros clientes.

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¡Gracias!

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