NAME
libscamperctrl — scamper control library

LIBRARY
scamper control library (libscamperctrl -lscamperctrl)

SYNOPSIS
#include <libscamperctrl.h>

DESCRIPTION
The libscamperctrl library provides an application programming interface (API) to execute measure-
ments using the control mechanisms available for a set of external scamper(1) processes.

ROUTINES
scamper_ctrl_t *scamper_ctrl_alloc(scamper_ctrl_cb_t cb)
Allocate a control structure for managing a set of scamper(1) instances. The caller must pass a callback
function, which must be defined as follows:

void cb(scamper_inst_t *inst, uint8_t type, scamper_task_t *task, const void *
data, size_t len)

scamper_ctrl_wait() calls this function every time there is an event. It passes a pointer to the scamper
instance that the event is in relation to in the first parameter. The second parameter identifies the type of the
event, which could be one of the following.

− SCAMPER_CTRL_TYPE_DATA: a measurement task has completed. The task pointer points to the
task returned by scamper_inst_do(). The data pointer points to the data, and the length parameter
reports the number of bytes of data. The programmer does not have to call scamper_task_free()
unless they kept a copy of the task pointer by calling scamper_task_use().
− SCAMPER_CTRL_TYPE_MORE: the scamper instance is requesting another command to execute.
− SCAMPER_CTRL_TYPE_ERR: the command was not accepted.
− SCAMPER_CTRL_TYPE_EOF: the scamper instance disconnected.
− SCAMPER_CTRL_TYPE_FATAL: the library encountered a fatal error.

int scamper_ctrl_wait(scamper_ctrl_t *ctrl, struct timeval *to)
Wait for events from the collection of scamper(1) instances. If the timeout parameter is null, then the wait
function will block indefinitely until an event occurs. Otherwise, this function will return after the length of
time specified in the timeout parameter has elapsed, or after it has called the callback function for an event.

void scamper_ctrl_free(scamper_ctrl_t *ctrl)
Cleanup the resources associated with managing the set of scamper(1) instances.

int scamper_ctrl_isdone(scamper_ctrl_t *ctrl)
Returns 0 if there is at least one active scamper instance. Returns non-zero if there are no active scamper
instances.

scamper_inst_t *scamper_inst_unix(scamper_ctrl_t *ctrl, const char *path)
Attach to a local scamper instance via the unix domain socket at the supplied path.

scamper_inst_t *scamper_inst_inet(scamper_ctrl_t *ctrl, const char *addr,
uint16_t port)
Attach to a local scamper instance via the supplied IP address and port.

scamper_inst_t *scamper_inst_remote(scamper_ctrl_t *ctrl, const char *
path)
Attach to a remote scamper instance via the unix domain socket at the supplied path. The remote scamper
instance is connected to the local machine using a sc_remoted(3) process.

```c
void scamper_inst_free(scamper_inst_t *inst)
```
Disconnected and then free the resources associated with the instance.

```c
scamper_task_t *scamper_inst_do(scamper_inst_t *inst, const char *cmd)
```
Issue a command on the supplied instance. The returned task pointer uniquely identifies the task. If a programmer wishes to keep a copy of the task pointer in the process, they must call `scamper_task_use()` to keep a reference, and then call `scamper_task_free()` once done with it.

```c
int scamper_inst_halt(scamper_inst_t *inst, scamper_task_t *task)
```
Issue a halt command for the task. If the command has not been issued to scamper yet, then no DATA object will be returned; otherwise, a DATA object will be returned.

```c
int scamper_inst_done(scamper_inst_t *inst)
```
Send a done command, which will cause the scamper(1) instance to disconnect when it has returned all completed measurements.

```c
void scamper_task_free(scamper_task_t *task)
```
Free task resources, if the programmer previously called `scamper_task_use()` to advise libscamperctrl(3) that the programmer would also be keeping a copy of a task pointer.

```c
void scamper_task_use(scamper_task_t *task)
```
Advise libscamperctrl(3) that the programmer is keeping a copy of the task in their program.

### See Also
* scamper(1), sc_remoted(1), libscamperfile(3),

### Authors
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