

Meetup

ZABBIX ANDINA

2020

# ARQUITECTURA DISTRIBUIDA CON ZABBIX

CARLOS MARIN  
JEFE DEL BOC DE TELCONET ECUADOR



I M A G U N E T



## CARLOS MARIN

ARQUITECTURA DISTRIBUIDA CON ZABBIX  
JEFE DEL BOC DE TELCONET ECUADOR

SOY UNA PERSONA AMABLE, PACIENTE Y COMUNICATIVA. TENGO MUY BUENAS RELACIONES INTERPERSONALES. COMO PROFESIONAL, SIEMPRE ESTOY A LA VANGUARDIA DE LAS TENDENCIAS EN MI CAMPO Y DOY GRAN IMPORTANCIA A LA INNOVACIÓN Y EL DETALLE. TENGO EXPERIENCIA EN MÚLTIPLES ÁREAS DE MI ÁMBITO LABORAL.

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## CARLOS MARIN

ARQUITECTURA DISTRIBUIDA CON ZABBIX  
JEFE DEL BOC DE TELCONET ECUADOR

MI CARRERA PROFESIONAL LA INICIE EN ECUANET PARA LUEGO ASUMIR EL RETO EN MEGADATOS, PARA DESPUÉS DE UN TIEMPO CONSOLIDARME EN TELCONET S.A.

17 AÑOS EN EL ÁREA DE TELECOMUNICACIONES

7 AÑOS DE EXPERIENCIA EN ZABBIX

 [WWW.LINKEDIN.COM/IN/CARLOS-JULIO-MARÍN-S](https://www.linkedin.com/in/carlos-julio-marín-s)

 [MARIN@TELCONET.EC](mailto:MARIN@TELCONET.EC)

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*TelcoData*  
Venta de las primeras  
computadoras en  
Ecuador



1982

**TELCODATA**

*TelcoData*  
Mayores ventas de  
computadoras en el  
país por TelcoData

*Nace Telconet*  
Proveedor de Internet  
en Ecuador

**Telconet**  
Academia al fondo...



1995

*Red Nacional de Fibra Óptica*  
Construcción de la Red  
Nacional de Fibra Óptica más  
grande del País



*Telconet Cloud Center*  
Construcción de los Mayores  
Centros de Datos de Ecuador  
certificados Tier III y Tier IV



2012

*Cable Submarino*  
Construcción del mayor  
Cable de Fibra Óptica  
Submarino



2015

*Latamfiberhome*  
Creación de la más grande  
Fábrica de Fibra Óptica de  
América Latina



2016

*Nos Expandimos!*  
Ahora con presencia en  
Guatemala, Panamá y  
Colombia.



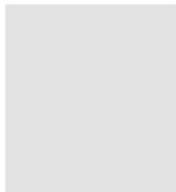
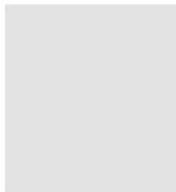
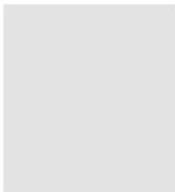
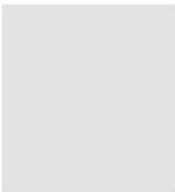
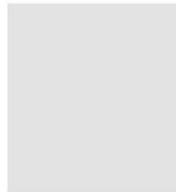
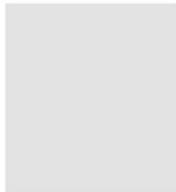
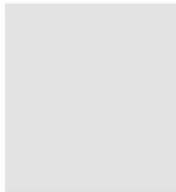
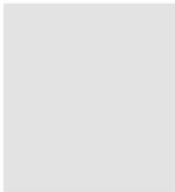
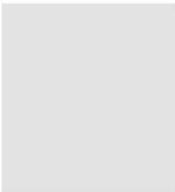
2017

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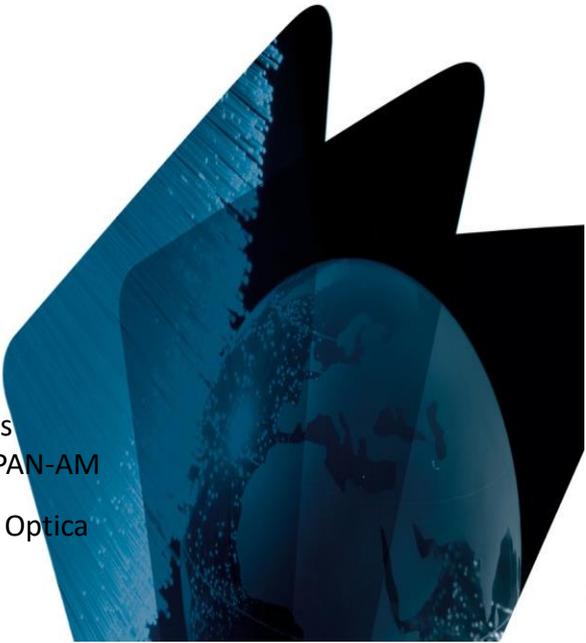
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- SIMBOLOGÍA**
- Salidas Internacionales
  - Cable PCCS, SAM-1 y PAN-AM
  - Red Nacional de Fibra Optica



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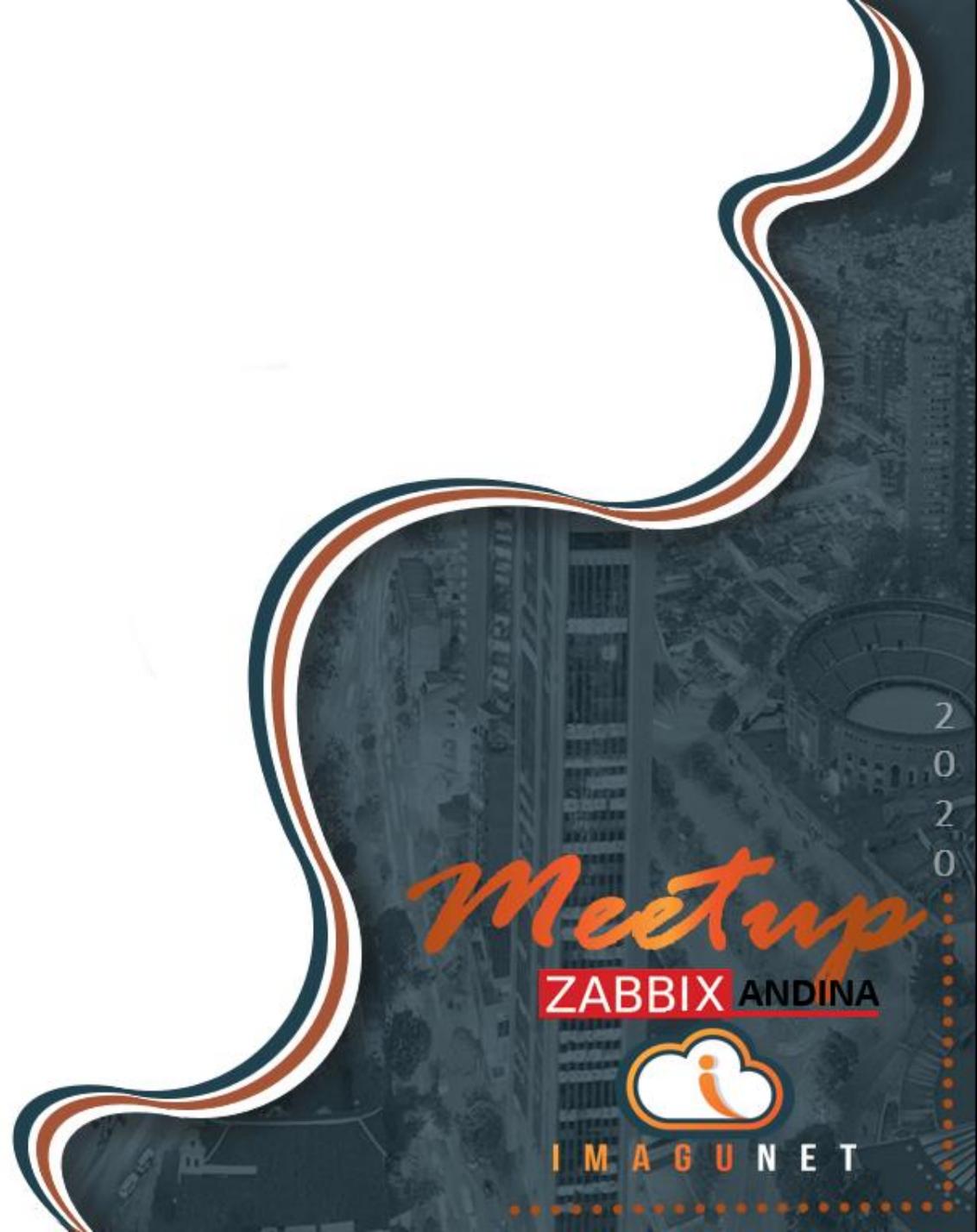


ECUADOR

COLOMBIA

PANAMÁ

GUATEMALA



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TELCONET  
LATAM



ISP's & Integradores

Retail Servicios

Salud

Restaurantes

Sector Financiero

Educación

Gobierno

Otros



Telefonica



farmaenlace



Arcos Dorados



California Panadería & Pastelería



Sweet & Coffee



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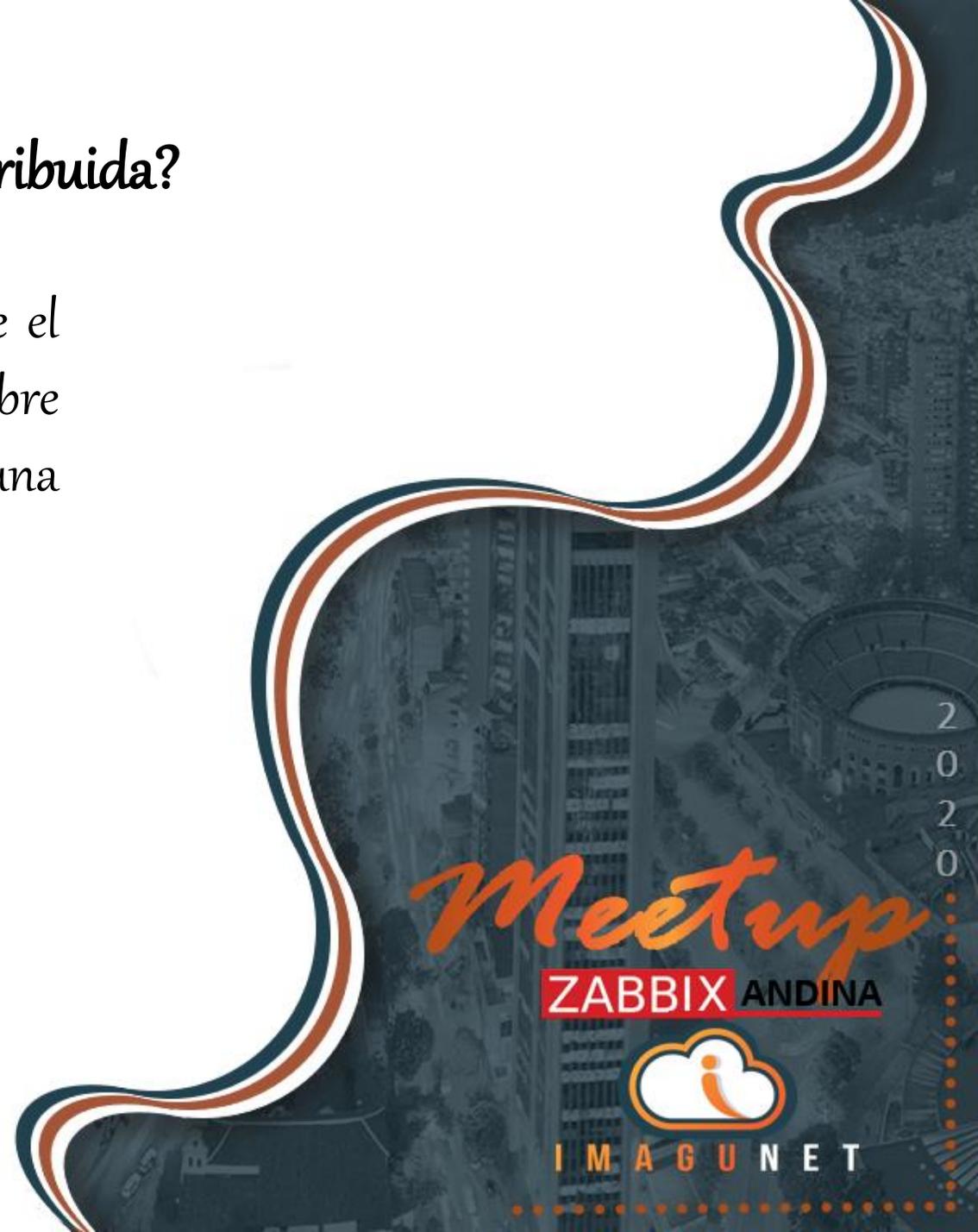
2020

## ¿Qué es una arquitectura distribuida?

Una arquitectura distribuida es aquella en el que el procesamiento de información se distribuye sobre varias computadoras en vez de estar confinado en una única máquina.

## ¿Por qué una arquitectura distribuida?

- Concurrencia
- Transparencia
- Fallo independiente de los componentes

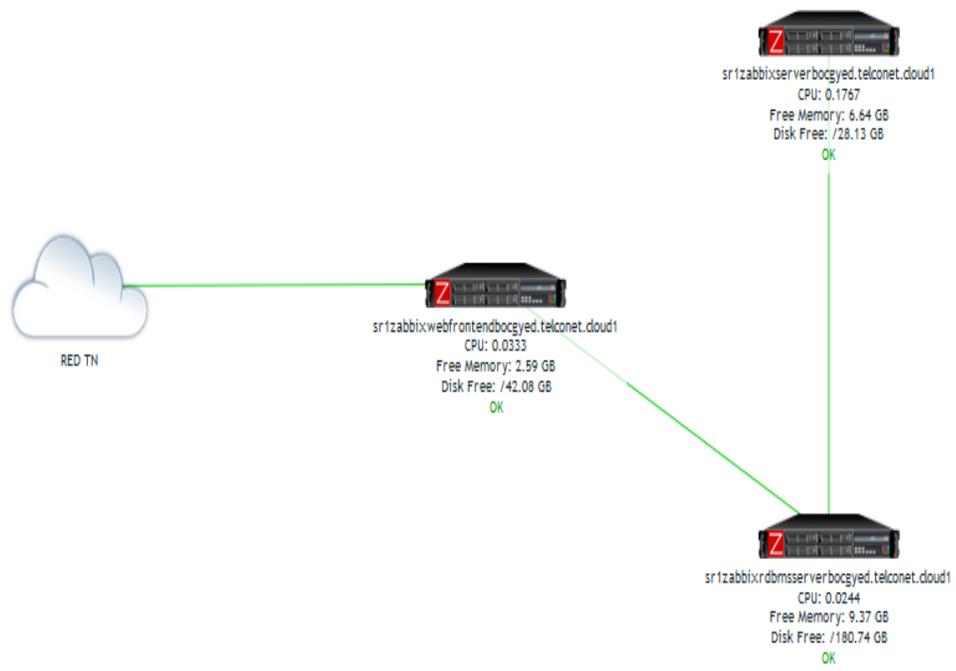


# Maps

Minimum severity Average (default) Edit map

All maps / DIAGRAMA ARQUITECTURA SOL...

DIAGRAMA ARQUITECTURA SOLUCION DE MONITOREO ZABBIX



05/06/2020 03:31:36 PM

# Deploying Zabbix

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## System information

Parameter	Value	Details
Zabbix server is running	Yes	172.30.31.11:10051
Number of hosts (enabled/disabled/templates)	729	539 / 78 / 112
Number of items (enabled/disabled/not supported)	127084	102506 / 22583 / 1995
Number of triggers (enabled/disabled [problem/vok])	32171	27799 / 4372 (13 / 27786)
Number of users (online)	76	6
Required server performance, new values per second	1302.72	

# System Information

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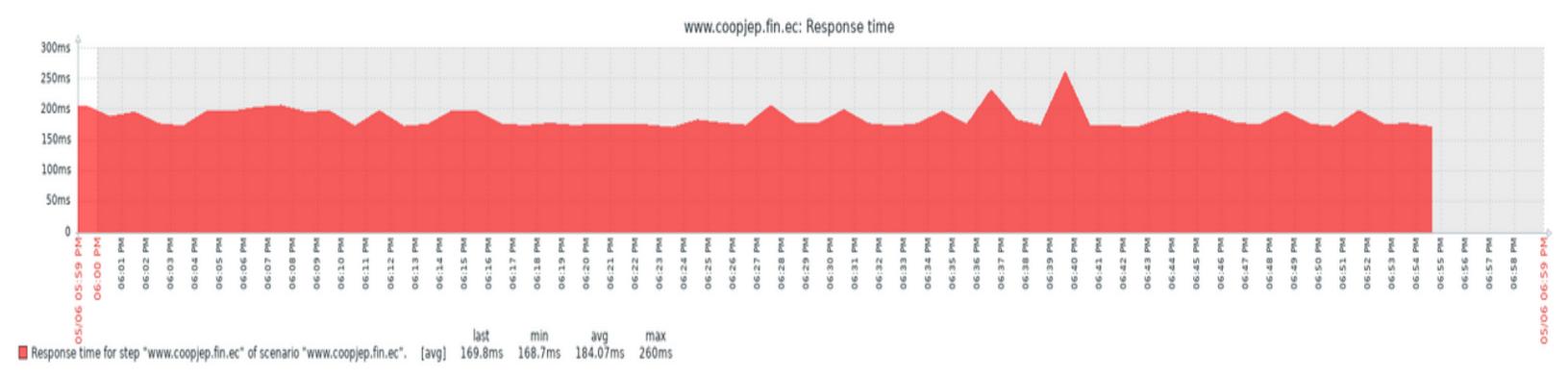
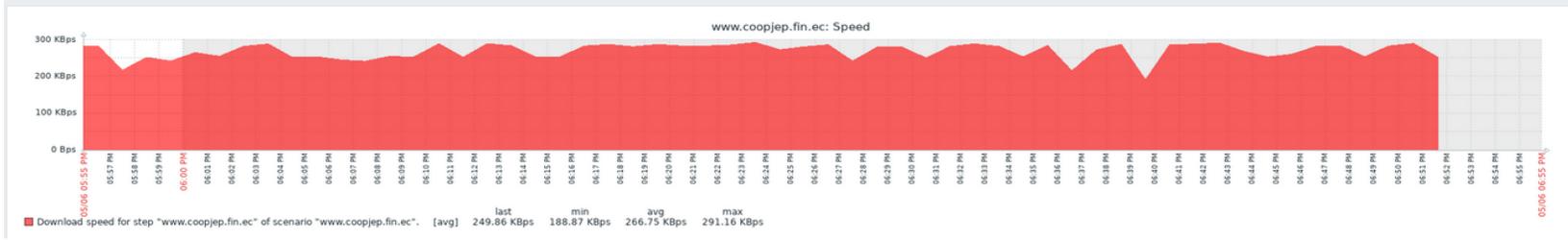
Details of web scenario: www.coopjep.fin.ec

Step	Speed	Response time	Response code	Status
www.coopjep.fin.ec	249.86 KBps	196.5ms	200	OK
<b>TOTAL</b>		<b>196.5ms</b>		<b>OK</b>

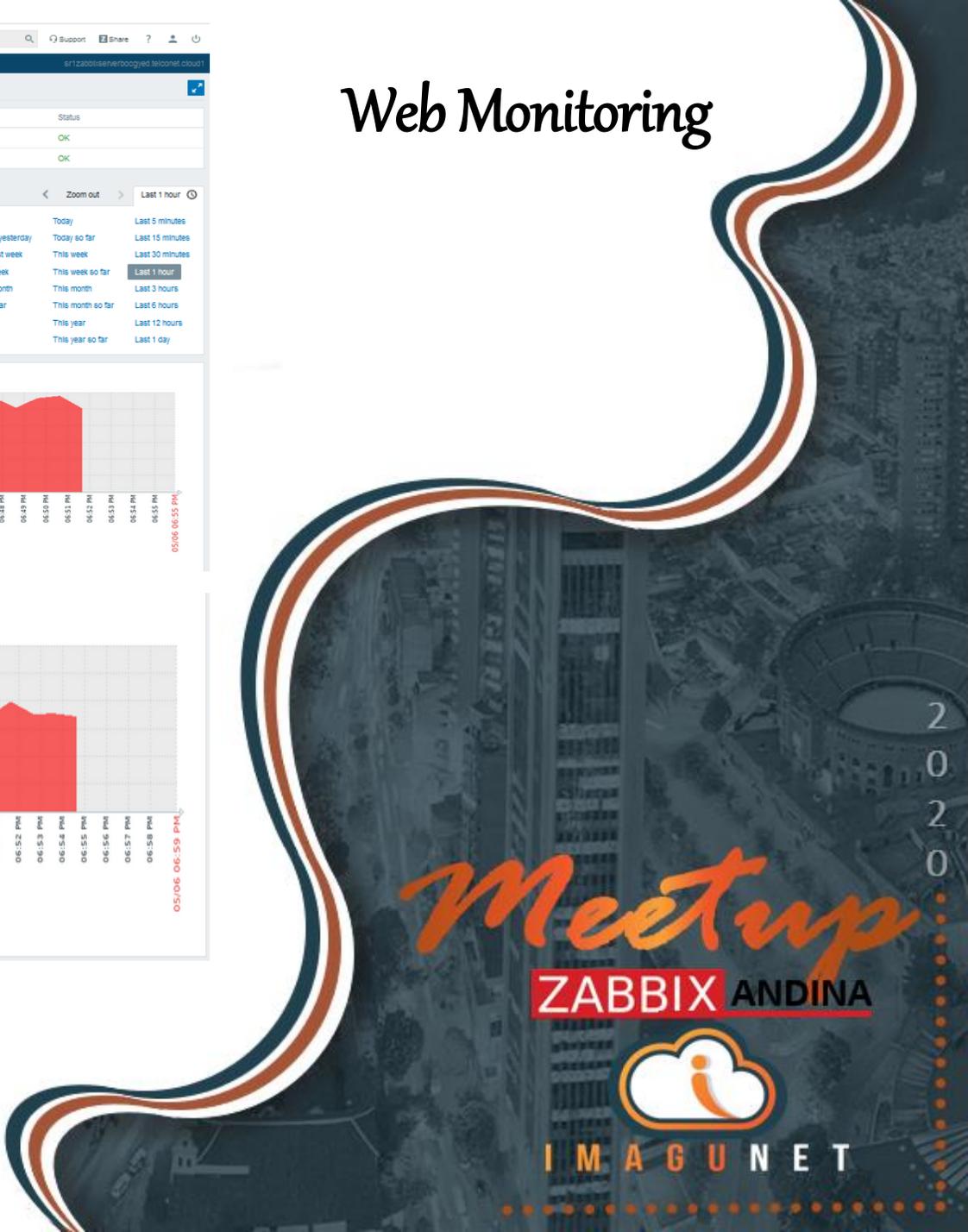
From:  To:

Zoom out Last 1 hour

- Last 2 days
- Last 7 days
- Last 30 days
- Last 3 months
- Last 6 months
- Last 1 year
- Last 2 years
- Yesterday
- Day before yesterday
- This day last week
- Previous week
- Previous month
- Previous year
- Today
- Today so far
- This week
- This week so far
- This month
- This month so far
- This year
- This year so far
- Last 5 minutes
- Last 15 minutes
- Last 30 minutes
- Last 1 hour
- Last 3 hours
- Last 6 hours
- Last 12 hours
- Last 1 day



# Web Monitoring



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TELCONET Monitoring Inventory Reports Configuration Administration

Dashboard Problems Overview Web Latest data Graphs Screens Maps Discovery Services

Screens

All screens / CAMARAS INTERIORES DC GYE

From: now-1h To: now Apply

Last 2 days Yesterday Today Last 5 minutes  
 Last 7 days Day before yesterday Today so far Last 15 minutes  
 Last 30 days This day last week This week Last 30 minutes  
 Last 3 months Previous week This week so far **Last 1 hour**  
 Last 6 months Previous month This month Last 3 hours  
 Last 1 year Previous year This month so far Last 6 hours  
 Last 2 years This year Last 12 hours  
 This year so far Last 1 day

2020-05-07 10:47:33 CI-80C

07-05-2020 Thu 10:47:33 CI-AC1

07-05-2020 Thu 10:47:33 CI-T02

DC Gye - CP1 0.00Mbps 20

DC Gye - CI-SOC2 0.00Mbps

Transfiriendo datos desde 172.24.7.46...

# Screens



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TELCONET Monitoring Inventory Reports Configuration Administration

Dashboard Problems Overview Web Latest data Graphs Screens Maps Discovery Services

sr1zabbixserverboogyed.telconet.cloud1

Screens

All screens / ARQUITECTURA SOLUCION D...

From: now-1h To: now Apply

Last 2 days Yesterday Today Last 5 minutes  
 Last 7 days Day before yesterday Today so far Last 15 minutes  
 Last 30 days This day last week This week Last 30 minutes  
 Last 3 months Previous week This week so far **Last 1 hour**  
 Last 6 months Previous month This month Last 3 hours  
 Last 1 year Previous year This month so far Last 6 hours  
 Last 2 years This year Last 12 hours  
 This year so far Last 1 day

DIAGRAMA ARQUITECTURA SOLUCION DE MONITOREO ZABBIX

```

graph LR
  Cloud((RED TN)) --- Web[sr1zabbixwebfrontboogyed.telconet.cloud1  
172.30.31.12  
CPU: 0.0533  
Free Memory: 2.59 GB  
Disk Free: /42.01 GB  
OK]
  Web --- ServerTop[sr1zabbixserverboogyed.telconet.cloud1  
172.30.31.11  
CPU: 0.2883  
Free Memory: 6.62 GB  
Disk Free: /27.96 GB  
OK]
  Web --- ServerBottom[sr1zabbixdbmsserverboogyed.telconet.cloud1  
172.30.31.13  
CPU: 0.0775  
Free Memory: 9.31 GB  
Disk Free: /176.86 GB  
OK]
  
```

09/07/2020 11:09:36 AM

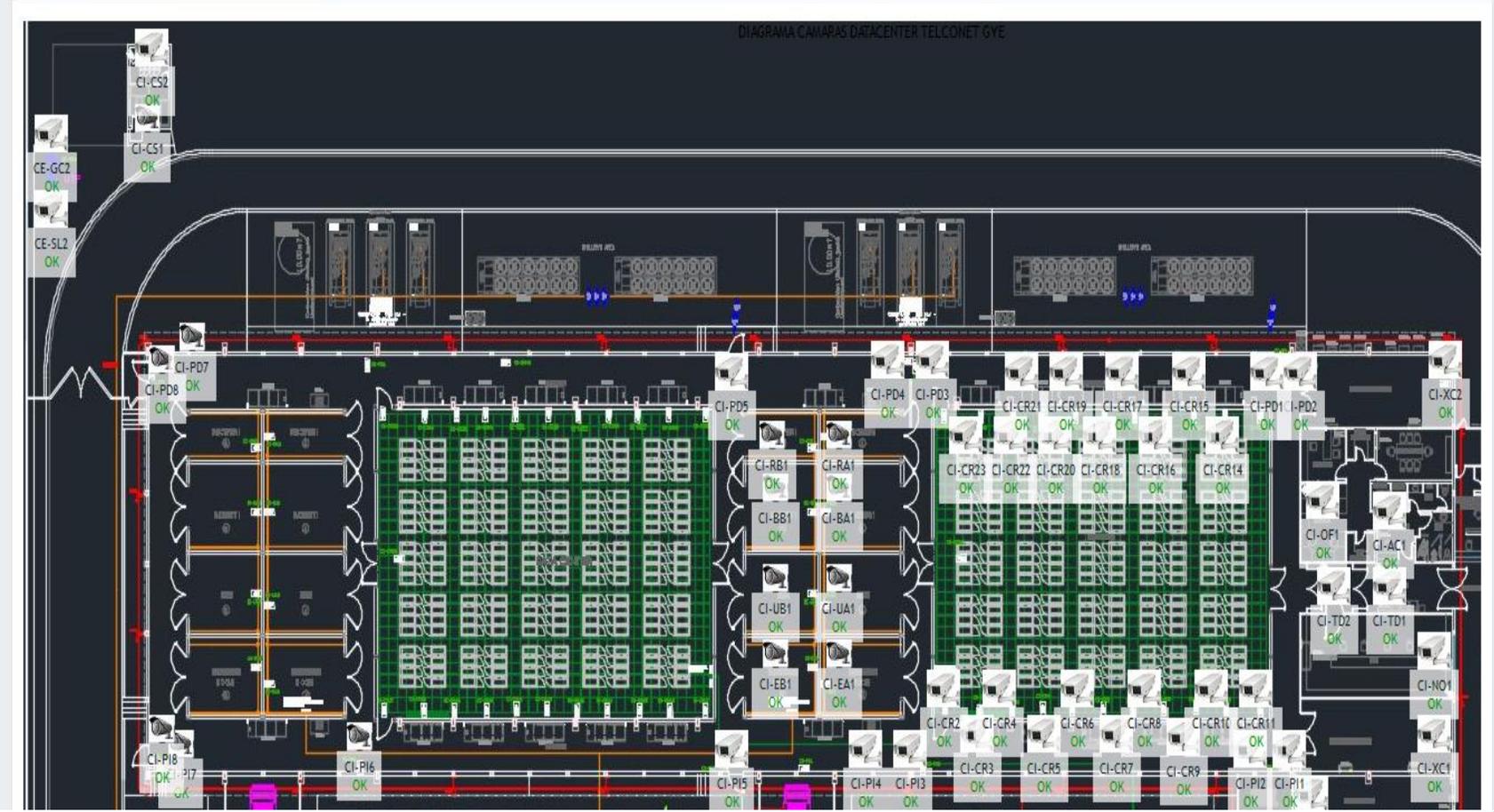
# Screens



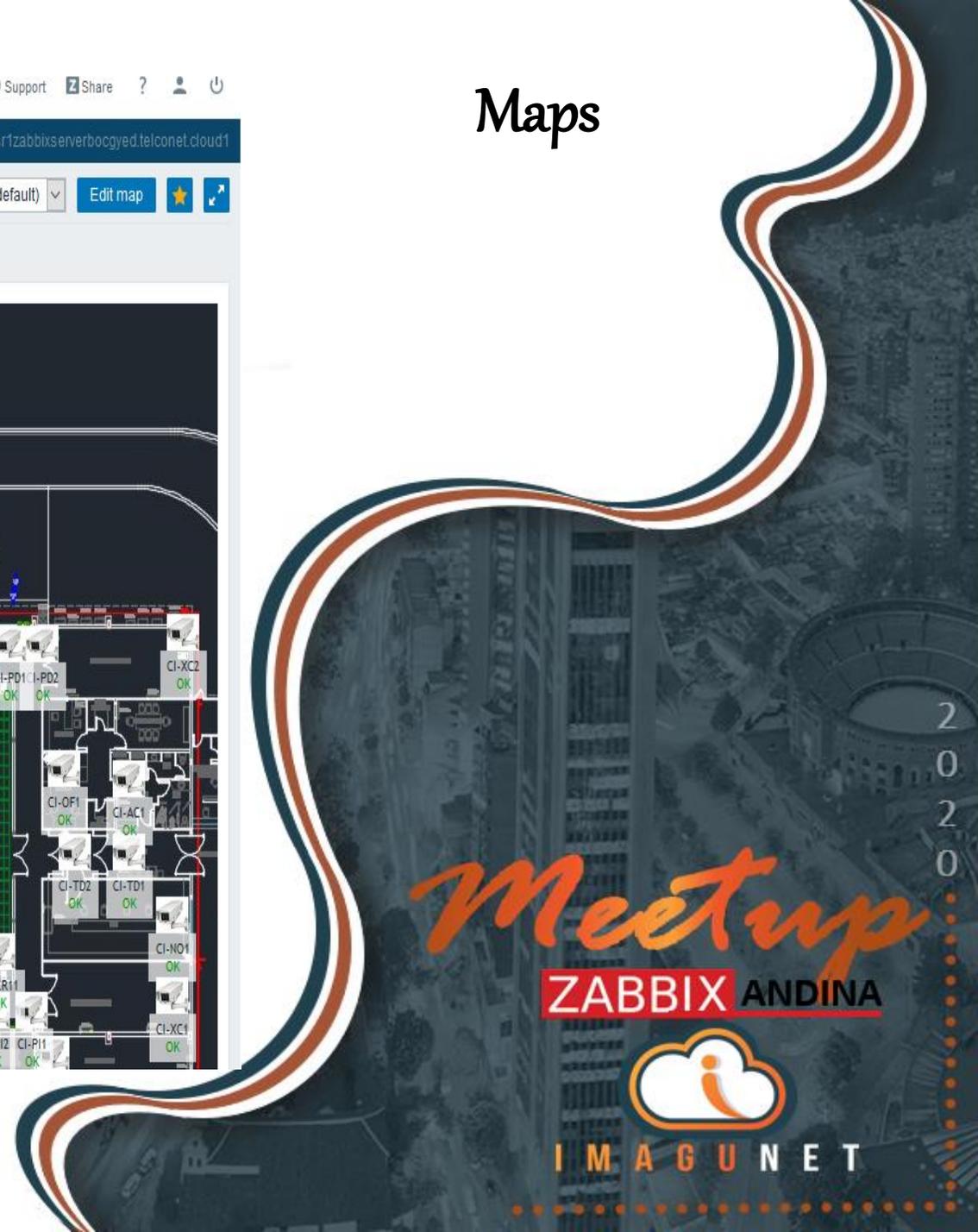
# Maps

Minimum severity Not classified (default) Edit map

All maps / DIAGRAMA CAMARAS DATACENT...



# Maps



# Maps

Minimum severity Information

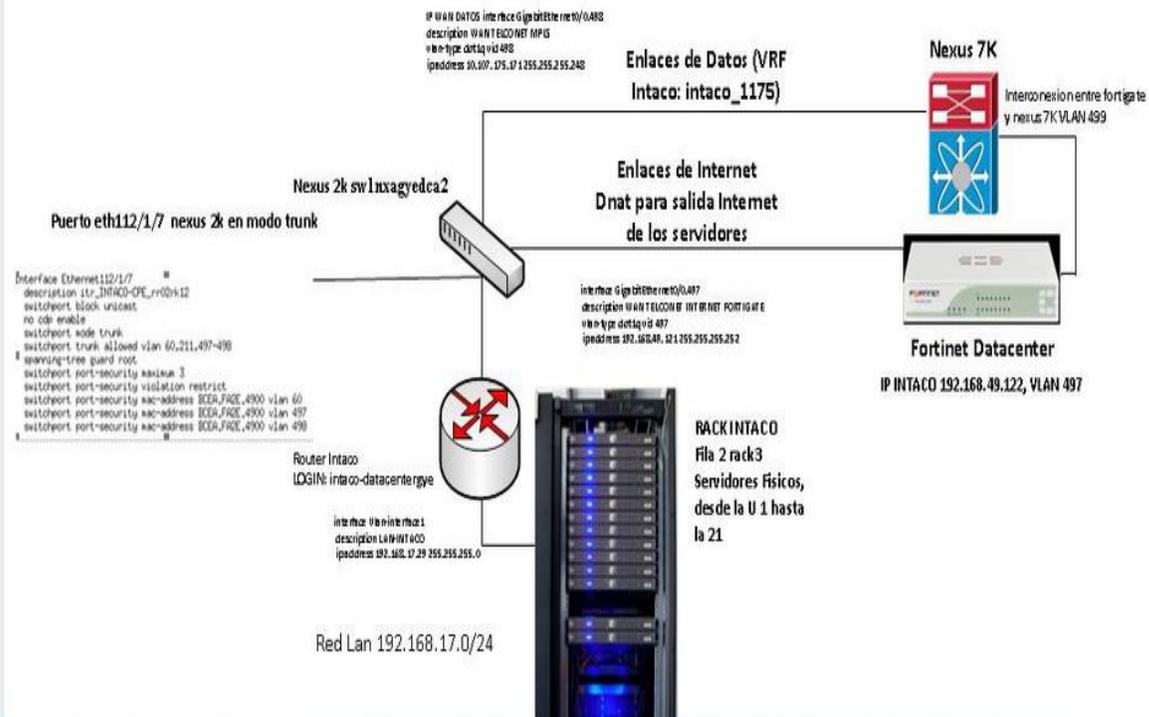
Edit map ☆ ↻

All maps / **DIAGRAMA DE CONEXION DEL CLI...**

DIAGRAMA DE CONEXION DEL CLIENTE INTACO ECUADOR S.A LOGIN: INTACO-DATACENTERGYE



## ESP DC DIAGRAMA CONEXIÓN INTACO VER 120815



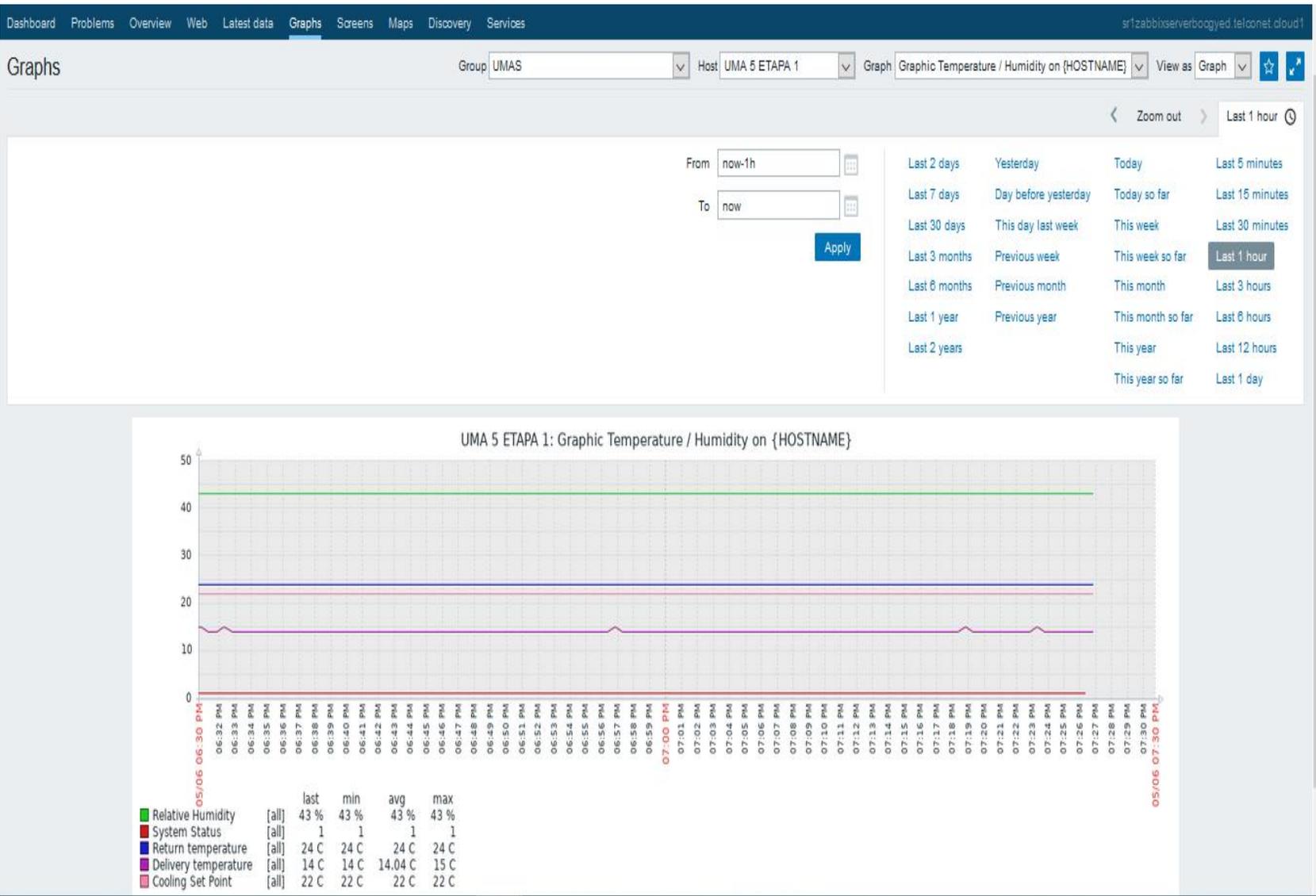
# Maps

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# Graphs



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# Graphs

Group UPS Host UPS1-3A Graph Time On Battery {HOSTNAME} View as Graph

Zoom out Last 1 hour

From

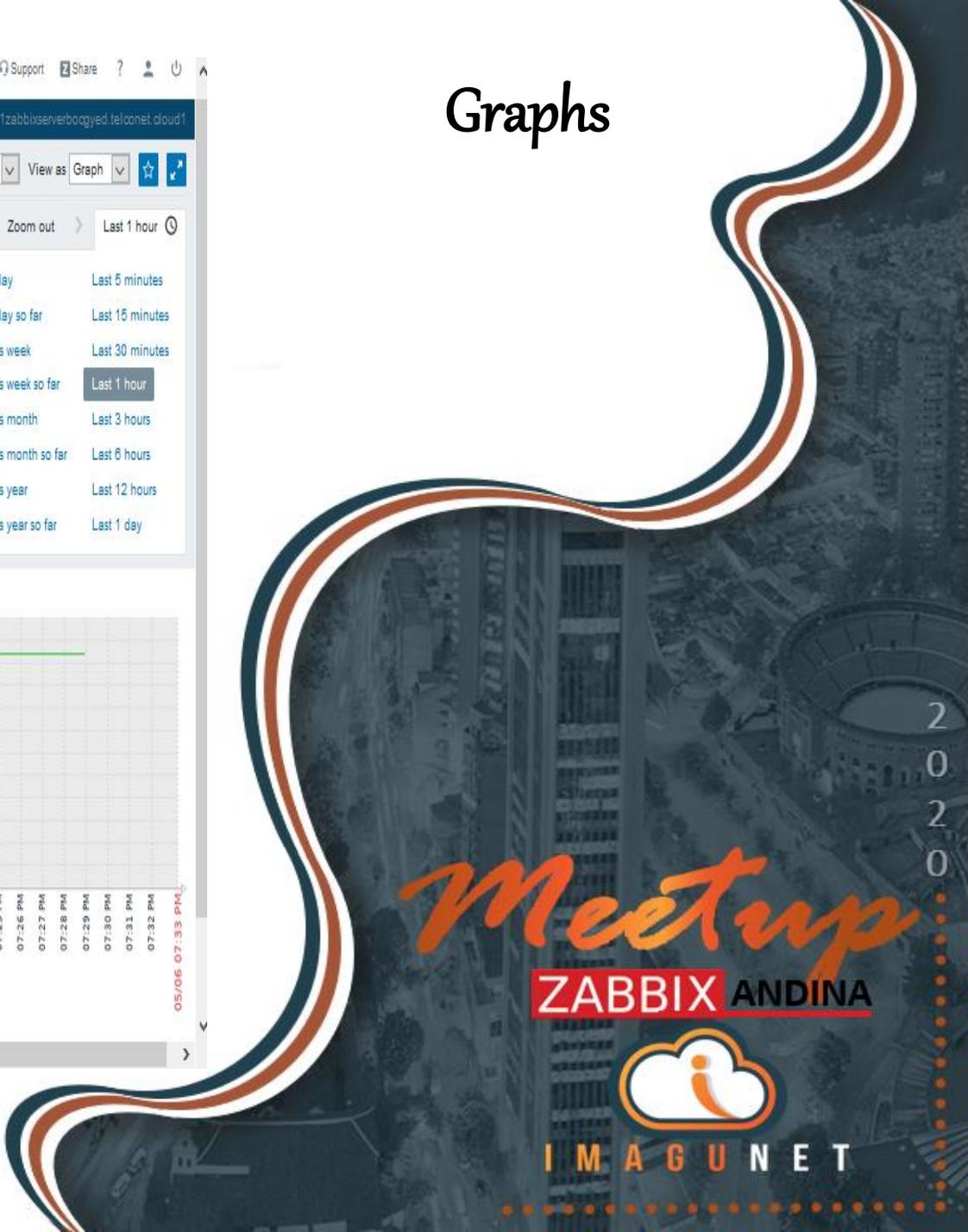
To

- Last 2 days Yesterday Today Last 5 minutes
- Last 7 days Day before yesterday Today so far Last 15 minutes
- Last 30 days This day last week This week Last 30 minutes
- Last 3 months Previous week This week so far **Last 1 hour**
- Last 6 months Previous month This month Last 3 hours
- Last 1 year Previous year This month so far Last 6 hours
- Last 2 years This year Last 12 hours
- This year so far Last 1 day

UPS1-3A: Time On Battery {HOSTNAME}



# Graphs

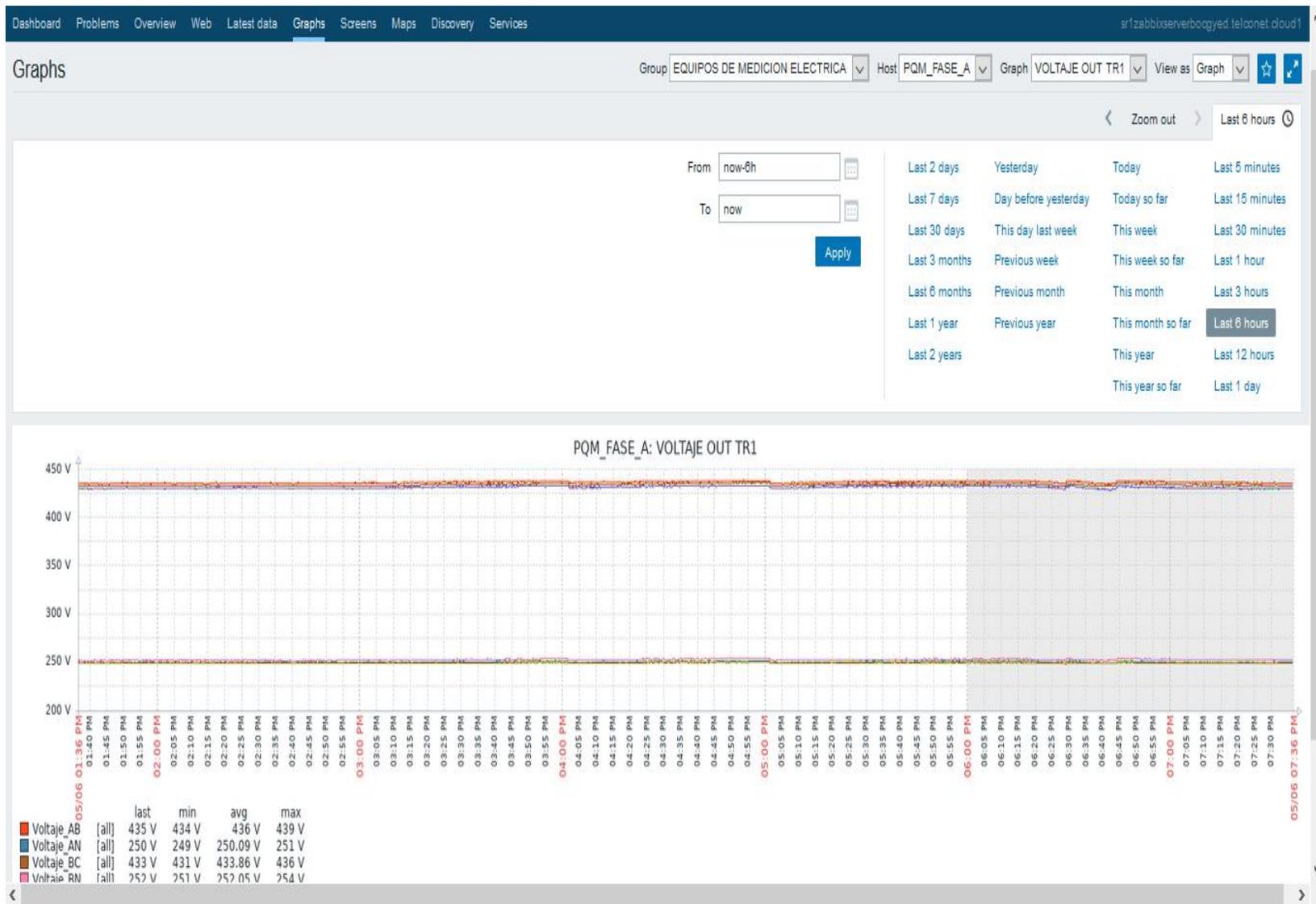


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# Graphs



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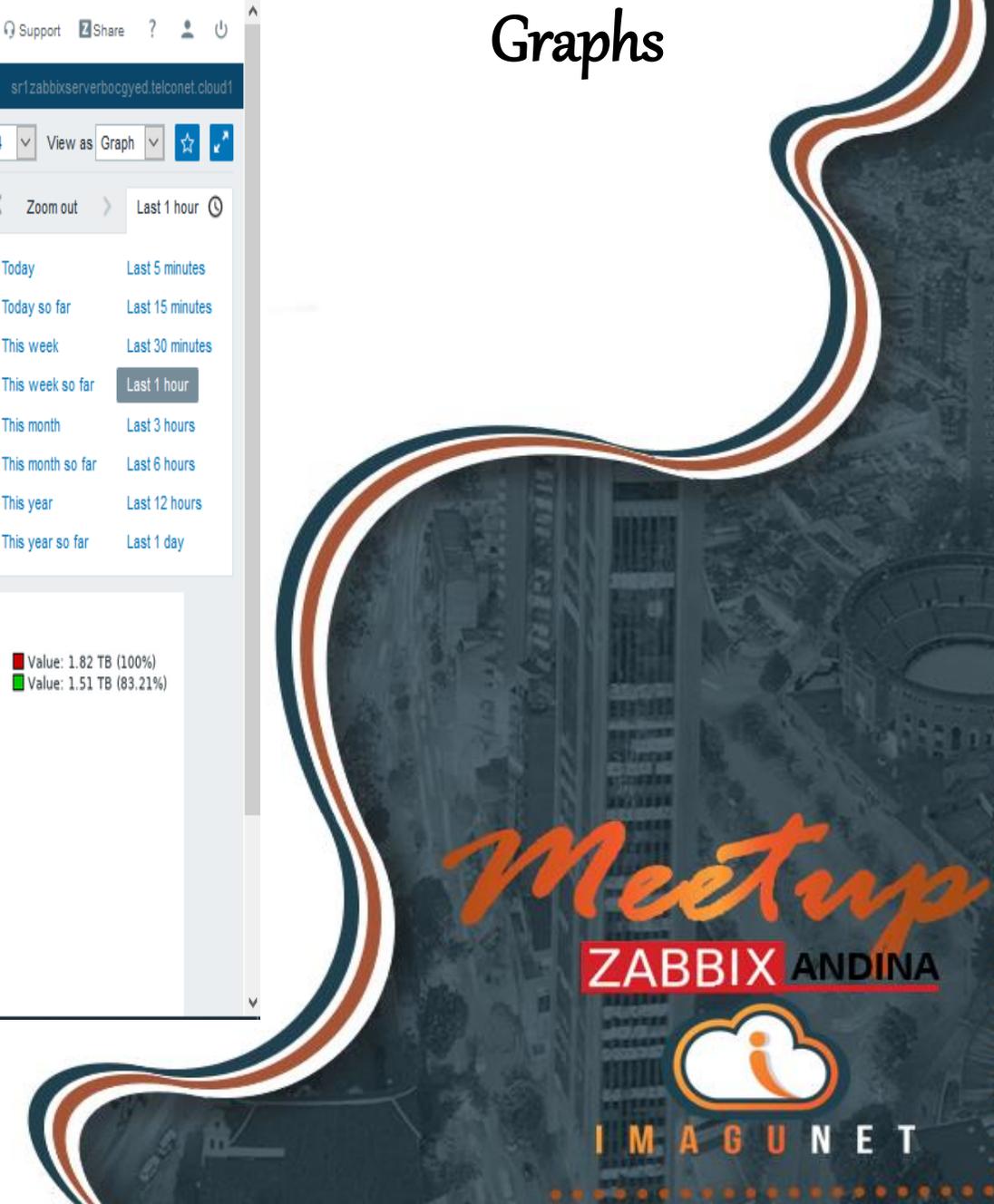
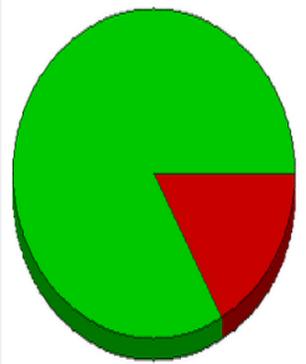


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From now-1h To now Apply

Last 2 days	Yesterday	Today	Last 5 minutes
Last 7 days	Day before yesterday	Today so far	Last 15 minutes
Last 30 days	This day last week	This week	Last 30 minutes
Last 3 months	Previous week	This week so far	<b>Last 1 hour</b>
Last 6 months	Previous month	This month	Last 3 hours
Last 1 year	Previous year	This month so far	Last 6 hours
Last 2 years		This year	Last 12 hours
		This year so far	Last 1 day

SR1GDST8GYED: Disk space usage /datos/ds1st8gyed2t4



# Zabbix + Grafana

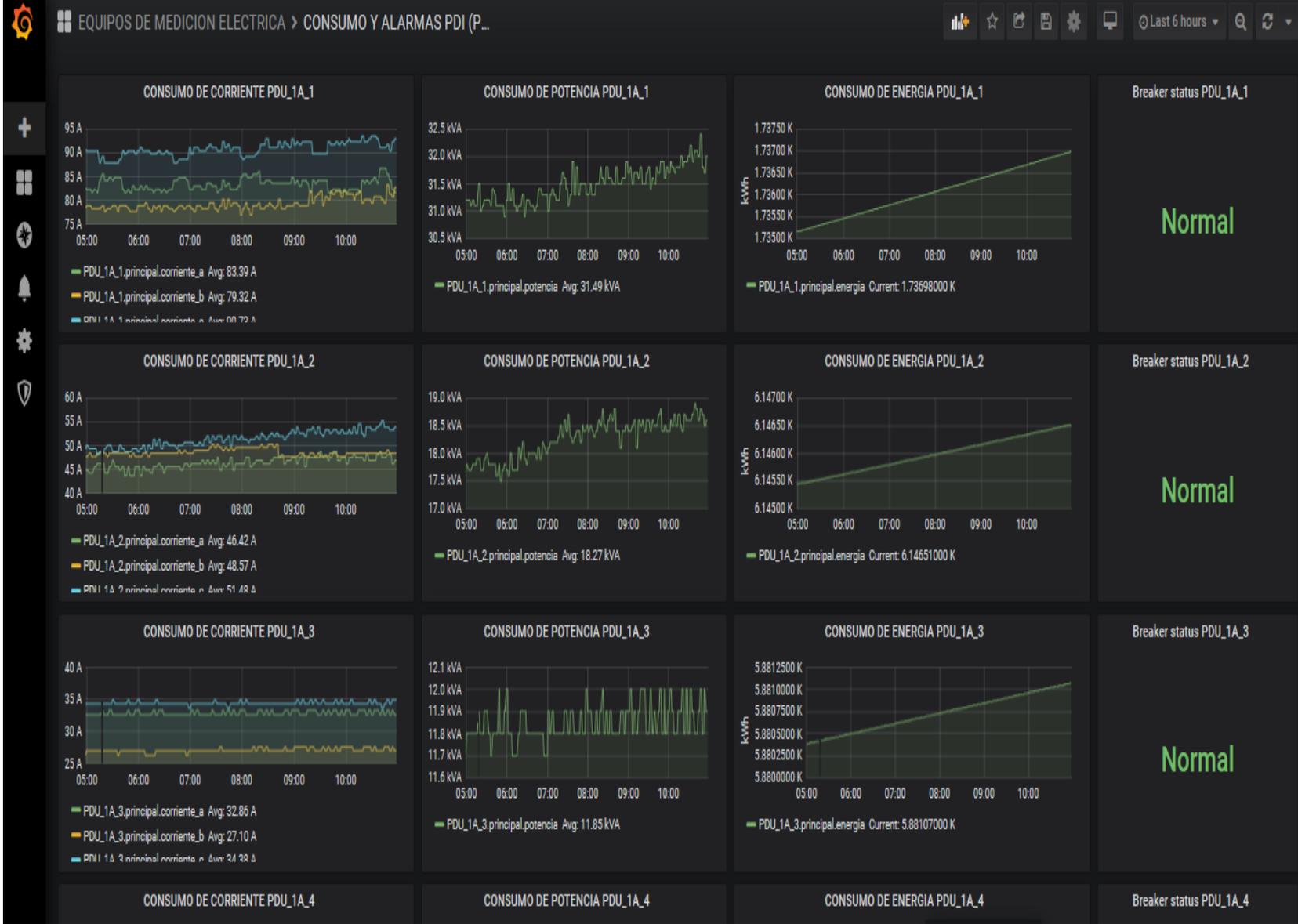


Meetup

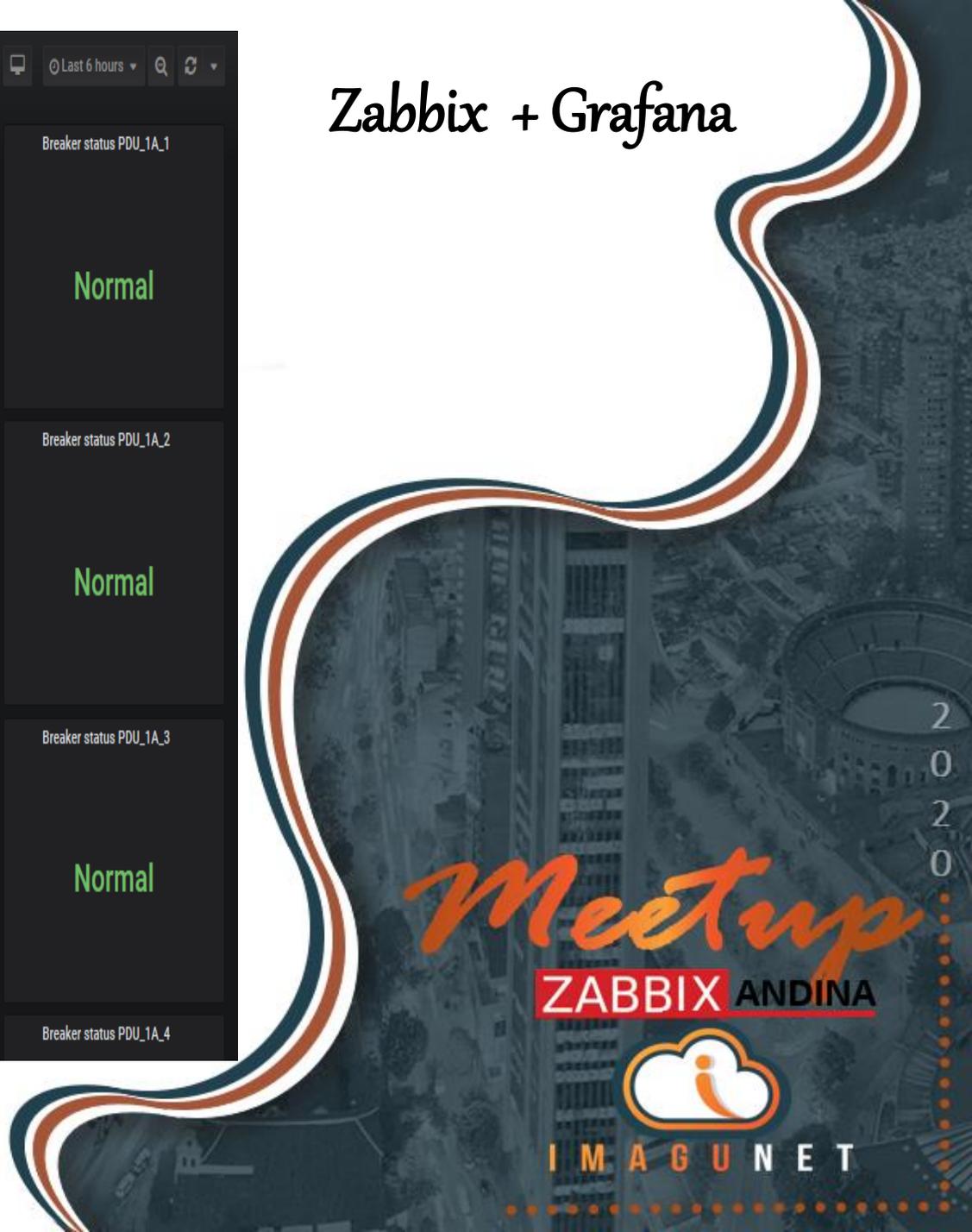
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# Zabbix + Grafana



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# Zabbix + Grafana



# Zabbix + Grafana



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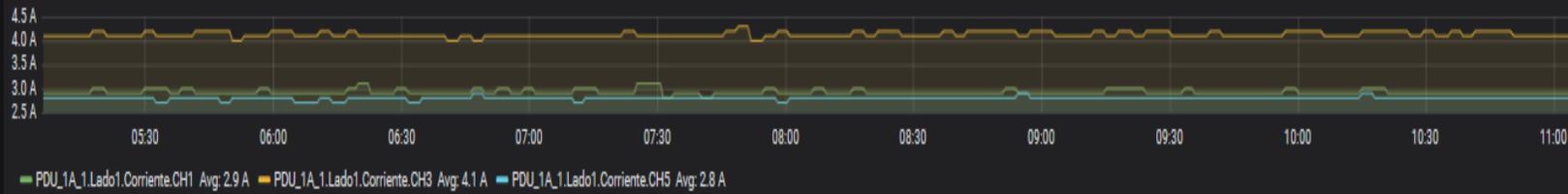
CONSUMO DE RACKS DC GYE > FILA 1 RACK 1 (AA1.05) ▾

📊 ☆ 🔄 📄 ⚙️ 🖨️ 🕒 Last 6 hours 🔍 🔄 ▾

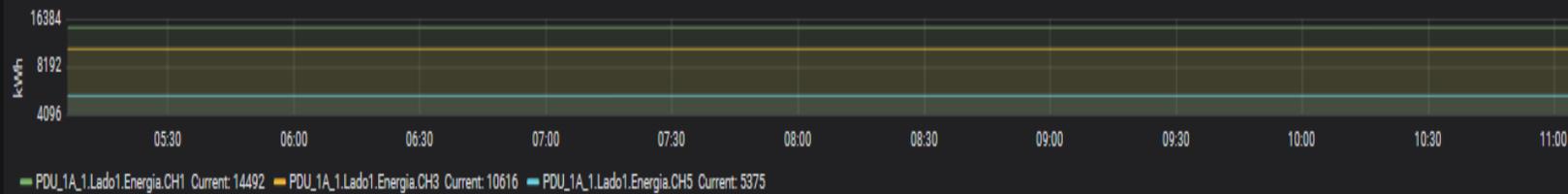
CONSUMO POTENCIA SISTEMA 1



CONSUMO CORRIENTE SISTEMA 1



CONSUMO ENERGIA SISTEMA 1



# Zabbix + Grafana

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```
let PLC_GYE_1A_1 = new Controller()
let PLC_GYE_1A_2 = new Controller()
let PLC_GYE_2A_1 = new Controller()
let PLC_GYE_2A_2 = new Controller()

PLC_GYE_1A_1.connect('172.30.0.85', 0)
  .then(() => {
    return jobs.plc_1a_1(PLC_GYE_1A_1, registrosPLC_GYE_1A_1
)
  })
  .catch(error => {
    console.log(error)
    process.exit()
  })
```

```
PLC_GYE_1A_2.connect('172.30.0.86', 0)
  .then(() => {
    return jobs.PDU(PLC_GYE_1A_2, registrosPLC_GYE_1A_2
  })
  .catch(error => {
    console.log(error)
    process.exit()
  })
```

## Conexión a los PLC

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## Lectura de datos del PLC

```
const leerATS_PDU_9A = async (plcGYE_1A) => {  
  try {  
    let ATS_PDU_9A_UPS_A_disponible = plcGYE_1A.getVariable('ATS_PDU_9A.UPS_A  
.disponible')  
    let ATS_PDU_9A_UPS_B_disponible = plcGYE_1A.getVariable('ATS_PDU_9A.UPS_B  
.disponible')  
    let ATS_PDU_9A_UPS_A_activo = plcGYE_1A.getVariable('ATS_PDU_9A.UPS_A.act  
ivo')  
    let ATS_PDU_9A_UPS_B_activo = plcGYE_1A.getVariable('ATS_PDU_9A.UPS_B.act  
ivo')  
  
    await plcGYE_1A.readTag(ATS_PDU_9A_UPS_A_disponible.tag)  
    await plcGYE_1A.readTag(ATS_PDU_9A_UPS_B_disponible.tag)  
    await plcGYE_1A.readTag(ATS_PDU_9A_UPS_A_activo.tag)  
    await plcGYE_1A.readTag(ATS_PDU_9A_UPS_B_activo.tag)
```

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## Envío de datos al zabbix

```
    await execa.command(`zabbix_sender -z 172.30.31.11 -
s ${ATS_PDU_9A_UPS_A_disponible.info.tablero} -
k ${ATS_PDU_9A_UPS_A_disponible.info.nombre} -
o ${ATS_PDU_9A_UPS_A_disponible.tag.value ? 1 : 0}`)
    await execa.command(`zabbix_sender -z 172.30.31.11 -
s ${ATS_PDU_9A_UPS_B_disponible.info.tablero} -
k ${ATS_PDU_9A_UPS_B_disponible.info.nombre} -
o ${ATS_PDU_9A_UPS_B_disponible.tag.value ? 1 : 0}`)
    await execa.command(`zabbix_sender -z 172.30.31.11 -
s ${ATS_PDU_9A_UPS_A_activo.info.tablero} -
k ${ATS_PDU_9A_UPS_A_activo.info.nombre} -
o ${ATS_PDU_9A_UPS_A_activo.tag.value ? 1 : 0}`)
    await execa.command(`zabbix_sender -z 172.30.31.11 -
s ${ATS_PDU_9A_UPS_B_activo.info.tablero} -
k ${ATS_PDU_9A_UPS_B_activo.info.nombre} -
o ${ATS_PDU_9A_UPS_B_activo.tag.value ? 1 : 0}`)
```

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# Zabbix + Grafana

TELCONET Monitoring Inventory Reports Configuration Administration

Dashboard Problems Overview Web Latest data Graphs Screens Maps Discovery Services

Latest data

Filter

Host groups  Select Name

Hosts  Select Show items without data

Application  Select Show details

Apply Reset

Host	Name	Last check	Last value	Change
ATS_PDU_9A	Estado (4 Items)			
	ATS_PDU_9A.UPS_A.activo	05/07/2020 11:40:18 AM	activo (1)	Graph
	ATS_PDU_9A.UPS_A.disponible	05/07/2020 11:40:18 AM	disponible (1)	Graph
	ATS_PDU_9A.UPS_B.activo	05/07/2020 11:40:18 AM	no activo (0)	Graph
	ATS_PDU_9A.UPS_B.disponible	05/07/2020 11:40:18 AM	disponible (1)	Graph
ATS_PDU_9A	ICMP (3 Items)			

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# Preguntas

