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# Infraestructura de CNICM (Infomed)

# Capacidad de Administración de Centro de Datos Virtuales



## Status



Cluster: proxmox-cluster, Quorate: Yes

## Nodes

|           |   |
|-----------|---|
| ✓ Online  | 8 |
| ✗ Offline | 0 |

## Resources

CPU

5%

Memory

22%

Storage

34%

## vApp

En ejecución

Máquinas virtuales  
16

CPU totales  
84

Almacenamiento  
total  
2091.00 GB

Memoria total  
188416 MB



Concesión  
**Nunca**

**caduca**

Redes  
9

Instantánea  
-

## vApp

En ejecución

Máquinas virtuales  
101

CPU totales  
1013

Almacenamiento  
total  
121584.01 GB

Memoria total  
3313664 MB



Concesión  
**Nunca**

**caduca**

Redes  
7

Instantánea  
-

# Servicios Telemáticos Tradicionales de ISP



WebHosting

Blogs de Salud servicios de sitios webs a profesionales

OJS  
Open Journal Systems

OCS  
OPEN CONFERENCE SYSTEMS

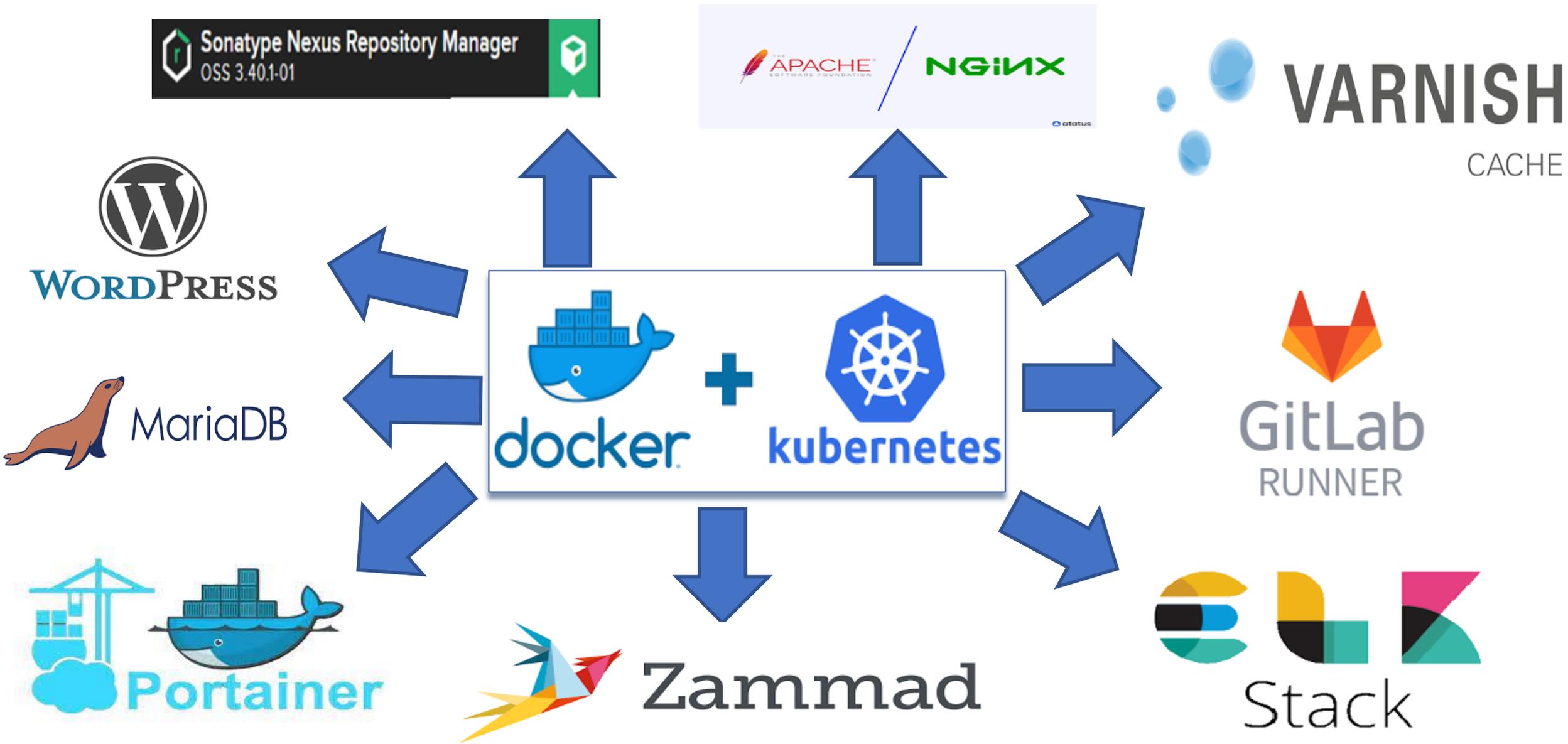
Enlaces dedicados

Navegación a Internet

Servicio de VPN

DNS  
Domain Name System

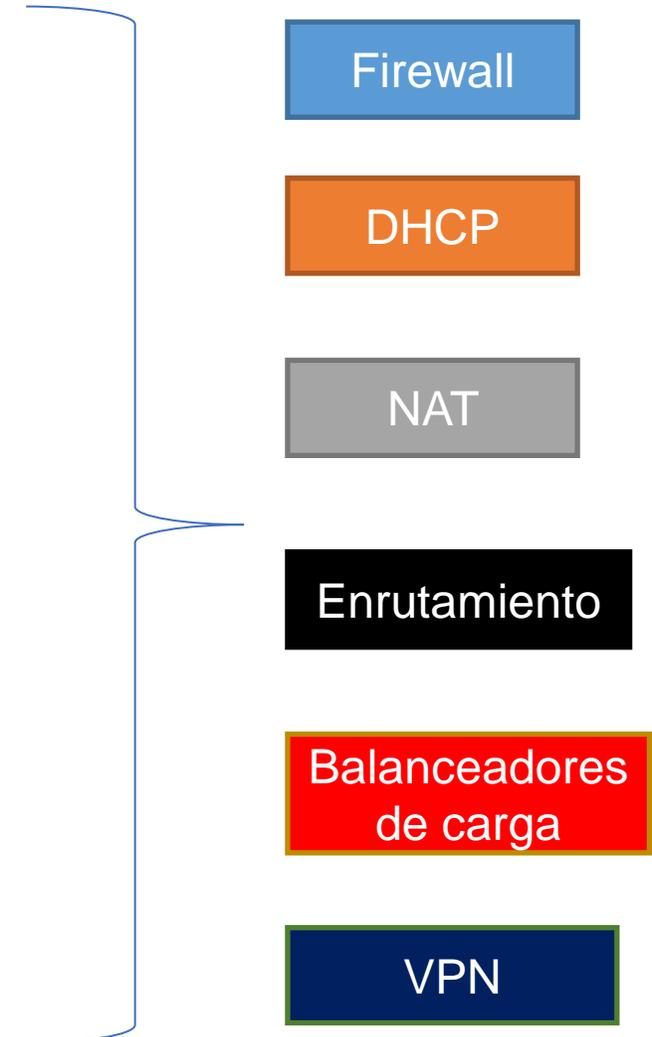
# Contenedores y Micro servicios en la nube



# Computación en la nube IaaS con vcloud vmware

The screenshot displays a cloud management interface with a sidebar on the left and a main content area. The sidebar includes sections for 'Proceso' (vApps, Máquinas virtuales, Reglas de afinidad), 'Redes' (Redes, Instancias de Edge, Seguridad), 'Almacenamiento' (Discos independientes, Políticas de almacenamie...), and 'Configuración' (General, Metadatos). The main content area shows four virtual machines in a 2x2 grid. Each VM card includes a monitor icon, the OS name, status, and resource allocation details.

| VM Name                      | OS                           | Status    | CPU | Memory   | Network          | VMware Tools | Instantánea |
|------------------------------|------------------------------|-----------|-----|----------|------------------|--------------|-------------|
| Other Linux (64-bit)         | Other Linux (64-bit)         | Encendido | 8   | 16384 MB | Red_Privada.I... | VMware Tools | -           |
| Debian GNU/Linux 10 (64-bit) | Debian GNU/Linux 10 (64-bit) | Encendido | 1   | 4096 MB  | LAN_Publica I... | VMware Tools | -           |
| Other Linux (64-bit)         | Other Linux (64-bit)         | Encendido | 8   | 16384 MB | -                | VMware Tools | -           |
| Debian GNU/Linux 10 (64-bit) | Debian GNU/Linux 10 (64-bit) | Encendido | 4   | 8192 MB  | -                | VMware Tools | -           |



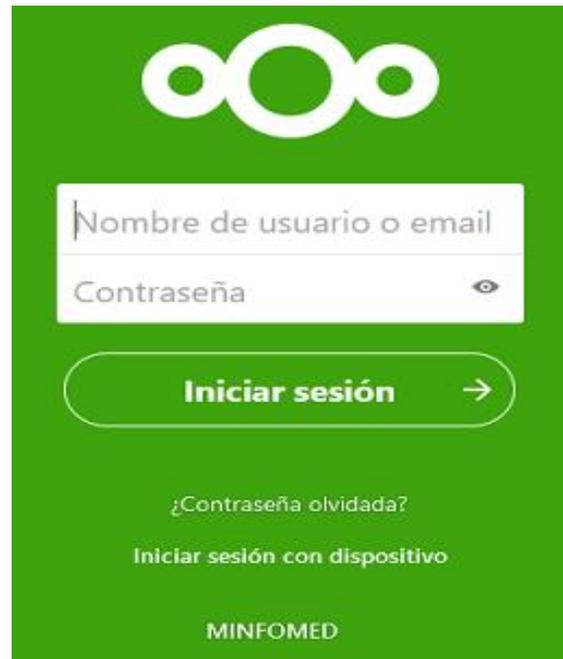
# Computación en la nube CaaS kubernetes

```
/k8s/k8s-datacenter-rke$ kubectl get nodes -o wide
```

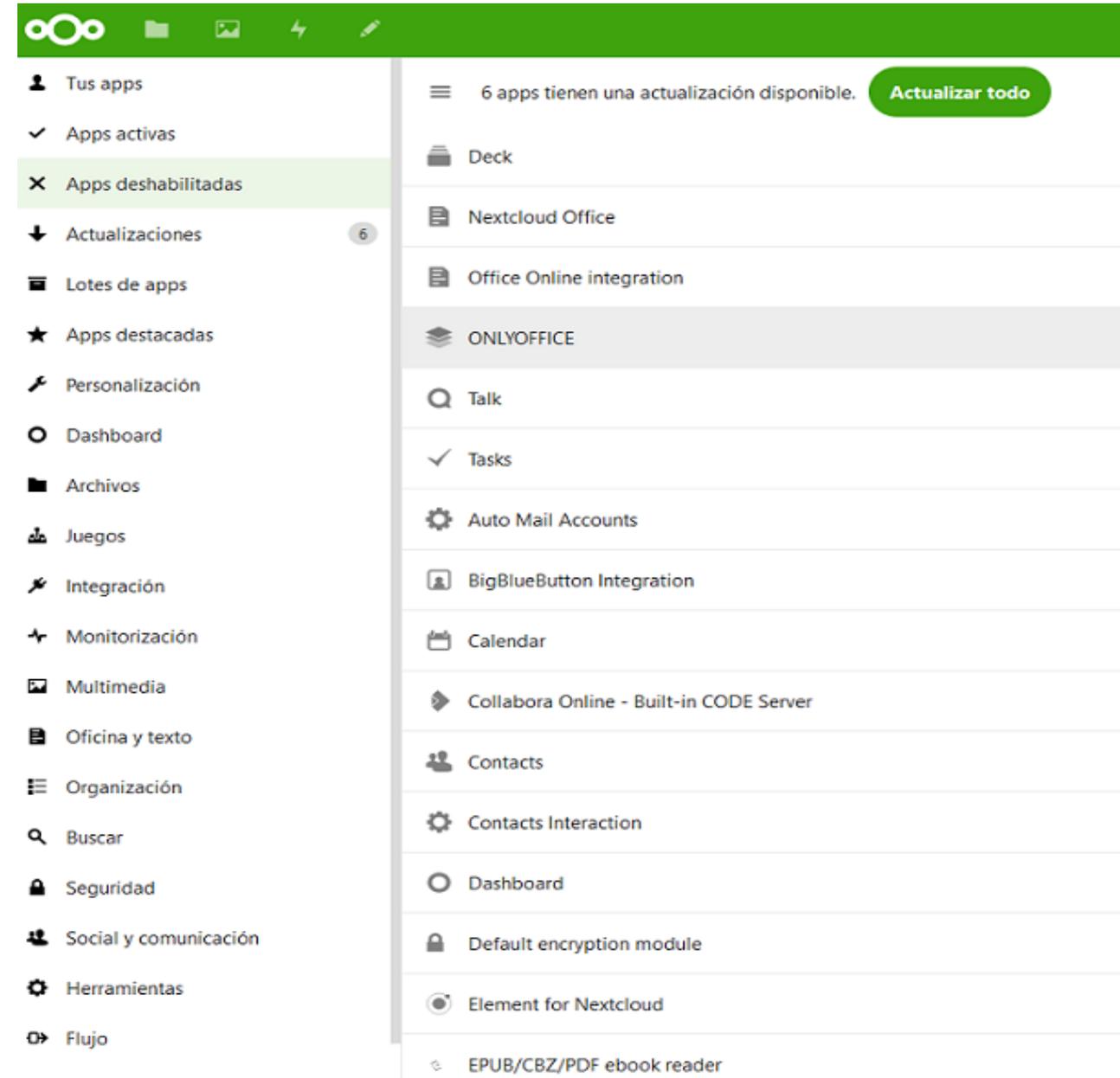
| NAME | STATUS | ROLES             | AGE  | VERSION  | INTERNAL-IP | EXTERNAL-IP | OS-IMAGE                       | KERNEL-VERSION  | CONTAINER-RUNTIME |
|------|--------|-------------------|------|----------|-------------|-------------|--------------------------------|-----------------|-------------------|
| ...  | Ready  | controlplane,etcd | 352d | v1.20.15 | 10.60.7.36  | <none>      | Debian GNU/Linux 11 (bullseye) | 5.10.0-14-amd64 | docker://20.10.1  |
| ...  | Ready  | worker            | 352d | v1.20.15 | 10.60.7.51  | <none>      | Debian GNU/Linux 11 (bullseye) | 5.10.0-25-amd64 | docker://20.10.1  |
| ...  | Ready  | worker            | 352d | v1.20.15 | 10.60.7.52  | <none>      | Debian GNU/Linux 11 (bullseye) | 5.10.0-23-amd64 | docker://20.10.1  |
| ...  | Ready  | worker            | 359d | v1.20.15 | 10.60.7.58  | <none>      | Debian GNU/Linux 11 (bullseye) | 5.10.0-26-amd64 | docker://20.10.1  |
| ...  | Ready  | controlplane,etcd | 359d | v1.20.15 | 10.60.7.40  | <none>      | Debian GNU/Linux 11 (bullseye) | 5.10.0-19-amd64 | docker://19.3.5   |



# Computación en la nube SaaS con nextcloud



<https://apps.nextcloud.com/>



# Repositorio de imágenes de docker y Gitlab

## GitLab

### A complete DevOps platform

GitLab is a single application for the entire software development lifecycle. From project planning and source code management to CI/CD, monitoring, and security.

This is a self-managed instance of GitLab.



Username or email

Password

Remember me [Forgot your password?](#)

Sonatype Nexus Repository Manager  
OSS 3.40.1-01

Search components

Browse

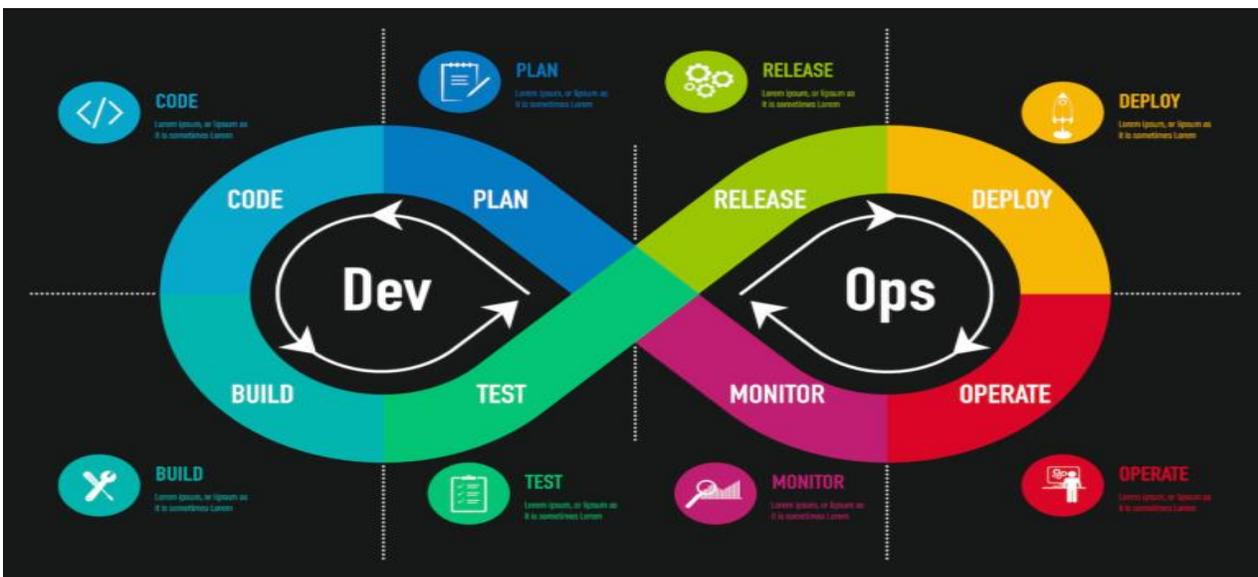
- Welcome
- Search
- Custom
- Docker**
- Browse
- Upload

**Docker** Search for components in Docker repositories

| Image Name | Image Tag | Layers |
|------------|-----------|--------|
| Any        | Any       | Any    |

Only showing the first 300 of 368 results

| Name                   |
|------------------------|
| carlosedp/scope        |
| containous/whoami      |
| containous/whoami      |
| coredns/coredns        |
| elastic/elasticsearch  |
| elastic/filebeat       |
| elastic/kibana         |
| elastic/logstash       |
| gitlab/gitlab-ce       |
| gluster/gluster-centos |



# Mantenimiento de servicios con ansible y terraform

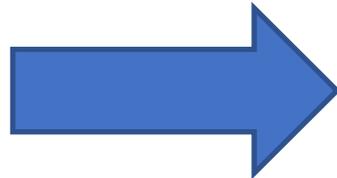
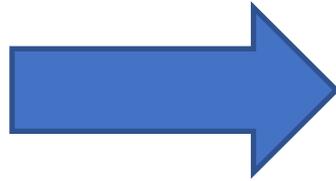


|                                       |   |             |
|---------------------------------------|---|-------------|
| { } playbook-apache-hide-version.yml  | Cambiando algunas cosas para el playbook h...   | 4 years ago |
| { } playbook-apagar-servers.yml       | Agregando ficheros playbook instalar glusterfs  | 5 years ago |
| { } playbook-backup-cisco.yml         | modificando parametros y agregando mas ci...    | 4 years ago |
| { } playbook-bacula7.yml              | Subiendo el playbook de bacula con la config... | 4 years ago |
| 📄 playbook-bacula7.yml.save           | Agregando ficheros playbook instalar glusterfs  | 5 years ago |
| { } playbook-bacularestore.yml        | Agregando playbook de bacula para restaura...   | 6 years ago |
| { } playbook-borrado-salva-proxmo...  | Agregando en infomed_host los cabrera 3 y 4     | 4 years ago |
| { } playbook-borrado-salva-proxmo...  | Subiendo playbooks para borrado de salvas ...   | 4 years ago |
| { } playbook-borrado-salva-trazas.yml | modificando playbook de borrado de trazas       | 1 year ago  |
| { } playbook-cluster-correo.yml       | fix cluster de correo                           | 1 year ago  |
| { } playbook-correo-prueba.yml        | agrgando entrada dns de artemisa                | 1 year ago  |
| { } playbook-debian-version.yml       | agregando host al playbook de S.O               | 2 years ago |

Edit **Visualize** Lint View merged YAML

| Build                    | Deploy                  |
|--------------------------|-------------------------|
| build_webhosting         | deploy_webhosting       |
| build_cwis_portal        | deploy_cwis_portal      |
| build_tesis-cwis         | deploy_tesis-cwis       |
| build_varnish-apache...  | deploy_varnish-apach... |
| build_conslldap-prima... | deploy_conslldap-pri... |
| build_smtpproxy          | deploy_smtpproxy        |
| build_prueba             | deploy_prueba           |

# Cluster de base de datos



# Herramientas de Monitoreo

## Monitoring Stack



Prometheus



Grafana



AlertManager



Node Exporter

ZABBIX



# Herramientas de Monitoreo

Hora en Cuba



Cantidad de Servidores y Equipos monitoreados

|               | Zabbix agent | SNMP |
|---------------|--------------|------|
| Available     | 186          | 8    |
| Not available | 22           | 1    |
| Unknown       | 172          | 2    |
| Total         | 380          | 11   |

ATM: ICMP response time

2023-11-06 12:23:14

**0.7ms** ↑

ICMP response time

turquino venezuela

2023-11-06 12:23:03

**153ms** ↓

ICMP response time

core1

2023-11-06 12:23:47

**24.5ms** ↑

ICMP response time

Google

2023-11-06 12:23:16

**94.8ms**

ICMP response time

Router 2MB

2023-11-06 12:23:10

**0.6ms**

ICMP response time

IP/MPLS

2023-11-06 12:23:18

**0.7ms**

ICMP response time

Enlace Cuba

2023-11-06 12:23:18

**0.7ms** ↓

ICMP response time

Enlace DataCenter

2023-11-06 12:23:41

**1.5ms**

ICMP response time

Pinar del Río: ICMP respons...

2023-11-06 12:16:10

**6.1ms** ↑

ICMP response time

Isla de la Juventud: ICMP res...

2023-11-06 12:16:12

**12.2ms**

ICMP response time

Cienfuegos: ICMP response t...

2023-11-06 12:16:18

**6.5ms**

ICMP response time

Camaguey: ICMP response ti...

2023-11-06 12:17:04

**12.1ms** ↓

ICMP response time

Holguin: ICMP response time

2023-11-06 12:16:28

**12.2ms** ↑

ICMP response time

Santiago de Cuba: ICMP res...

2023-11-06 12:16:31

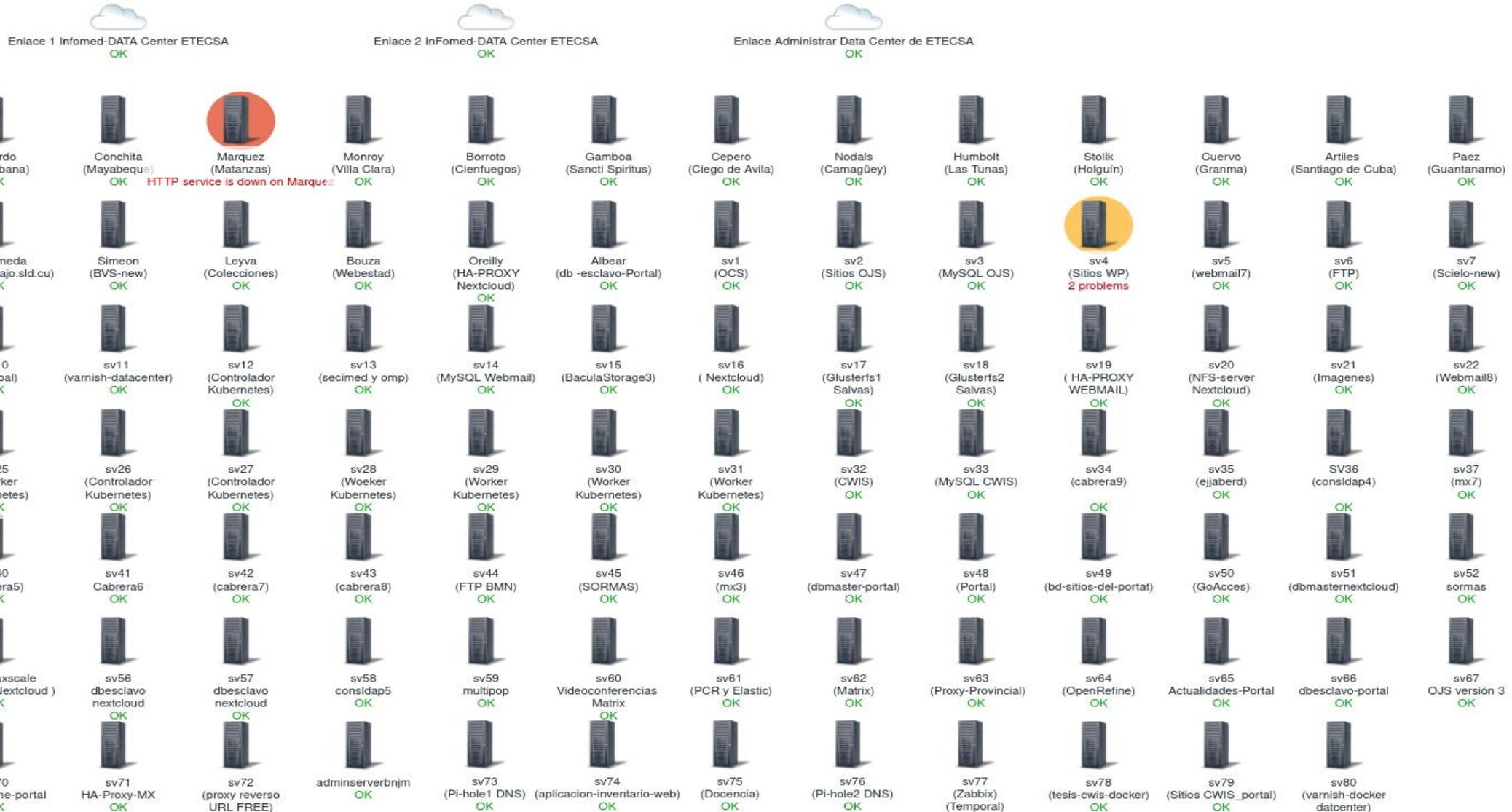
**13.5ms** ↓

ICMP response time

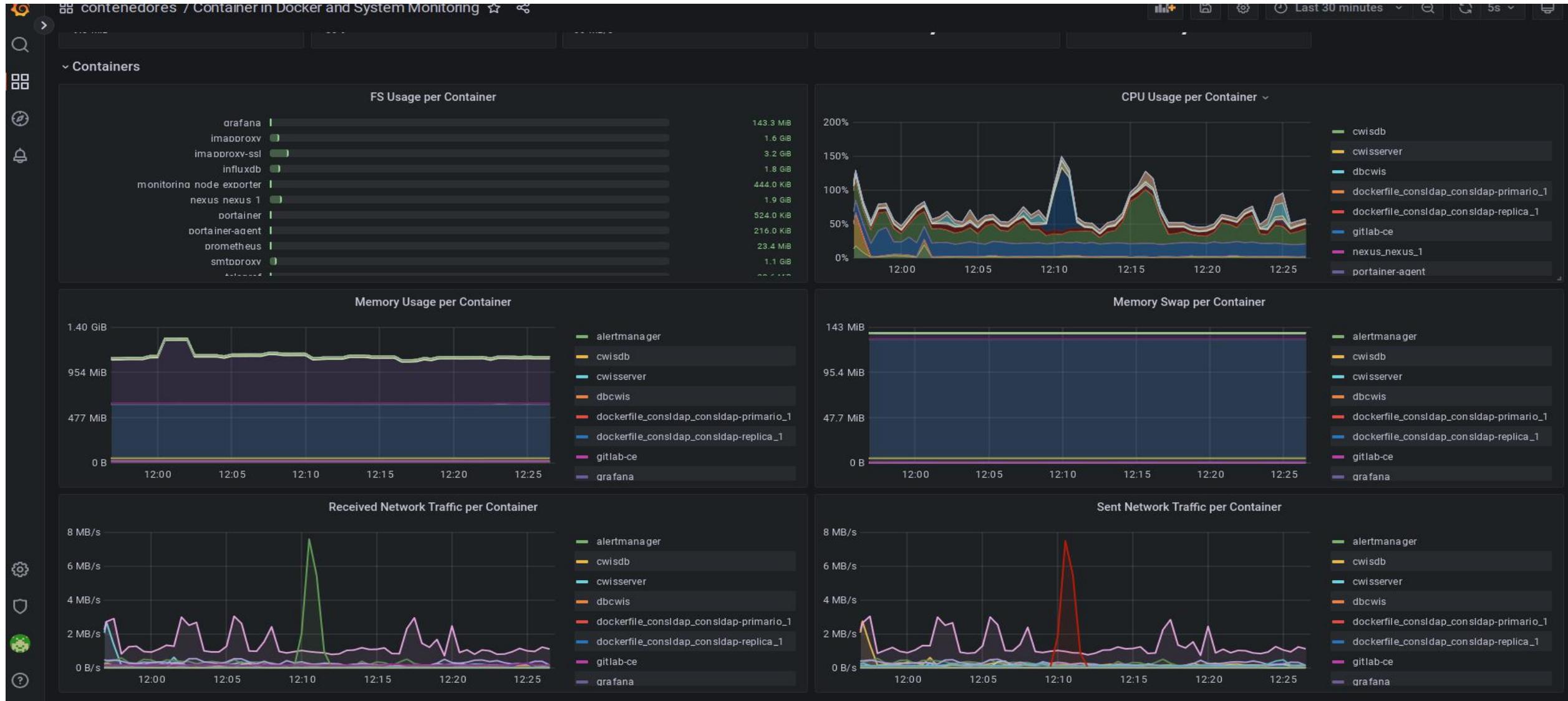
# Herramientas de Monitoreo

Map

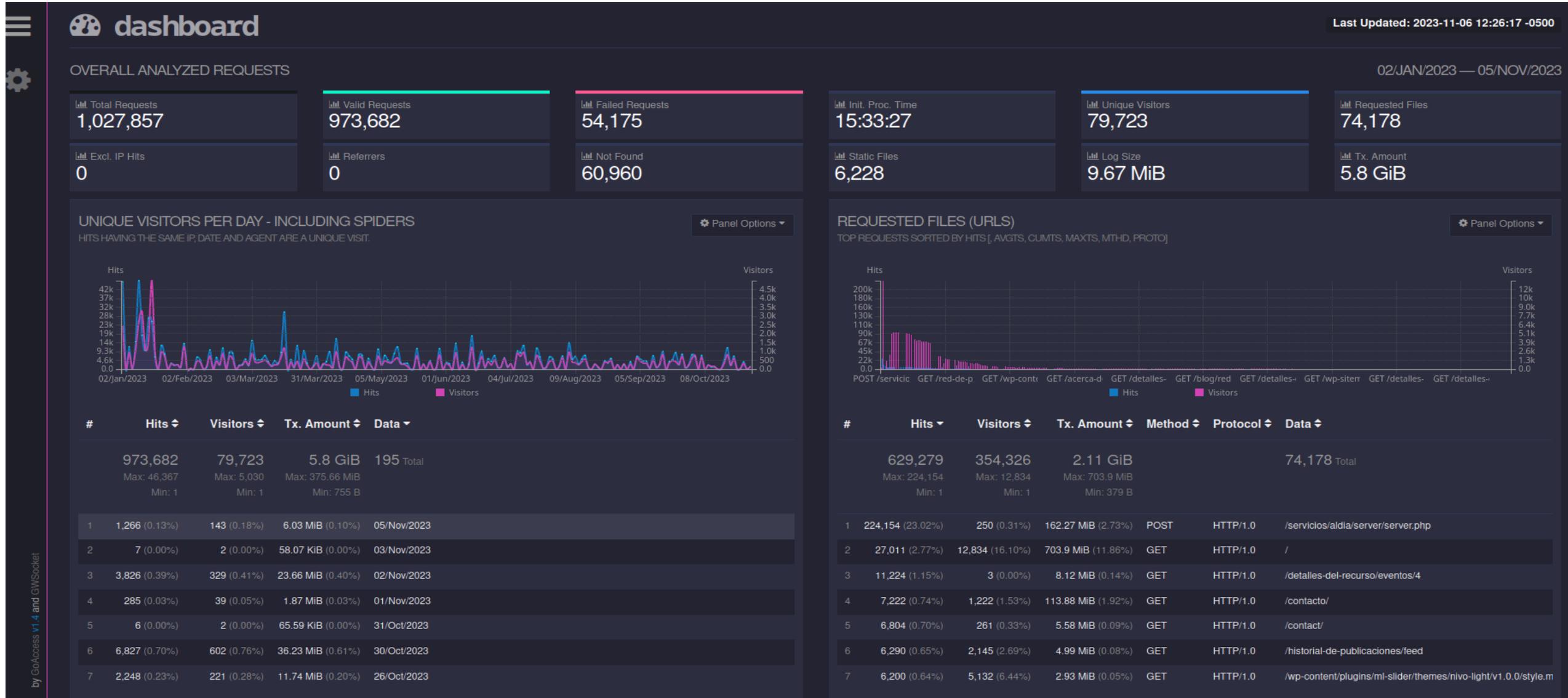
Servidores y enlace con DATACENTER de ETECOSA



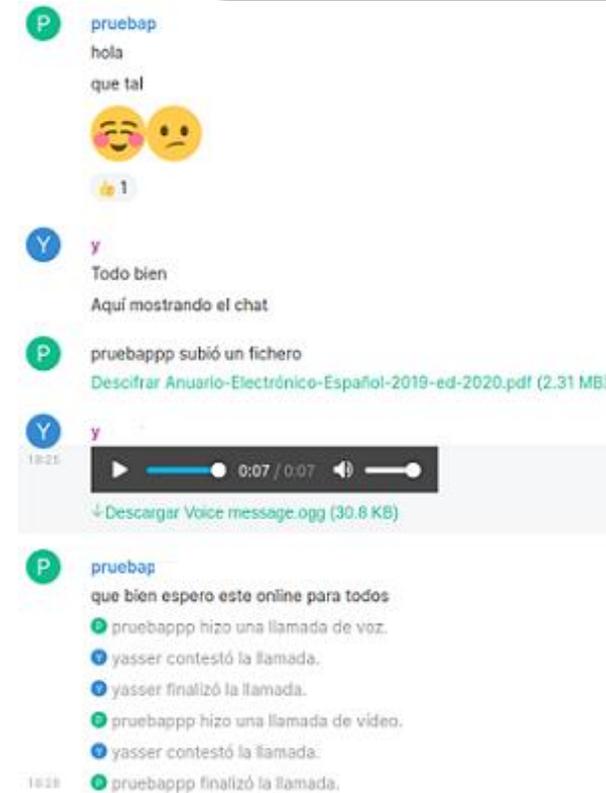
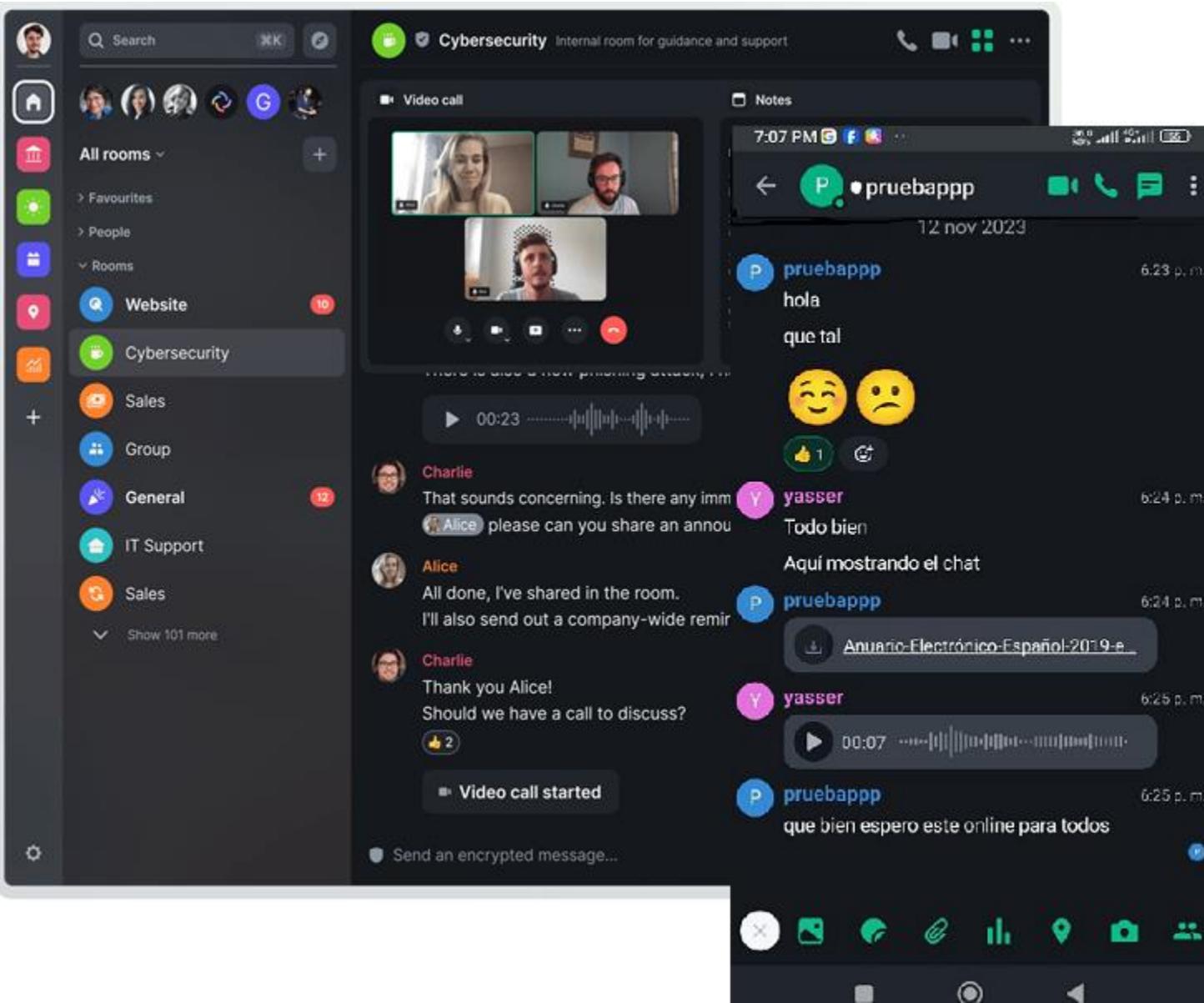
# Herramientas de Monitoreo



# Estadísticas Web con goaccess



# Servicio de mensajería instantánea Privado

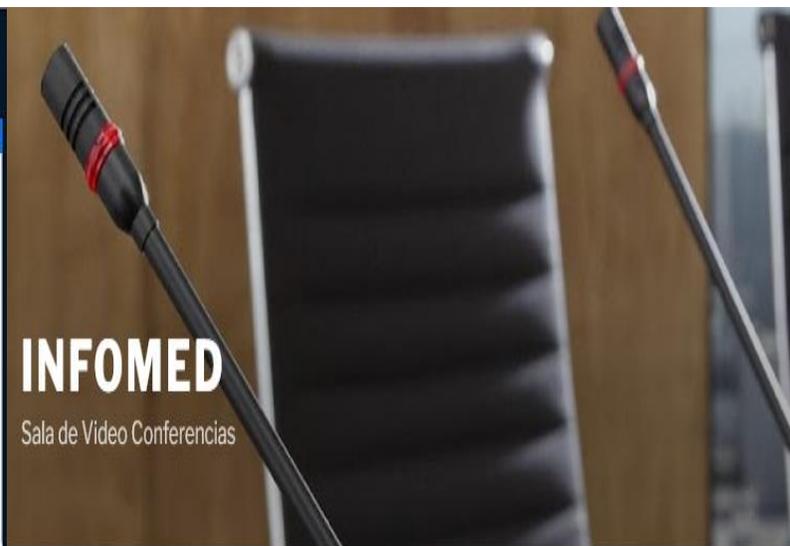


# Servicio de Videoconferencia Privado

The screenshot shows a web browser interface for a BigBlueButton meeting. On the left, there is a 'Public Chat' sidebar with a message from 'Jorge Yasser Pérez' at 8:03 PM saying 'hola a todos'. The main area displays a 'Welcome To BigBlueButton' slide with the following features:

- CHAT**: Send public and private messages.
- WEBCAMS**: Hold visual meetings.
- AUDIO**: Communicate using high quality audio.
- EMOJIS**: Express yourself.
- BREAKOUT ROOMS**: Group users into breakout rooms for team collaboration.
- POLLING**: Poll your users anytime.
- SCREEN SHARING**: Share your screen.
- MULTI-USER WHITEBOARD**: Draw together.

At the bottom of the slide, it says: 'For more information visit [bigbluebutton.org](http://bigbluebutton.org) →'. The slide is titled 'BIREME' and includes a 'b' logo.

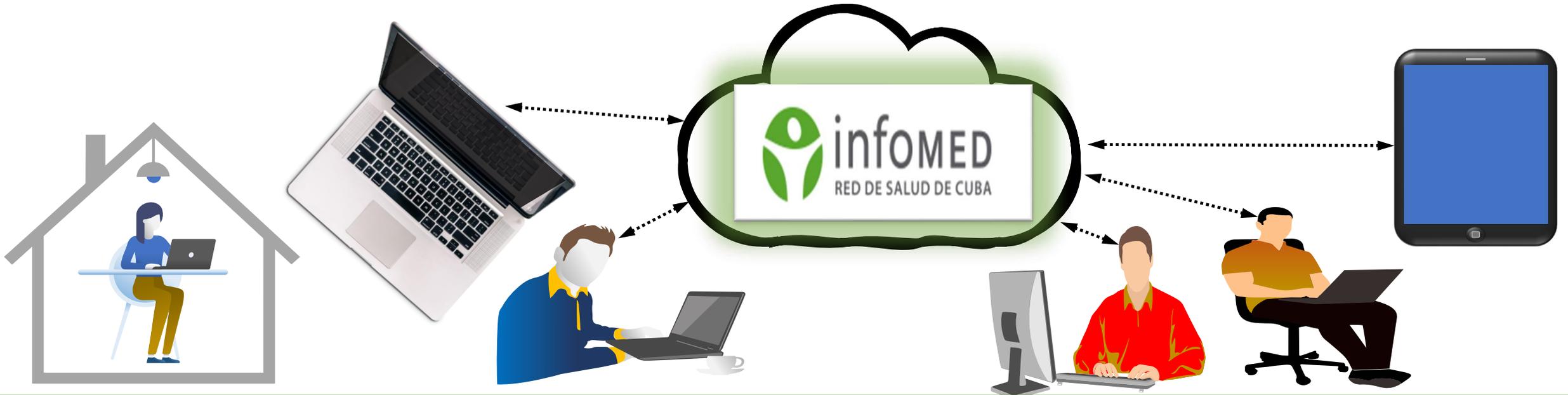


The screenshot shows a meeting page for 'Sala de Video Conferencias de Infomed'. The page has a white background and a dark blue header. The main content area is titled 'ENTRADAS' and contains the following information:

- 19 OCTUBRE, 2019**
- Sala de Video Conferencias de Infomed**
- Meeting:** Cibacal 2023
- Name:** [Empty input field]

Below the meeting information, there is a paragraph of text: 'Bienvenido a la Sala de Video Conferencias, lugar para mantener una comunicación activa y dinámica con las instituciones de Salud de Cuba. Las normas para el desarrollo y el uso del servicio las puede encontrar en el siguiente dirección.'

# Sistema de nube privado



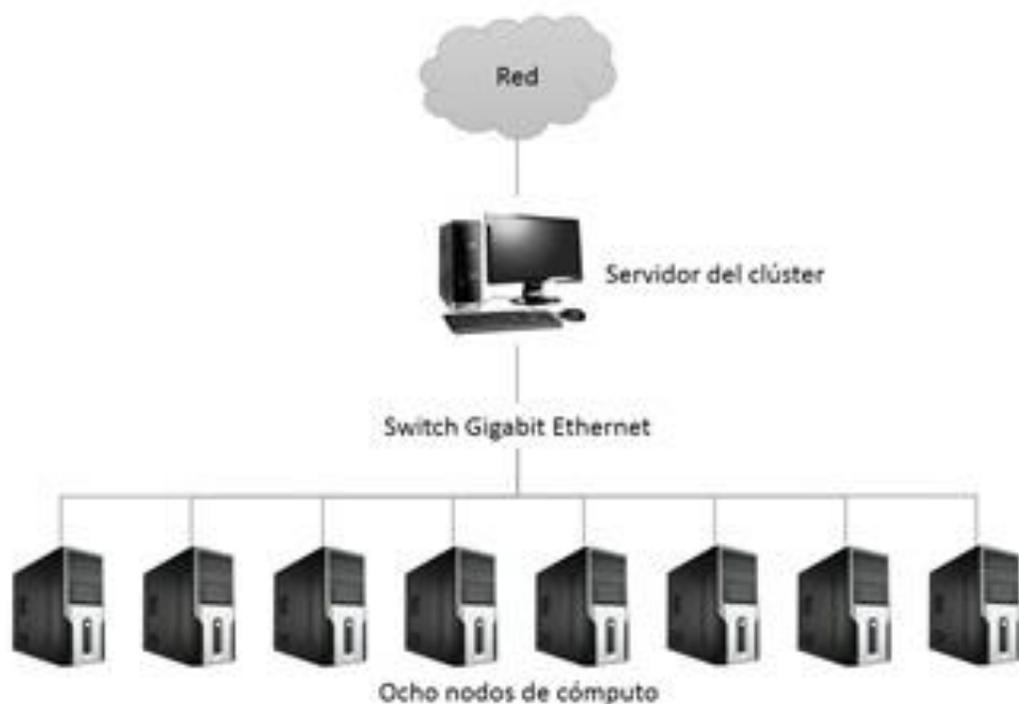
| Todos los archivos |                          | Nombre                                   | Tamaño  | Modificado   |
|--------------------|--------------------------|--|---------|--------------|
| Reciente           | <input type="checkbox"/> | dayami                                   | 3.9 MB  | hace 2 años  |
| Favoritos          | <input type="checkbox"/> | docker                                   | 28.9 MB | hace un año  |
| Compartidos        | <input type="checkbox"/> | Documents                                | 64.9 MB | hace un año  |
| Etiquetas          | <input type="checkbox"/> | element                                  | 13.7 MB | hace 2 años  |
|                    | <input type="checkbox"/> | Notas                                    | 2 KB    | hace 9 meses |
|                    | <input type="checkbox"/> | Photos                                   | 5.4 MB  | hace 3 años  |
|                    | <input type="checkbox"/> | Talk                                     | 0 KB    | hace 3 años  |
|                    | <input type="checkbox"/> | 20a008c8-6820-4a02-aeb4-61d7f9c3db91.pdf | 8.1 MB  | hace 9 meses |



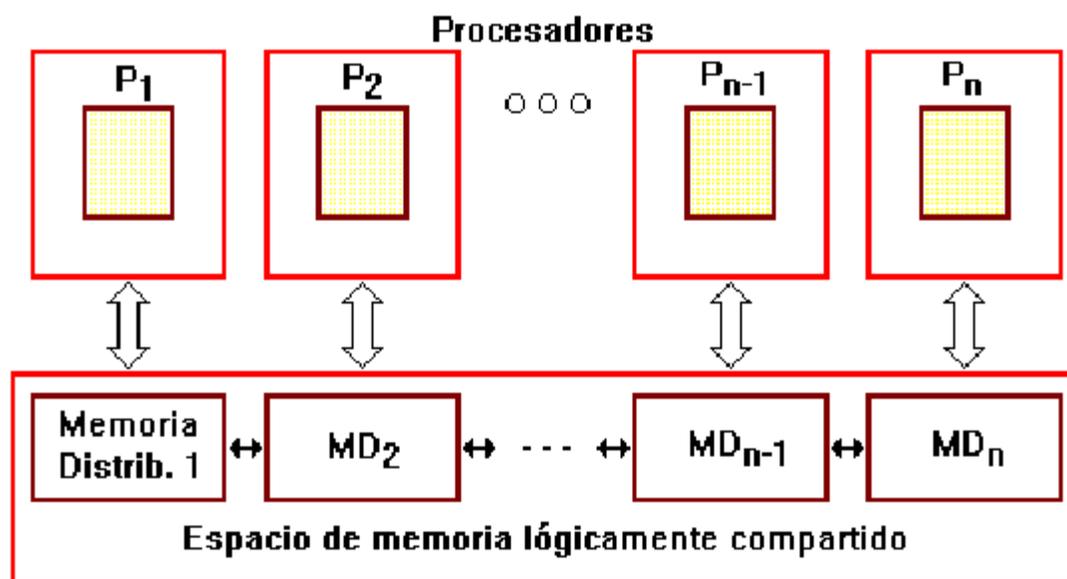
# Sistemas de salva



# Procesamiento en paralelo (en desarrollo)



## PROCESAMIENTO PARALELO ESCALABLE



El hardware direcciona los accesos a los bloques de memoria distribuida