# Network and Infrastructure Technical Requirements

Domains, ports, power and physical infrastructure required to install and operate the simulator inside a corporate network.

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2.0

Addressed to the Organization's IT and networking teams. To configure the corporate firewall or proxy, sections 01 and 02 are enough; WiFi configuration and casting to a PC are in sections 03 and 04, and room preparation (power and environment) in sections 06 and 07. It complements the Technical, Operational and Continuity Policies and the Security document.

# 01. Domain and ports — Yoy Account

For client devices to authenticate, synchronise licences and send usage reports to the Yoy Account platform, the following domain and port must be allowed in the corporate firewall and/or proxy rules.

### Platform domain

```
accounts.yoy.cl  (production)
```

### Required port

| Port | Protocol | Direction | Purpose | Priority |
|---|---|---|---|---|
| `443` | TCP | Device → Internet | The only port used by the client device to communicate with Yoy Account: OAuth2 authentication (client credentials), licence synchronisation and usage reports. All over HTTPS/REST. | **Mandatory** |

**One-way outbound communication**

All communication is outbound over HTTPS (443), initiated by the client device. No inbound port needs to be opened from the internet into the customer's internal network.

**Note on corporate SSL inspection**

If the corporate proxy performs SSL inspection (MITM) with its own certificate, an exception must be added for `accounts.yoy.cl`: the device validates the server's standard certificate, and unauthorised interception breaks the connection.

**Access control at application level, not by IP**

Each device's access is validated by application credentials (authorised device identifier + secret key, OAuth2 machine-to-machine protocol) sent with every request, not by network origin. No IP address whitelisting is required.

# 02. Meta Quest headsets

The headsets must also communicate with Meta's infrastructure for account authentication, content download from Meta's servers and system updates. These domains must be included in the whitelist with priority over any category-based blocking rule (e.g. "social networks").

- `*.oculus.com`
- `*.meta.com`
- `*.facebook.com`
- `*.fbcdn.net`
- `*.oculuscdn.com`
- `securecdn.oculus.com`
- `scontent.oculuscdn.com`
- `static.oculus.com`
- `telemetry.oculus.com`
- `graph.facebook.com`
- `edge-mqtt.facebook.com`

> **Important note**
>
> The domains `*.facebook.com` and `*.fbcdn.net` are often blocked automatically by corporate web filtering policies. Blocking them completely prevents applications from being downloaded and updated on the headsets.

| Port | Protocol | Direction | Purpose | Priority |
|---|---|---|---|---|
| `443` | TCP | Headset → Internet | Operation of the headset's operating system, content download from Meta's servers and updates (including VR drivers). | **Mandatory** |
| `123` | UDP | Headset → Internet | Time synchronisation (NTP). Without the correct time, SSL/TLS certificates fail and the headset cannot authenticate with any server, Yoy Account included. | **Mandatory** |

# 03. WiFi network configuration

Meta Quest headsets have specific wireless network requirements to guarantee stable operation during sessions and to enable casting to a PC.

### Recommended configuration

- **5 GHz band** — mandatory for smooth casting to a PC; the 2.4 GHz band has more interference and less bandwidth
- Minimum standard: **WiFi 5 (802.11ac)** — WiFi 6 (802.11ax) recommended
- Authentication: **WPA2-PSK** or WPA2-Enterprise
- Dedicated VLAN for headsets (good segmentation practice)
- DHCP with a range assigned to the devices' MAC addresses

### Configurations to avoid

- **AP Isolation enabled** — prevents communication between the headset and the PC for casting over WiFi
- **Captive portal** — the headsets have no web browser with which to complete the portal authentication
- Headsets and PCs on **different VLANs** without a routing rule — blocks WiFi casting
- Exclusive use of the **2.4 GHz band** — high latency and degraded streaming quality

> **Estimated bandwidth**
>
> We recommend guaranteeing at least **20 Mbps per headset in simultaneous use**. Casting to a PC adds roughly 10–15 Mbps more per headset.

# 04. Casting the headset view to a PC

**Applies to standalone products.** Casting is done through **Meta Quest Developer Hub (MQDH)**, Meta's official tool for viewing in real time what is happening inside the headset on the instructor's or operator's screen.

**✓ USB-C to USB-C — Recommended**

- Requires a USB-C 3.1 Gen 2 port or higher on the PC
- Bandwidth up to **10 Gbps**, lower latency
- Explicitly recommended by Meta for best performance

**USB-C to USB-A — Compatible**

- Works with any PC with a USB-A 3.0 port
- Bandwidth limited to **5 Gbps**
- Suitable for occasional use or as a fallback

### Wireless WiFi connection (alternative)

| Requirement | Detail |
|---|---|
| WiFi network | Headset and PC on the same subnet (same VLAN). 5 GHz band mandatory. |
| Network port | `5555 TCP` allowed between headset and PC on the internal network (wireless ADB). |
| Quality | Lower stream resolution compared with USB-C to USB-C. |

# 05. Additional access for remote support

In addition to Yoy Account and Meta's domains (section 02, which already cover VR driver updates), outbound access is needed to the following platforms for remote support and updates.

### TeamViewer (remote support)

Domains: `*.teamviewer.com`, `*.teamviewer.net`
Outbound ports: `TCP 5938` (primary), `TCP 443` (alternative), `TCP 80` (fallback).

### GitHub (updates)

Pulling from authorised private repositories. Outbound access to: `github.com`, `api.github.com`, `raw.githubusercontent.com`.

### Google Drive (support files)

Domains: `drive.google.com`, `accounts.google.com`, `googleapis.com`.

# 06. Power requirements

Components to be connected to the mains and their estimated consumption:

| Component | Estimated consumption |
|---|---|
| LED TV | 120 W (per television used) |
| High-end PC | 450 W – 700 W |
| Meta Quest 3S headset with charger | 25 W |

**Power point**

Total consumption depends on how many televisions are installed. We recommend a power point with at least **1,000 W available** and a working earth connection; preferably on a dedicated circuit, given the combined consumption of this equipment.

**Power fluctuation**

Where the installation is in a location with high power fluctuation, we recommend installing a **UPS**.

## 07. Physical environment requirements

These requirements help the system reduce headset tracking problems and avoid damage to its internal displays.

1. Reduce natural light as much as possible by using curtains.
2. Good artificial lighting.
3. Remove large highly reflective surfaces (such as mirrors).
4. Air conditioning.

# 08. Platform security posture

Technical and access controls implemented on the Yoy Account platform, which concentrates the management of licences, users and usage reports. See the Security — Methodologies, Technologies and Communication document for the full detail.

### Infrastructure

- Hosted on **Oracle Cloud Infrastructure** — Santiago de Chile region
- Proxy, DNS and firewall managed by **Cloudflare**, with DDoS protection
- Continuous automated and reactive monitoring
- Automated backups through periodic server snapshots

### Access control

- Strict roles per user and organization — no cross-customer access
- Mandatory device authentication before any communication begins
- Sign-in with username/password or with Google (OAuth)
- Two-factor authentication (2FA via TOTP or WebAuthn/passkeys), configurable per organization

### Security in transit

- All communication over **HTTPS / TLS 1.2+**
- SSL certificate managed and renewed automatically
- No sensitive data exposed in URL parameters

### Data at rest

- Data stored in a database with network-restricted access
- Direct database access only from the server's internal infrastructure
- No public exposure of the database layer

## 09. Technical support

**Service hours:** Monday to Friday, 09:00 to 18:00 (Chile time).

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