

xFOCE Configuration Domains

Platform

platform ID
name
description

Messaging

sds pri/sec addr:port
ps server addr:port
ps proxy?
config proxy

Syslog

segment size
segment count
detail

Environment

xhome
conf
arch
bin
logs
sysfiles (log, conf. json)

Streams

stream IDs
topic paths
processing rules
segment size

Sampling

supervisors
[name,period]
workers
[type,instance,schedule]

Services

type ID
instance ID
source ID
name
function
location

Power Managment

power policy
power on delay

Sampling

period msec
(scheduling rule)
rbuffer
wbuffer
timeouts
retries

Log

segment sz
segment count

Resources

io port
power port
other ports

Properties

modes
device specific options

Control

algorithm
parameters
constants

SNodes

SNPorts

IO

id
device
speed
dbits
par
sbits

DIO

dir, act, sig, val

AIO

dir, [scale], [offset] [val]

```

{
  "platform":{
    "name":"gateway_0",
    "source_id":1000,
    "description": "0.3 pH offset"
  },
  "network":{
    "sdat_pri":{"host":"localhost", "port":5556},
    "sdat_sec":{"host":"localhost", "port":5566},
    "pubsub_server":{"host":"localhost", "port":5566},
    "config_server":{"host":"localhost", "port":5677},
    "pubsub_proxy":{"host":"quux.shore.mbari.org", "port":5678}
  },
  "syslog":{
    "seg_size":1024000,
    "seg_count":10,
    "detail":"INFO"
  },
  "some.service":{
    "type_id":"DTYPE_ERSATZ",
    "instance":0,
    "source_id":3001,
    "schedule":{"period_sec":10, "period_msec":0},
    "power":{"policy":"ALWAYS", "pon_delay_msec":0},
    "sampling":{"rbuf":256, "wbuf":256, "retries":3, "tmout_sec":5, "tmout_msec":0},
    "resources":[
      {"type":"RT_IO", "index":0, "res_id":"SR_IO_SNPORT00"},
      {"type":"RT_POW", "index":0, "res_id":"SR_POW_SNPORT00"}
    ],
    "streams":[
      {"stream_id":301, "prule":"LOG|PUB", "pub_topic":"PH_something"},
      {"stream_id":302, "prule":"PARSE"},
      {"stream_id":303, "prule":"PROVIDE", "sd_topic":"PH_something"}
    ],
    "properties":{"flux_caps":4}
  },
  "snodes":[
    {"id":"SR_IO_SNODE0", "io":"SR_IO_TTY1"},
    {"id":"SR_IO_SNODE1", "io":"SR_IO_TTY2"},
    {"id":"SR_IO_SNODE2", "io":"SR_IO_TTY4"},
    {"id":"SR_IO_SNODE3", "io":"SR_IO_TTY5"}
  ],

```

```

"snports":[
  {"id":"SR_IO_SNPOR00","speed":9600,"dbits":8,"par":"N","sbits":1},
  {"id":"SR_IO_SNPOR01","speed":9600,"dbits":8,"par":"N","sbits":1},
  {"id":"SR_IO_SNPOR02","speed":9600,"dbits":8,"par":"N","sbits":1},
  {"id":"SR_IO_SNPOR10","speed":9600,"dbits":8,"par":"N","sbits":1},
  {"id":"SR_IO_SNPOR11","speed":9600,"dbits":8,"par":"N","sbits":1},
  {"id":"SR_IO_SNPOR12","speed":9600,"dbits":8,"par":"N","sbits":1},
  {"id":"SR_IO_SNPOR20","speed":9600,"dbits":8,"par":"N","sbits":1},
  {"id":"SR_IO_SNPOR21","speed":9600,"dbits":8,"par":"N","sbits":1},
  {"id":"SR_IO_SNPOR22","speed":9600,"dbits":8,"par":"N","sbits":1},
  {"id":"SR_IO_SNPOR30","speed":9600,"dbits":8,"par":"N","sbits":1},
  {"id":"SR_IO_SNPOR31","speed":9600,"dbits":8,"par":"N","sbits":1},
  {"id":"SR_IO_SNPOR32","speed":9600,"dbits":8,"par":"N","sbits":1}
],
"io":[
  {"id":"SR_IO_TTY1","dev":"/dev/tty01","speed":115200,"dbits":8,"par":"N","sbits":1},
  {"id":"SR_IO_TTY2","dev":"/dev/tty02","speed":115200,"dbits":8,"par":"N","sbits":1},
  {"id":"SR_IO_TTY4","dev":"/dev/tty04","speed":115200,"dbits":8,"par":"N","sbits":1},
  {"id":"SR_IO_TTY5","dev":"/dev/tty05","speed":115200,"dbits":8,"par":"N","sbits":1}
],
"dio":[
  {"id":"SR_DI00","dir":"0","act":"L","sig":"S","val":"L"},
  {"id":"SR_DI01","dir":"0","act":"L","sig":"PH","val":"L"},
  {"id":"SR_DI02","dir":"0","act":"L","sig":"PH","val":"L"},
  {"id":"SR_DI03","dir":"0","act":"L","sig":"PH","val":"L"},
  {"id":"SR_DI04","dir":"0","act":"L","sig":"PH","val":"L"},
  {"id":"SR_DI05","dir":"0","act":"L","sig":"PH","val":"L"},
  {"id":"SR_DI06","dir":"0","act":"L","sig":"PH","val":"L"},
  {"id":"SR_DI07","dir":"0","act":"L","sig":"PH","val":"L"},
  {"id":"SR_DI08","dir":"0","act":"L","sig":"PH","val":"L"},
  {"id":"SR_DI09","dir":"0","act":"L","sig":"PH","val":"L"},
  {"id":"SR_DI010","dir":"0","act":"L","sig":"PH","val":"L"},
  {"id":"SR_DI011","dir":"0","act":"L","sig":"PH","val":"L"},
  {"id":"SR_DI012","dir":"0","act":"L","sig":"PH","val":"L"},
  {"id":"SR_DI013","dir":"0","act":"L","sig":"PH","val":"L"},
  {"id":"SR_DI015","dir":"0","act":"L","sig":"PH","val":"L"},
  {"id":"SR_DI016","dir":"0","act":"L","sig":"PH","val":"L"},
  {"id":"SR_DI017","dir":"0","act":"L","sig":"PH","val":"L"},
  {"id":"SR_DI018","dir":"0","act":"L","sig":"PH","val":"L"}
],
"aio":[
  {"id":"SR_AI00","dir":"I","val":"L"},
  {"id":"SR_AI01","dir":"I","val":"L"},
  {"id":"SR_AI02","dir":"I","val":"L"},
  {"id":"SR_AI03","dir":"I","val":"L"},
  {"id":"SR_AI04","dir":"I","val":"L"},
  {"id":"SR_AI05","dir":"I","val":"L"},
  {"id":"SR_AI06","dir":"I","val":"L"},
  {"id":"SR_AI07","dir":"I","val":"L"}
]
}

```

Config File
Configuration

JSON Tree

Static Defaults

gw_config API

gw_config

Configuration
Proxy

Configuration Clients
(GUI, CLI)

Configuration API

key:

thing.is.a.primitive=val

thing.is.an.array=[val,val]

thing.is.an.array.element[n]=val

thing.is.a.struct={val,val}

thing.is.a.struct{member}={val,val}

```
char *key  
char *svalue  
enum type  
bool required
```

cfg_set()

cfg_get()

cfg_validate()

cfg_export()

cfg_import()

	deviceop args	cmd io_op_info power_op_info wlen rlen wbuf rbuf xargs	flags sample mode timeout wr delay min len max len retries delimiter
	data container capacity		flags policy delay
		driver type driver instance source_id name (need?)	
driver_info	device ID resource_count resource_list op_callback	rtid srid index href	bpath bname suffix fd path fstream env_id
		device ID system file info chunk info log format log chunk header sequence number	max chunk sz max chunk count active_chunk
	datalog config		
			bpath bname suffix fd path fstream env_id
	log index config	device ID system file info chunk info index chunk header	max chunk sz max chunk count active_chunk

stream processing rules

device ID
stream ID
process info

process_flag_id
handler_proc_fn
handler_parse_fn
handler_pub_fn
handler_provide_fn
xf_message_type_id
xf_sdata_topic_id

Configuration Structs

Allocated

platform

Stream Process Rules

messaging

Service List

Driver Options

Resource List

syslog

Log List

streams

Index List

Supervisor List

service

Sync Worker List

XFSys Worker List

snodes

Control Worker List

snports

SD Client

PS Server

io

Supervisor Tasks

dio

Worker Tasks

aio