

Space Details

Key:	swFOCE
Name:	901219 - swFOCE
Description:	
Creator (Creation Date):	kgomes (Apr 25, 2014)
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Home

This page last changed on Apr 25, 2014 by [kgomes](#).

This is the home page for the 901219 - swFOCE space.

Installing FOCE Software on a Linux Server

This page last changed on Apr 28, 2014 by [bobh](#).

Background

QuickFOCE consists of an electronics can containing power conversion hardware and a Digi Portserver TS4 MEI, a 4 port Ethernet to serial converter. The 4 serial ports service:

- A Seabird SBE-52 CTD mounted to measure the ambient (background) water
- Two Seabird SBE-18S digital pH sensors -- one for in the chamber, one for ambient conditions
- A motor controller

These instruments are sampled and controlled by a Linux workstation on shore. In the case of SW-FOCE at Hopkins, this server is [kelpbed.swfoce.mbari.org](#). The workstation for the MBARI test tank setup is [fangtooth.shore.mbari.org](#).

Linux

The preferred, tested Linux setup is to install CentOS 6.5. Once CentOS is installed, you need to install the following required packages as **root** (some of these are required for the Digi driver, some for the xFOCE software):

- yum update
- yum install gcc
- yum install gcc-c++.x86_64
- yum install libtool
- yum install kernel-devel
- yum install emacs (my preferred editor, YMMV)
- yum install ncurses-devel ncurses
- yum install tcl
- yum install tk
- yum install openssl-devel
- yum install libuuid-devel
- yum install mercurial

Digi Driver

The correct version of the Digi driver for CentOS (as of this writing) is **dgrp-1.9**. The gzipped tar file is in the ProjectLibrary under "901219 SW-FOCE\Software\QuickFOCE\Digi\40002086_S.tgz"

- Extract this tarball to somewhere convenient
- ./configure
- make all
- su (the rest needs to be done as root)
- make install
- make postinstall
- Edit /etc/group to add ops to the root group

You can now run the Digi gui, **dgrp_gui**. Mapping the correct Portserver should be obvious. We recommend that you use static IP addressing for the Portserver. At SW-FOCE, the reserved address is **swfoce-serial.swfoce.mbari.org**.

xFOCE Software

To build the xFOCE software, you'll need to find and download the following:

- The xFOCE source. This can be obtained via Mercurial via the command line: `*hg clone https://bitbucket.org/klheadley/xfoce*`
- **libmodbus** -- as of this writing, the appropriate version is **libmodbus_3.0.6.tar.gz**. You may obtain it from [libmodbus.org](#).
- **zeromq** and **czmq**, both available from [zeromq.org](#). Due to a build incompatibility (which hopefully will be resolved soon), as of this writing you'll need slightly old versions of the above. Use **zeromq-4.0.1.tar.gz** and **czmq-2.0.2.tar.gz**.

Support Software

For each of the support packages, **libmodbus**, **zeromq**, and **czmq**, you need to do the following:

- untar the .gz file
- cd into the directory just created
- ./configure
- make
- (as root) make install

xFOCE software

- edit configure.ac to change to AC-PREREQ([2.60]), and to allow a \$host other than those configured. The default \$host clause should do a AC_MSG_WARN() rather than AC_MSG_ERR(), and use the macros from i686-pc-linux-gnu
- libtoolize -f
- aclocal
- autoconf
- automake --add-missing
- autoreconf
- ./configure
- make

You do not need to 'make install', though you may do so if you wish. But it's easiest just to run it from the build directory. To do so, you need to:

- Set the **XF_HOME** environment variable to the xFOCE install directory
- . \$XF_HOME/src/scripts/xfhome \$XF_HOME
- gwrn [-f config_file]

An example config file is included in \$XF_HOME/conf/simple.conf. So you can simply run **gwrn -f simple.conf**