

# DRC INSIGHT Central Office Services (COS) Installation and Troubleshooting Ubuntu Linux

**Audience:** IT Administrators / MSP Engineers

**Platform:** Ubuntu 22.04 / 24.04 + Chromebook environments

## Overview

DRC INSIGHT Central Office Services (COS) is a local content hosting system that allows testing devices to retrieve assessment content from a local server instead of the internet.

**Key Concept:**

COS is a service-based HTTP system, NOT a file share.  
Devices do NOT access /opt/CentralOffice directly.

## Architecture

Testing Devices

↓

DRC INSIGHT App

↓

COS Server

↓

Local Content (/opt/CentralOffice/content\_fs)

↓

Fallback → DRC Cloud

# Installation (Ubuntu)

## 1. Update System

```
sudo apt update && sudo apt upgrade -y
```

## 2. Install Required Dependencies

```
sudo apt install -y \  
libxcb-xinerama0 \  
libalt-getopt-complete-perl \  
libxcb-icccm4 \  
libxcb-image0 \  
libxcb-keysyms1 \  
libxcb-render-util0 \  
libxcb-xkb1 \  
libxkbcommon-x11-0
```

**Critical:** Missing dependencies will cause silent installer failures or services crashing.

## 3. Fix /tmp Permissions

```
sudo chmod 1777 /tmp
ls -ld /tmp
```

## 4. Clean Previous Install

```
sudo rm -rf /opt/CentralOffice
sudo rm -f /tmp/coinstaller*.lock
```

## 5. Run Installer

```
chmod +x silent-linux.sh
sudo ./silent-linux.sh
```

---

# Registration (REQUIRED)

**Important:** You MUST open the setup URL generated during installation.

This step registers COS with DRC and enables services.

If skipped:

- Relay fails
- Contenthosting fails
- Devices cannot connect

---

# Validate Services

## Check Running Services

```
sudo /opt/CentralOffice/node \  
/opt/CentralOffice/setup/node_modules/forever/bin/forever -p  
/opt/CentralOffice list
```

Expected:

- management
- relay
- proxy
- contenthosting

## Check Ports

```
sudo ss -tulnp | grep node
```

Typical Ports:

- 55223 – Content Hosting
- 55224 – Relay
- 55225 – Proxy

## Test Service

```
curl -I http://127.0.0.1:55223
```

HTTP 404 is normal and confirms the service is running.

---

# DRC Portal Configuration

## Content Management

- Enable Content Management ? ON
- Select tests (PSSA, Keystone, CDT)
- Click Update Configuration

## Content Hosting

- Enable Content Hosting ? ON
- Load Balancer ? OFF
- Shared Content Location ? OFF

Shared content should only be used in multi-server environments.

## Proxy

- Use Proxy ? OFF

# Chromebook Configuration

## Install App

- Deploy DRC INSIGHT via Google Admin Console

## Register Device

Launch App ? Assign Device to ORG Unit ? Enter ORG ID

## Required Settings

- Display Scale = 100%
- Keyboard = US English
- Same network as COS

# Network Requirements

---

## Allowlist

```
*.drcedirect.com
```

## Ports

- 80 (HTTP)
- 443 (HTTPS)

## Internal COS Ports

```
sudo ufw allow 55223/tcp  
sudo ufw allow 55224/tcp  
sudo ufw allow 55225/tcp
```

---

## Content Validation

```
ls -lah /opt/CentralOffice/content_fs
```

```
sudo journalctl -u centralofficecontenthosting -f
```

---

# Troubleshooting

---

## Installer Fails

```
sudo chmod 1777 /tmp
sudo rm -rf /opt/CentralOffice
sudo ./silent-linux.sh
```

## Only Proxy Running

Cause: COS not registered

## Heartbeat Error

```
CO API - Heartbeat returned undefined
```

Fix:

- Complete setup URL
- Verify internet access
- Allow DRC domains

## Chromebooks Cannot Connect

- Verify ORG ID
- Check network
- Confirm ports open

---

## Validation Checklist

---

- COS services running
  - Ports listening
  - Content downloading
  - Portal configured correctly
  - Chromebooks registered
- 

## Key Takeaways

---

- COS is NOT a file server
  - Uses HTTP endpoints
  - Registration is required
  - Content hosting must be enabled
- 

### End of SOP

---

Revision #3

Created 2026-04-18 13:09:46 UTC by joliveira

Updated 2026-04-18 13:36:42 UTC by joliveira