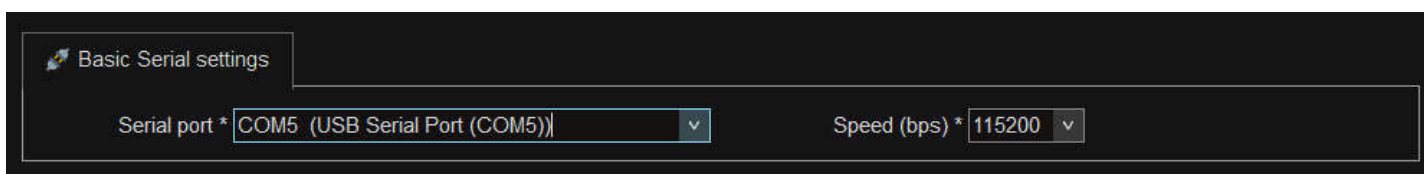
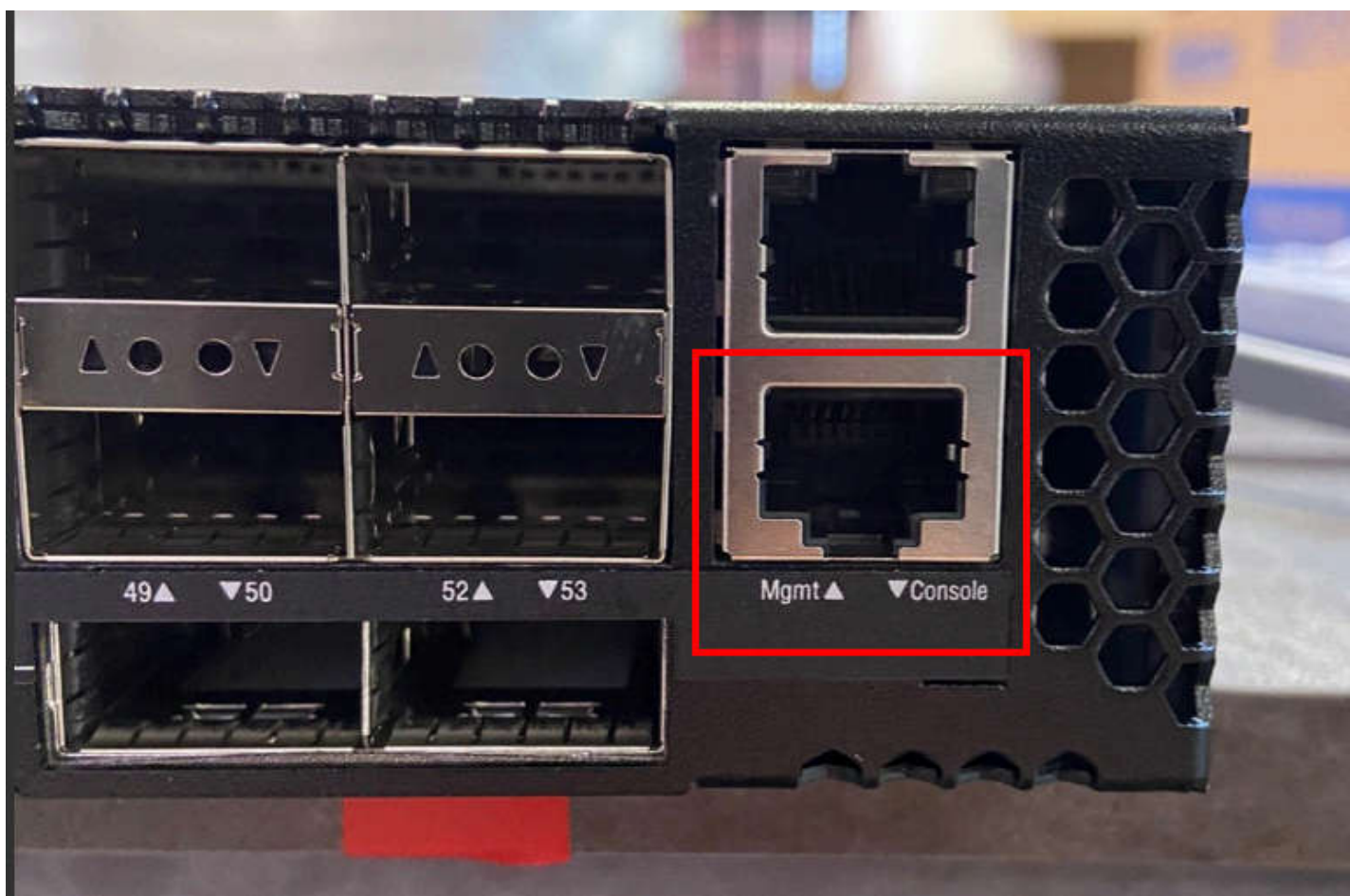


Instalação PicOS com o ONIE

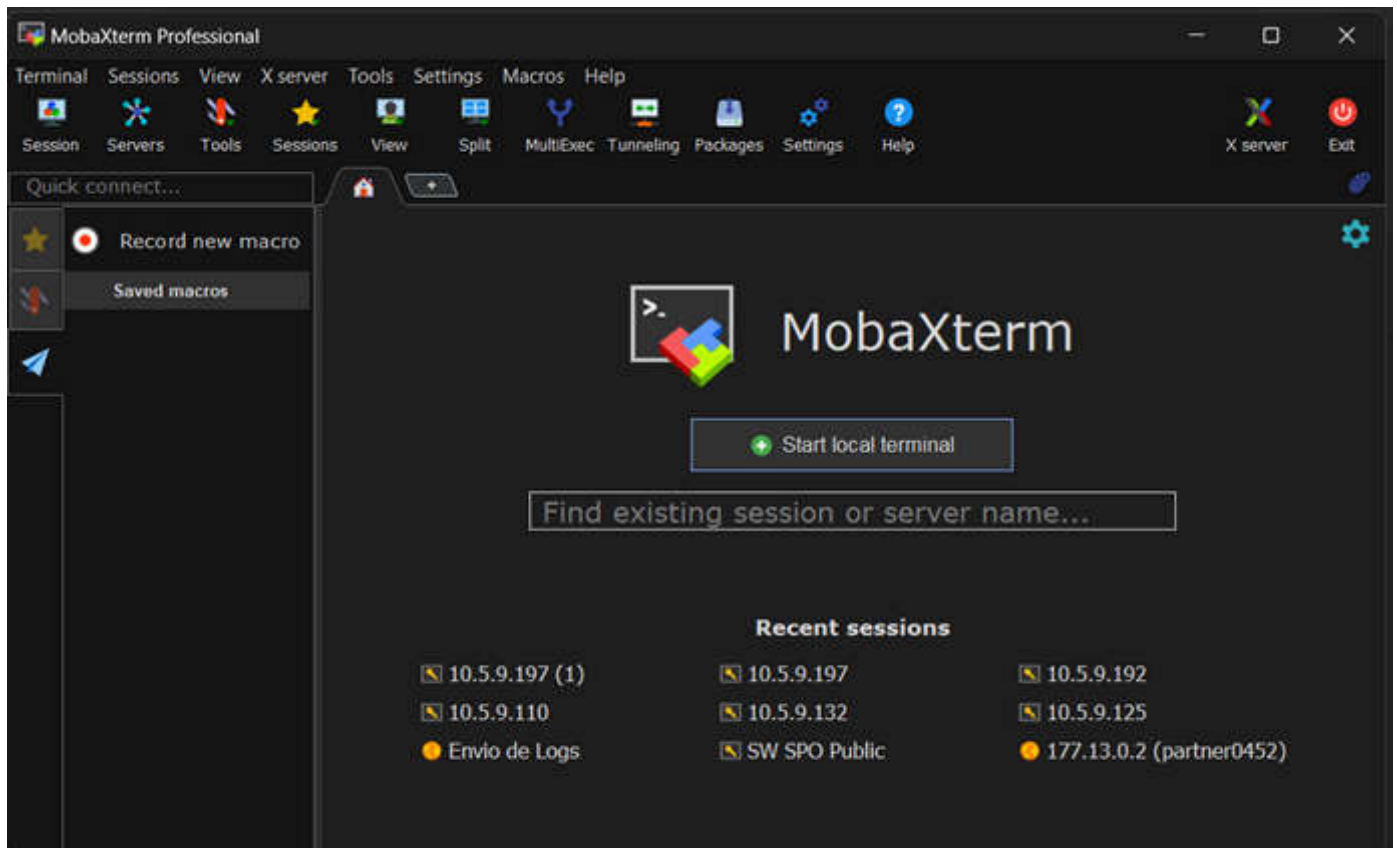
Instalação PicOS utilizando o ONIE

Conecte a porta console do switch utilizando um cabo usb serial com as seguintes configurações:



A porta COM pode variar dependendo do seu computador.

Nesse exemplo utilizamos o MobaXterm para conectar ao switch.



Ligue o switch e acompanhe o processo de boot pelo console

```
Initializing Intel(R) Boot Agent GE v1.5.43
PXE 2.1 Build 092 (WfM 2.0)
Press Ctrl+S to enter the Setup Menu..
```

```
Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc.
BIOS Date: 03/10/2016 11:50:35 Ver:
Press <ESC> to enter setup.
```

Aguarde até que seja mostrada a tela do Grub

```
GNU GRUB version 2.02~beta2+e4a1fe391
```

```
+-----+
|*ONIE: Install OS
| ONIE: Rescue
| ONIE: Uninstall OS
| ONIE: Update ONIE
| ONIE: Embed ONIE
| DIAG: Accton Diagnostic (accton_as7312_54x)
+-----+
```

Use the ^ and v keys to select which entry is highlighted.
Press enter to boot the selected OS, `e' to edit the commands
before booting or `c' for a command-line.

Selecione a opção *ONIE: Install OS

```
ONIE: OS Install Mode ...
Version   : 2016.08.00.04
Build Date: 2016-11-11T10:00+0800
Info: Mounting kernel filesystems... done.
Info: Mounting ONIE-B00T on /mnt/onie-boot ...
Installing for i386-pc platform.
Installation finished: mktemp urandom read with 18 bits of entropy available
ished. No error reported.
Info: Using eth0 MAC address: a8:2b:b5:28:45:0f
Info: Using eth1 MAC address: a8:2b:b5:28:45:10
Info: Using eth2 MAC address: a8:2b:b5:28:45:11
Info: eth0: Checking link...
down.
ONIE: eth0: link down. Skipping configuration.
```

Desabilite o discovery do ONIE para que as mensagens não interrompam a sua digitação:

```
ONIE:/ # onie-discovery-stop
```

Conecte um pendrive menor que 32Gb com os arquivos do PicOS já descompactados:

```

Info: eth1: Checking link... scsi 6:0:0:0: Direct-Access Generic Flash Disk 8.07 PQ: 0 ANSI: 4
sd 6:0:0:0: [sdb] 123469824 512-byte logical blocks: (63.2 GB/58.9 GiB)
sd 6:0:0:0: [sdb] Write Protect is off
sd 6:0:0:0: [sdb] Write cache: disabled, read cache: enabled, doesn't support DPO or FUA
sd 6:0:0:0: [sdb] Attached SCSI removable disk
down.
ONIE: eth1: link down. Skipping configuration.
Info: eth2: Checking link...

down.
ONIE: eth2: link down. Skipping configuration.
ONIE: Failed to configure eth0 interface
ONIE: Failed to configure eth1 interface
ONIE: Failed to configure eth2 interface
Starting: dropbear ssh daemon... done.
Starting: telnetd... done.
discover: installer mode detected. Running installer.
Starting: discover ... done.

Please press Enter to activate this console. To check the install status inspect /var/log/onie.log.
Try this: tail -f /var/log/onie.log

** Installer Mode Enabled **
ONIE:/ #

```

O pendrive deve ser detectado:

```

ONIE:/ # scsi 8:0:0:0: Direct-Access SanDisk Cruzer Blade 1.26 PQ: 0 ANSI: 5
sd 8:0:0:0: [sdb] 3908352 512-byte logical blocks: (2.00 GB/1.86 GiB)
sd 8:0:0:0: [sdb] Write Protect is off
sd 8:0:0:0: [sdb] Write cache: disabled, read cache: enabled, doesn't support DPO or FUA
sd 8:0:0:0: [sdb] Attached SCSI removable disk

```

Caso tenha dificuldade em encontrar o pendrive digite:

```
$ sudo fdisk -l
```

```

Disk /dev/sdb: 15.7 GB, 15664676864 bytes
255 heads, 63 sectors/track, 1904 cylinders, total 30595072 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00000000

Device Boot Start End Blocks Id System
/dev/sdb1 * 32 30595071 15297520 c W95 FAT32 (LBA)

```

Criar uma partição

```
ONIE:/ # mkdir /mnt/picos
```

```
ONIE:/ # mkdir /mnt/picos
```

Monte o volume

```
ONIE:/ # mount /dev/sdb1/ mnt/picos/
```

```
ONIE:/ # ls /dev/sdb
sdb  sdb10  sdb12  sdb14  sdb2  sdb4  sdb6  sdb8
sdb1  sdb11  sdb13  sdb15  sdb3  sdb5  sdb7  sdb9
ONIE:/ # mount /dev/sdb1 /mnt/picos/
FAT-fs (sdb1): Volume was not properly unmounted. Some data may be corrupt. Please run fsck.
ONIE:/ # ls /mnt/picos/
onie-installer-picos-4.4.2-18af4dc206-x86.bin
onie-installer-picos-4.4.2-18af4dc206-x86.bin.md5
onie-installer-picos-4.4.2-18af4dc206-x86.bin.sha512
```

Para instalar o S.O. digite o comando

```
ONIE:/# onie-nos-install /mnt/picos/onie-installer-picos-
4.4.2.18af4dc206-x86.bin
```

O processo de instalação segue;

```
Install image to /dev/sda5, please wait... B2
Install GRUB on /dev/sda4
Image(PICOS-4.4.2-18af4dc206) successfully installed.
ONIE: NOS install successful: /mnt/picos/onie-installer-picos-4.4.2-18af4dc206-x86.bin
ONIE: Rebooting ...
ONIE:/ # discover: installer mode detected.
Stopping: discover ... start-stop-daemon: warning: killing process 2396: No such process
done.
Stopping: dropbear ssh daemon ... done.
Stopping: telnetd ... done.
Stopping: syslogd ... done.
Info: Unmounting kernel filesystems
umount: can't umount /: Invalid argument
The system is going down NOW!
Sent SIGTERM to all processes
Sent SIGKILL tosd 4:0:0:0: [sda] Synchronizing SCSI cache
reboot: Restarting system
reboot: machine restart
```

O Switch vai reiniciar, a versão instalada já deve aparecer na tela do GRUB

GNU GRUB version 2.02~beta2+e4a1fe391

```
+-----+
|*PICOS-4.4.2-18af4dc206|
| ONIE                    |
+-----+
```

Use the ^ and v keys to select which entry is highlighted.
Press enter to boot the selected OS, 'e' to edit the commands
before booting or 'c' for a command-line.

The highlighted entry will be executed automatically in 0s.
Booting `PICOS-4.4.2-18af4dc206'

Após o boot o usuário e senha inicial são

```
User: admin   Pwd: pica8
```

No primeiro login o sistema vai solicitar a troca da senha inicial

```
PICOS login: admin
Password:
You are required to change your password immediately (administrator enforced)
Changing password for admin.
Current password:
New password:
Retype new password:
```

O boot segue:

```
Linux PICOS 5.10.23 #1 SMP Thu Jul 6 19:41:46 CST 2023 x86_64
Synchronizing configuration ... OK.
*****
NOTICE TO USERS

This system is running a trial version. In this version only a
limited number of ports will be available for use, please refer
to config document for details.

To activate every port, a license should be installed in the system. Please
contact the support team for any help regarding the installation or the
acquisition of such license.

*****
Welcome to PICOS
admin@PICOS>
admin@PICOS>
```

O PicOS ainda está sem licença, digite o comando `license show` e informe o número do Hardware ID para solicitar a licença.

```
admin@PICOS> license show
```

```
Welcome to PICOS
admin@PICOS> license show
No license installed. Use below information to create a license.
Type: S25G
Hardware ID: 0316-B7BD-0DAB-5A9C
admin@PICOS>
admin@PICOS>
```

Instalando a licença do PicOS

Após receber o arquivo com a licença para o PicOS por exemplo:

```
181023.lic
```

Entre no prompt do Linux do switch e copie o arquivo para uma pasta do switch da mesma maneira que copiou o arquivo `.bin`.

O arquivo da licença deve ser instalado com comando

```
license -i name.lic
```

Exemplo de instalação de licença:

```
admin@XorPlus$ cd /etc/picos
admin@XorPlus$ ls -l
total 32
```

```
drwxrwxr-x 2 root xorp 4096 Feb 4 22:00 ./
drwxrwxr-x 60 root xorp 4096 Feb 4 21:56 ../
-rw-rw-r-- 1 root xorp 26 Feb 4 18:27 fs_status
-rw-r--r-- 1 root root 399 Feb 4 21:59 js.lic
-rw-rw-r-- 1 root xorp 247 Sep 4 2014 license.conf
-rw-rw-r-- 1 root xorp 183 Aug 10 2014 p2files.lst
-rw-rw-r-- 1 root xorp 488 Feb 4 18:28 picos_start.conf
-rw-r--r-- 1 root root 251 Feb 4 22:00 public.key
admin@XorPlus$ sudo license -i js.lic
```



License successfully added, the switch need to be rebooted to activate the license.

```
admin@XorPlus$ ls -l
```

```
total 32
```

```
drwxrwxr-x 2 root xorp 4096 Feb 4 22:00 ./
drwxrwxr-x 60 root xorp 4096 Feb 4 21:56 ../
-rw-rw-r-- 1 root xorp 26 Feb 4 18:27 fs_status
-rw-rw-r-- 1 root xorp 247 Sep 4 2014 license.conf
-rw-rw-r-- 1 root xorp 183 Aug 10 2014 p2files.lst
-rw-r--r-- 1 root root 382 Feb 4 22:00 pica.lic
-rw-rw-r-- 1 root xorp 488 Feb 4 18:28 picos_start.conf
-rw-r--r-- 1 root root 251 Feb 4 22:00 public.key
-rw-r--r-- 1 root root 251 Feb 4 22:00 switch-public.key
admin@XorPlus$
```

Se a instalação ocorrer com sucesso, após o comando *license -i*, a seguinte mensagem deve aparecer:



License successfully added, the switch need to be rebooted to activate the license.

Para ativar a licença o switch deve ser reinicializado.

Execute novamente o comando *license show* e verifique se a licença foi corretamente aplicada.



Fique atento para que em **FEATURE** apareça **Base Product, Layer 3 e OpenFlow** como nos dois exemplos abaixo:

```
Synchronizing configuration ... OK.
Welcome to PICOS
admin@bsa-sw-01> license show
{
  "Type": "10GE",
  "Feature": ["Base Product", "Layer3", "OpenFlow"],
  "Support End Date": "2024-08-22",
  "Hardware ID": "91B0-CE07-C66E-866D",
  "Feature Speed": "S25G"
}
admin@bsa-sw-01> █
```

```
Synchronizing configuration ... OK.
Welcome to PICOS
admin@sdr-sw-01> license show
{
  "Mode": "site",
  "Feature": ["Base Product", "Layer3", "OpenFlow"],
  "Support End Date": "2024-10-19",
  "Site Name": "Openglobe-20231018",
  "Serials": ["731254X1718146", "731254X1718092", "731254X1718091"]
}
admin@sdr-sw-01> █
```

Upgrade remoto de firmware

Para atualizar remotamente o firmware faça o upload do arquivo .bin diretamente para o dispositivo.
Do switch inicie o shell do Linux

```
1 | waitas@cta-sw-02> start shell sh
```

Certifique que o arquivo onie-installer-picos-4.4.4.21-d339711430-x86.bin está na pasta /cftmp

```
1 | waitas@cta-sw-02:/cftmp$ ls -lah
2 | total 251M
3 | drwxr-xr-x  3 root xorp 4.0K Jun 28 22:29 .
4 | drwxr-xr-x 23 root root 4.0K Jun 18 12:03 ..
5 | drwxr-xr-x  2 root xorp 4.0K Jun 18 11:55 auto
6 | -rw-r--r--  1 root xorp 251M Jun 28 22:29 onie-installer-picos-4.4.4.21-
   | d339711430-x86.bin
```

Verifique a versão atual instalada no switch

```
1 | waitas@cta-sw-02:/cftmp$ version
2 | Copyright (C) 2009-2023 Pica8, Inc.
3 | =====
4 | Base ethernet MAC Address      : a8:2b:b5:28:26:7c
5 | Hardware Model                 : AS7312_54X
```

```
6 | Linux System Version/Revision : 4.4.3/e856e8b71e
7 | Linux System Released Date   : 11/28/2023
8 | L2/L3 Version/Revision       : 4.4.3/e856e8b71e
9 | L2/L3 Released Date          : 11/28/2023
10 | OVS/OF Version/Revision      : 4.4.3/e856e8b71e
11 | OVS/OF Released Date         : 11/28/2023
```

Execute os seguintes comandos para iniciar o upgrade do firmware.

```
1 | waitas@cta-sw-02:/cftmp$ sync
2 | waitas@cta-sw-02:/cftmp$ sudo upgrade onie-installer-picos-4.4.4.21-d339711430-
3 | x86.bin
4 | Verifying image checksum ... OK.
5 | Preparing image archive ... OK.
6 | Checking prerequisites
7 |     Hardware compatibility (as7312_54x)           [OK]
8 |     Configuration file (/pica/config/pica_startup.boot) [OK]
9 |     License                                         [OK]
10 |     GRUB partition mount                          [OK]
11 |     Boot option (PICOS-4.4.3-e856e8b71e)         [OK]
12 |     Partition label                               [OK]
13 | Stopping PICOS
14 | Stage 1 of upgrade
15 |     Extracting kernel and ramdisk                 [OK]
16 | Stage 1 of PICOS-4.4.4.21 upgrade successful!
17 | Please find log at /cftmp/upgrade.log!
18 | PRESS SPACE KEY TO STOP REBOOT
19 | Countdown: 10 9 8 7 6 5 4 3 2 1 ...
20 | Rebooting...
21 | waitas@cta-sw-02:/cftmp$ Connection to 10.10.0.47 closed by remote host.
    Connection to 10.10.0.47 closed.
```

Ao final da atualização o switch vai reiniciar para aplicar o novo firmware

Logar novamente no switch, ele deve estar disponível em aproximadamente 5 a 6 minutos após o reboot.

```
1 | ssh waitas@10.10.0.47
2 | waitas@10.10.0.47's password:
3 | X11 forwarding request failed on channel 0
4 | Synchronizing configuration...OK.
5 | Welcome to PICOS
```

Verifique novamente a versão do firmware atual.

```
1 | waitas@cta-sw-02> show version
2 | Copyright (C) 2009-2026 Pica8, Inc.
3 | =====
4 | Base ethernet MAC Address      : a8:2b:b5:28:26:7c
5 | Hardware Model                 : AS7312_54X
6 | Linux System Version/Revision : 4.4.4.21/d339711430
7 | Linux System Released Date    : 01/27/2026
8 | L2/L3 Version/Revision       : 4.4.4.21/d339711430
9 | L2/L3 Released Date          : 01/27/2026
10 | OVS/OF Version/Revision      : 4.4.4.21/d339711430
11 | OVS/OF Released Date         : 01/27/2026
```