

util-vserver (libvserver)

0.30.215+svn2929

Generated by Doxygen 1.7.5

Sat Oct 1 2011 13:55:52

Contents

1	Module Index	1
1.1	Modules	1
2	Data Structure Index	1
2.1	Data Structures	1
3	File Index	2
3.1	File List	2
4	Module Documentation	2
4.1	Syscall wrappers	2
4.1.1	Detailed Description	3
4.1.2	Function Documentation	4
4.2	Helper functions	9
4.2.1	Detailed Description	9
4.2.2	Function Documentation	9
5	Data Structure Documentation	13
5.1	Mapping_uint32 Struct Reference	13
5.2	Mapping_uint64 Struct Reference	13
5.3	vc_ctx_caps Struct Reference	13
5.3.1	Detailed Description	14
5.4	vc_ctx_dlimit Struct Reference	14
5.5	vc_ctx_flags Struct Reference	14
5.5.1	Detailed Description	14
5.6	vc_ctx_stat Struct Reference	15
5.6.1	Detailed Description	15
5.7	vc_err_listparser Struct Reference	15
5.7.1	Detailed Description	15
5.8	vc_ip_mask_pair Struct Reference	16
5.9	vc_net_addr Struct Reference	16
5.10	vc_net_caps Struct Reference	16
5.11	vc_net_flags Struct Reference	17
5.12	vc_nx_info Struct Reference	17

1 Module Index 1

5.13	vc_rlimit Struct Reference	17
5.13.1	Detailed Description	17
5.14	vc_rlimit_mask Struct Reference	18
5.14.1	Detailed Description	18
5.15	vc_rlimit_stat Struct Reference	18
5.15.1	Detailed Description	18
5.16	vc_sched_info Struct Reference	19
5.17	vc_set_sched Struct Reference	19
5.18	vc_virt_stat Struct Reference	19
5.18.1	Detailed Description	20
5.19	vc_vx_info Struct Reference	20
6	File Documentation	20
6.1	internal.h File Reference	20
6.1.1	Detailed Description	22
6.2	vserver.h File Reference	22
6.2.1	Detailed Description	32
6.2.2	Define Documentation	32
6.2.3	Typedef Documentation	33
6.2.4	Function Documentation	33

1 Module Index

1.1 Modules

Here is a list of all modules:

Syscall wrappers	2
Helper functions	9

2 Data Structure Index

2.1 Data Structures

Here are the data structures with brief descriptions:

Mapping_uint32	13
---------------------------------------	-----------

Mapping_uint64	13
vc_ctx_caps	
Capabilities of process-contexts	13
vc_ctx_dlimit	14
vc_ctx_flags	
Flags of process-contexts	14
vc_ctx_stat	
Statistics about a context	15
vc_err_listparser	
Information about parsing errors	15
vc_ip_mask_pair	16
vc_net_addr	16
vc_net_caps	16
vc_net_flags	17
vc_nx_info	17
vc_rlimit	
The limits of a resources	17
vc_rlimit_mask	
Masks describing the supported limits	18
vc_rlimit_stat	
Statistics for a resource limit	18
vc_sched_info	19
vc_set_sched	19
vc_virt_stat	
Contains further statistics about a context	19
vc_vx_info	20

3 File Index

3.1 File List

Here is a list of all documented files with brief descriptions:

internal.h

Declarations which are used by util-vserver internally

20

vserver.h

The public interface of the the libvserver library

22

4 Module Documentation

4.1 Syscall wrappers

Functions

- int **vc_syscall** (uint32_t cmd, **xid_t** xid, void *data)

The generic vserver syscall
This function executes the generic vserver syscall. It uses the correct syscallnumber (which may differ between the different architectures).
- int **vc_get_version** ()

Returns the version of the current kernel API.
- **vc_vci_t** **vc_get_vci** ()

Returns the kernel configuration bits.
- **xid_t** **vc_new_s_context** (**xid_t** ctx, unsigned int remove_cap, unsigned int flags)

Moves current process into a context
Puts current process into context ctx, removes the capabilities given in remove_cap and sets flags.
- int **vc_set_ipv4root** (uint32_t bcast, size_t nb, struct **vc_ip_mask_pair** const *ips)

Sets the ipv4root information.
- **xid_t** **vc_ctx_create** (**xid_t** xid, struct **vc_ctx_flags** *flags)

Creates a context without starting it.
This functions initializes a new context. When already in a freshly created context, this old context will be discarded.
- int **vc_ctx_migrate** (**xid_t** xid, uint_least64_t flags)

Moves the current process into the specified context.
- int **vc_ctx_stat** (**xid_t** xid, struct **vc_ctx_stat** *stat)

Get some statistics about a context.
- int **vc_virt_stat** (**xid_t** xid, struct **vc_virt_stat** *stat)

Get more statistics about a context.
- int **vc_ctx_kill** (**xid_t** ctx, pid_t pid, int sig)

Sends a signal to a context/pid
Special values for pid are:
- **xid_t** **vc_get_task_xid** (pid_t pid)

Returns the context of the given process.
- int **vc_wait_exit** (**xid_t** xid)

Waits for the end of a context.
- int **vc_get_rlimit** (**xid_t** xid, int resource, struct **vc_rlimit** *lim)

Returns the limits of resource.

- int `vc_set_rlimit` (xid_t xid, int resource, struct `vc_rlimit` const *lim)

Sets the limits of resource.

- int `vc_rlimit_stat` (xid_t xid, int resource, struct `vc_rlimit_stat` *stat)

Returns the current stats of resource.

- int `vc_reset_minmax` (xid_t xid)

Resets the minimum and maximum observed values of all resources.

- int `vc_get_iattr` (char const *filename, xid_t *xid, uint_least32_t *flags, uint_least32_t *mask)

Returns information about attributes and assigned context of a file.

This function returns the VC_IATTR_XXX flags and about the assigned context of a file. To request an information, the appropriate bit in mask must be set and the corresponding parameter (xid or flags) must not be NULL.

- xid_t `vc_getfilecontext` (char const *filename)

Returns the context of filename

This function calls `vc_get_iattr()` with appropriate arguments to determine the context of filename. In error-case or when no context is assigned, VC_NOCTX will be returned. To differ between both cases, `errno` must be examined.

4.1.1 Detailed Description

Functions which are calling the vserver syscall directly.

4.1.2 Function Documentation

4.1.2.1 xid_t vc_ctx_create (xid_t xid, struct vc_ctx_flags * flags)

Creates a context without starting it.

This functions initializes a new context. When already in a freshly created context, this old context will be discarded.

Parameters

<i>xid</i>	The new context; special values are: <ul style="list-style-type: none"> • VC_DYNAMIC_XID which means to create a dynamic context
------------	---

Returns

the xid of the created context, or VC_NOCTX on errors. `errno` will be set appropriately.

4.1.2.2 int vc_ctx_kill (xid_t ctx, pid_t pid, int sig)

Sends a signal to a context/pid

Special values for *pid* are:

- -1 which means every process in ctx except the init-process
- 0 which means every process in ctx inclusive the init-process

4.1.2.3 `int vc_ctx_migrate (xid_t xid, uint_least64_t flags)`

Moves the current process into the specified context.

Parameters

<i>xid</i>	The new context
<i>flags</i>	The flags, see VC_VXM_*

Returns

0 on success, -1 on errors

4.1.2.4 `int vc_ctx_stat (xid_t xid, struct vc_ctx_stat * stat)`

Get some statistics about a context.

Parameters

<i>xid</i>	The context to get stats about
<i>stat</i>	Where to store the result

Returns

0 on success, -1 on errors.

4.1.2.5 `int vc_get_iattr (char const * filename, xid_t * xid, uint_least32_t * flags, uint_least32_t * mask)`

Returns information about attributes and assigned context of a file.

This function returns the VC_IATTR_XXX flags and about the assigned context of a file. To request an information, the appropriate bit in *mask* must be set and the corresponding parameter (*xid* or *flags*) must not be NULL.

E.g. to receive the assigned context, the VC_IATTR_XID bit must be set in *mask*, and *xid* must point to valid memory.

Possible flags are VC_IATTR_ADMIN, VC_IATTR_WATCH, VC_IATTR_HIDE, -VC_IATTR_BARRIER, VC_IATTR_IUNLINK and VC_IATTR_IMMUTABLE.

Parameters

<i>filename</i>	The name of the file whose attributes shall be determined.
<i>xid</i>	When non-zero and the VC_IATTR_XID bit is set in <i>mask</i> , the assigned context of <i>filename</i> will be stored there.

<i>flags</i>	When non-zero, a bitmask of current attributes will be stored there. - These attributes must be requested explicitly by setting the appropriate bit in <i>mask</i>
<i>mask</i>	Points to a bitmask which tells which attributes shall be determined. On return, it will masquerade the attributes which were determined.

Precondition

```
mask!=0 && !((*mask&VC_IATTR_XID) && xid==0) && !((*mask&~VC_IATTR_X-
ID) && flags==0)
```

4.1.2.6 int vc_get_rlimit (xid_t xid, int resource, struct vc_rlimit * lim)

Returns the limits of *resource*.

Parameters

<i>xid</i>	The id of the context
<i>resource</i>	The resource which will be queried
<i>lim</i>	The result which will be filled with the limits

Returns

0 on success, and -1 on errors.

4.1.2.7 xid_t vc_get_task_xid (pid_t pid)

Returns the context of the given process.

Parameters

<i>pid</i>	the process-id whose xid shall be determined; pid==0 means the current process.
------------	---

Returns

the xid of process *pid* or -1 on errors

4.1.2.8 vc_vci_t vc_get_vci ()

Returns the kernel configuration bits.

Returns

The kernel configuration bits

4.1.2.9 `int vc_get_version ()`

Returns the version of the current kernel API.

Returns

The versionnumber of the kernel API

4.1.2.10 `xid_t vc_getfilecontext (char const * filename)`

Returns the context of `filename`

This function calls `vc_get_iattr()` with appropriate arguments to determine the context of `filename`. In error-case or when no context is assigned, `VC_NOCTX` will be returned. To differ between both cases, `errno` must be examined.

WARNING: this function can modify `errno` although no error happened.

Parameters

<i>filename</i>	The file to check
-----------------	-------------------

Returns

The assigned context, or `VC_NOCTX` when an error occurred or no such assignment exists. `errno` will be 0 in the latter case

4.1.2.11 `xid_t vc_new_s_context (xid_t ctx, unsigned int remove_cap, unsigned int flags)`

Moves current process into a context

Puts current process into context `ctx`, removes the capabilities given in `remove_cap` and sets `flags`.

Parameters

<i>ctx</i>	The new context; special values for are <ul style="list-style-type: none"> • <code>VC_SAMECTX</code> which means the current context (just for changing caps and flags) • <code>VC_DYNAMIC_XID</code> which means the next free context; this value can be used by ordinary users also
<i>remove_cap</i>	The linux capabilities which will be removed .
<i>flags</i>	Special flags which will be set.

Returns

The new context-id, or `VC_NOCTX` on errors; `errno` will be set appropriately

See <http://vserver.13thfloor.at/Stuff/Logic.txt> for details

4.1.2.12 `int vc_reset_minmax (xid_t xid)`

Resets the minimum and maximum observed values of all resources.

Parameters

<i>xid</i>	The id of the context
------------	-----------------------

Returns

0 on success, and -1 on errors.

4.1.2.13 `int vc_rlimit_stat (xid_t xid, int resource, struct vc_rlimit_stat * stat)`

Returns the current stats of *resource*.

Parameters

<i>xid</i>	The id of the context
<i>resource</i>	The resource which will be queried
<i>stat</i>	The result which will be filled with the stats

Returns

0 on success, and -1 on errors.

4.1.2.14 `int vc_set_ipv4root (uint32_t bcast, size_t nb, struct vc_ip_mask_pair const * ips)`

Sets the ipv4root information.

Precondition

$nb < \text{NB_IPV4ROOT}$ && $ips \neq 0$

4.1.2.15 `int vc_set_rlimit (xid_t xid, int resource, struct vc_rlimit const * lim)`

Sets the limits of *resource*.

Parameters

<i>xid</i>	The id of the context
<i>resource</i>	The resource which will be queried
<i>lim</i>	The new limits

Returns

0 on success, and -1 on errors.

4.1.2.16 `int vc_syscall (uint32_t cmd, xid_t xid, void * data)`

The generic vserver syscall

This function executes the generic vserver syscall. It uses the correct syscallnumber (which may differ between the different architectures).

Parameters

<i>cmd</i>	the command to be executed
<i>xid</i>	the xid on which the cmd shall be applied
<i>data</i>	additional arguments; depends on <i>cmd</i>

Returns

depends on *cmd*; usually, -1 stands for an error

4.1.2.17 `int vc_virt_stat (xid_t xid, struct vc_virt_stat * stat)`

Get more statistics about a context.

Parameters

<i>xid</i>	The context to get stats about
<i>stat</i>	Where to store the result

Returns

0 on success, -1 on errors.

4.2 Helper functions

Data Structures

- struct `vc_err_listparser`
Information about parsing errors.

Functions

- `size_t vc_get_nb_ipv4root ()` `VC_ATTR_CONST`
*Returns the value of NB_IPV4ROOT.
This function returns the value of NB_IPV4ROOT which was used when the library was built, but **not** the value which is used by the currently running kernel.*
- `bool vc_parseLimit (char const *str, vc_limit_t *res)`
*Parses a string describing a limit
This function parses str and interprets special words like "inf" or suffixes. Valid suffixes are.*
- `uint_least64_t vc_text2bcap (char const *str, size_t len)`
Converts a single string into bcapability.
- `char const * vc_lobcap2text (uint_least64_t *val)`
Converts the lowest bit of a bcapability or the entire value (when possible) to a textual representation.
- `int vc_list2bcap (char const *str, size_t len, struct vc_err_listparser *err, struct vc_ctx_caps *cap)`
*Converts a string into a bcapability-bitmask
Syntax of str:*

```

LIST  <- ELEM | ELEM ',' LIST
ELEM  <- '~' ELEM | MASK | NAME
MASK  <- NUMBER | '^' NUMBER
NUMBER <- 0[0-7]* | [1-9][0-9]* | 0x[0-9,a-f]+
NAME  <- <literal name> | "all" | "any" | "none"

```

4.2.1 Detailed Description

Functions which are doing general helper tasks like parameter parsing.

4.2.2 Function Documentation

4.2.2.1 `int vc_list2bcap (char const * str, size_t len, struct vc_err_listparser * err, struct vc_ctx_caps * cap)`

Converts a string into a bcapability-bitmask

Syntax of *str*:

```

LIST  <- ELEM | ELEM ',' LIST
ELEM  <- '~' ELEM | MASK | NAME
MASK  <- NUMBER | '^' NUMBER

```

```
NUMBER <- 0[0-7]* | [1-9][0-9]* | 0x[0-9,a-f]+
NAME    <- <literal name> | "all" | "any" | "none"
```

When the `~` prefix is used, the bits will be unset and a `~` after another `~` will cancel both ones. The `^` prefix specifies a bitnumber instead of a bitmask.

"literal name" is everything which will be accepted by the [vc_text2bcap\(\)](#) function. The special values for `NAME` will be recognized case insensitively

Parameters

<i>str</i>	The string to be parsed
<i>len</i>	The length of the string, or 0 for automatic detection
<i>err</i>	Pointer to a structure for error-information, or <code>NULL</code> .
<i>cap</i>	Pointer to a vc_ctx_caps structure holding the results; only the <i>bcaps</i> and <i>bmask</i> fields will be changed and already set values will not be honored. When an error occurred, <i>cap</i> will have the value of all processed valid BCAP parts.

Returns

0 on success, -1 on error. In error case, *err* will hold position and length of the first not understood BCAP part

Precondition

str != 0 && *cap* != 0; *cap*->*bcaps* and *cap*->*bmask* must be initialized

4.2.2.2 char const* vc_lobcap2text (uint_least64_t * val)

Converts the lowest bit of a bcapability or the entire value (when possible) to a textual representation.

Parameters

<i>val</i>	The string to be converted; on success, the detected bit(s) will be unset, in errorcase only the lowest set bit
------------	---

Returns

A textual representation of *val* resp. of its lowest set bit; or `NULL` in errorcase.

Precondition

val != 0

Postcondition

$*val_{old} \neq 0 \leftrightarrow *val_{old} > *val_{new}$
 $*val_{old} == 0 \rightarrow result == 0$

4.2.2.3 bool vc_parseLimit (char const * str, vc_limit_t * res)

Parses a string describing a limit

This function parses *str* and interprets special words like "inf" or suffixes. Valid suffixes are.

- k ... 1000
- m ... 1000000
- K ... 1024
- M ... 1048576

Parameters

<i>str</i>	The string which shall be parsed
<i>res</i>	Will be filled with the interpreted value; in errorcase, this value is undefined.

Returns

true, iff the string *str* could be parsed. *res* will be filled with the interpreted value in this case.

Precondition

str!=0 && *res*!=0

4.2.2.4 uint_least64_t vc_text2bcap (char const * str, size_t len)

Converts a single string into bcability.

Parameters

<i>str</i>	The string to be parsed; both "CAP_XXX" and "XXX" will be accepted
<i>len</i>	The length of the string, or 0 for automatic detection

Returns

0 on error; a bitmask on success

Precondition

str != 0

5 Data Structure Documentation

5.1 Mapping_uint32 Struct Reference

Data Fields

- char const *const **id**
- size_t **len**
- uint_least32_t **val**

The documentation for this struct was generated from the following file:

- [internal.h](#)

5.2 Mapping_uint64 Struct Reference

Data Fields

- char const *const **id**
- size_t **len**
- uint_least64_t **val**

The documentation for this struct was generated from the following file:

- [internal.h](#)

5.3 vc_ctx_caps Struct Reference

Capabilities of process-contexts.

```
#include <vserver.h>
```

Data Fields

- uint_least64_t [bcaps](#)
Mask of set common system capabilities.
- uint_least64_t [bmask](#)
Mask of set and unset common system capabilities when used by set operations, or the modifiable capabilities when used by get operations.
- uint_least64_t [ccaps](#)
Mask of set process context capabilities.
- uint_least64_t [cmask](#)
Mask of set and unset process context capabilities when used by set operations, or the modifiable capabilities when used by get operations.

5.3.1 Detailed Description

Capabilities of process-contexts.

The documentation for this struct was generated from the following file:

- [vserver.h](#)

5.4 vc_ctx_dlimit Struct Reference

Data Fields

- `uint_least32_t` **space_used**
- `uint_least32_t` **space_total**
- `uint_least32_t` **inodes_used**
- `uint_least32_t` **inodes_total**
- `uint_least32_t` **reserved**

The documentation for this struct was generated from the following file:

- [vserver.h](#)

5.5 vc_ctx_flags Struct Reference

Flags of process-contexts.

```
#include <vserver.h>
```

Data Fields

- `uint_least64_t` [flagword](#)
Mask of set context flags.
- `uint_least64_t` [mask](#)
Mask of set and unset context flags when used by set operations, or modifiable flags when used by get operations.

5.5.1 Detailed Description

Flags of process-contexts.

The documentation for this struct was generated from the following file:

- [vserver.h](#)

5.6 vc_ctx_stat Struct Reference

Statistics about a context.

```
#include <vserver.h>
```

Data Fields

- `uint_least32_t usecnt`
number of uses
- `uint_least32_t tasks`
number of tasks

5.6.1 Detailed Description

Statistics about a context.

The documentation for this struct was generated from the following file:

- [vserver.h](#)

5.7 vc_err_listparser Struct Reference

Information about parsing errors.

```
#include <vserver.h>
```

Data Fields

- `char const * ptr`
Pointer to the first character of an erroneous string.
- `size_t len`
Length of the erroneous string.

5.7.1 Detailed Description

Information about parsing errors.

The documentation for this struct was generated from the following file:

- [vserver.h](#)

5.8 `vc_ip_mask_pair` Struct Reference

Data Fields

- `uint32_t ip`
- `uint32_t mask`

The documentation for this struct was generated from the following file:

- [vserver.h](#)

5.9 `vc_net_addr` Struct Reference

Data Fields

- `uint16_t vna_type`
- `uint16_t vna_flags`
- `uint16_t vna_prefix`
- `uint16_t vna_parent`
- struct {
 - union {
 - struct in_addr **v4**
 - struct in6_addr **v6**
- } **ip**
- union {
 - struct in_addr **v4**
 - struct in6_addr **v6**
- } **ip2**
- union {
 - struct in_addr **v4**
 - struct in6_addr **v6**
- } **mask**
- } **s**

The documentation for this struct was generated from the following file:

- [vserver.h](#)

5.10 `vc_net_caps` Struct Reference

Data Fields

- `uint_least64_t ncaps`
- `uint_least64_t cmask`

The documentation for this struct was generated from the following file:

- [vserver.h](#)

5.11 `vc_net_flags` Struct Reference

Data Fields

- `uint_least64_t` **flagword**
- `uint_least64_t` **mask**

The documentation for this struct was generated from the following file:

- [vserver.h](#)

5.12 `vc_nx_info` Struct Reference

Data Fields

- `nid_t` **nid**

The documentation for this struct was generated from the following file:

- [vserver.h](#)

5.13 `vc_rlimit` Struct Reference

The limits of a resources.

```
#include <vserver.h>
```

Data Fields

- [vc_limit_t](#) **min**
the guaranted minimum of a resources
- [vc_limit_t](#) **soft**
the softlimit of a resource
- [vc_limit_t](#) **hard**
the absolute hardlimit of a resource

5.13.1 Detailed Description

The limits of a resources.

This is a triple consisting of a minimum, soft and hardlimit.

The documentation for this struct was generated from the following file:

- [vserver.h](#)

5.14 `vc_rlimit_mask` Struct Reference

Masks describing the supported limits.

```
#include <vserver.h>
```

Data Fields

- `uint_least32_t min`
masks the resources supporting a minimum limit
- `uint_least32_t soft`
masks the resources supporting a soft limit
- `uint_least32_t hard`
masks the resources supporting a hard limit

5.14.1 Detailed Description

Masks describing the supported limits.

The documentation for this struct was generated from the following file:

- [vserver.h](#)

5.15 `vc_rlimit_stat` Struct Reference

Statistics for a resource limit.

```
#include <vserver.h>
```

Data Fields

- `uint_least32_t hits`
number of hits on the limit
- `vc_limit_t value`
current value
- `vc_limit_t minimum`
minimum value observed
- `vc_limit_t maximum`
maximum value observed

5.15.1 Detailed Description

Statistics for a resource limit.

The documentation for this struct was generated from the following file:

- [vserver.h](#)

5.16 **vc_sched_info** Struct Reference

Data Fields

- `int_least32_t` **cpu_id**
- `int_least32_t` **bucket_id**
- `uint_least64_t` **user_msec**
- `uint_least64_t` **sys_msec**
- `uint_least64_t` **hold_msec**
- `uint_least32_t` **token_usec**
- `int_least32_t` **vavavoom**

The documentation for this struct was generated from the following file:

- [vserver.h](#)

5.17 **vc_set_sched** Struct Reference

Data Fields

- `uint_least32_t` **set_mask**
- `int_least32_t` **fill_rate**
- `int_least32_t` **interval**
- `int_least32_t` **fill_rate2**
- `int_least32_t` **interval2**
- `int_least32_t` **tokens**
- `int_least32_t` **tokens_min**
- `int_least32_t` **tokens_max**
- `int_least32_t` **priority_bias**
- `int_least32_t` **cpu_id**
- `int_least32_t` **bucket_id**

The documentation for this struct was generated from the following file:

- [vserver.h](#)

5.18 **vc_virt_stat** Struct Reference

Contains further statistics about a context.

```
#include <vserver.h>
```

Data Fields

- uint_least64_t **offset**
- uint_least64_t **uptime**
- uint_least32_t **nr_threads**
- uint_least32_t **nr_running**
- uint_least32_t **nr_uninterruptible**
- uint_least32_t **nr_onhold**
- uint_least32_t **nr_forks**
- uint_least32_t **load** [3]

5.18.1 Detailed Description

Contains further statistics about a context.

The documentation for this struct was generated from the following file:

- [vserver.h](#)

5.19 vc_vx_info Struct Reference

Data Fields

- [xid_t](#) **xid**
- pid_t **initpid**

The documentation for this struct was generated from the following file:

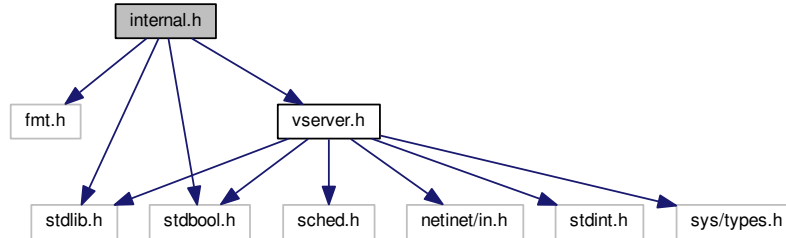
- [vserver.h](#)

6 File Documentation

6.1 internal.h File Reference

Declarations which are used by util-vserver internally.

```
#include "fmt.h" #include "vserver.h" #include <stdlib.-
h> #include <stdbool.h> Include dependency graph for internal.h:
```



Data Structures

- struct [Mapping_uint32](#)
- struct [Mapping_uint64](#)

Defines

- `#define _symbol_version(real, name, version)`
- `#define _default_symbol_version(real, name, version) extern __typeof (real) name __attribute__ ((alias (#name)))`
- `#define symbol_version(real, name, version) _symbol_version(real, name, version)`
- `#define default_symbol_version(real, name, version) _default_symbol_version(real, name, version)`

Functions

- `char * vc_getVserverByCtx_Internal (xid_t ctx, vcCfgStyle *style, char const *revdir, bool validate_result)`
- `int utilvserver_checkCompatVersion ()`
- `uint_least32_t utilvserver_checkCompatConfig ()`
- `bool utilvserver_isDirectory (char const *path, bool follow_link)`
- `bool utilvserver_isFile (char const *path, bool follow_link)`
- `bool utilvserver_isLink (char const *path)`
- `int utilvserver_listparser_uint32 (char const *str, size_t len, char const **err_ptr, size_t *err_len, uint_least32_t *flag, uint_least32_t *mask, uint_least32_t (*func)(char const *, size_t, bool *)) NONNULL((1`
- `int utilvserver_listparser_uint64 (char const *str, size_t len, char const **err_ptr, size_t *err_len, uint_least64_t *flag, uint_least64_t *mask, uint_least64_t (*func)(char const *, size_t, bool *)) NONNULL((1`

- `ssize_t utilvserver_value2text_uint32` (`char const *str`, `size_t len`, struct [Mapping_uint32](#) `const *map`, `size_t map_len`) `NONNULL((1`
- `ssize_t utilvserver_value2text_uint64` (`char const *str`, `size_t len`, struct [Mapping_uint64](#) `const *map`, `size_t map_len`) `NONNULL((1`
- `ssize_t utilvserver_text2value_uint32` (`uint_least32_t *val`, struct [Mapping_uint32](#) `const *map`, `size_t map_len`) `NONNULL((1`
- `ssize_t utilvserver_text2value_uint64` (`uint_least64_t *val`, struct [Mapping_uint64](#) `const *map`, `size_t map_len`) `NONNULL((1`

6.1.1 Detailed Description

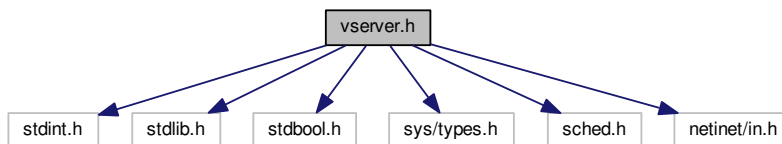
Declarations which are used by util-vserver internally.

Definition in file [internal.h](#).

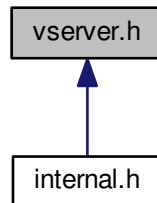
6.2 vserver.h File Reference

The public interface of the the libvserver library.

```
#include <stdint.h> #include <stdlib.h> #include <stdbool.h>
#include <sys/types.h> #include <sched.h> #include
<netinet/in.h> Include dependency graph for vserver.h:
```



This graph shows which files directly or indirectly include this file:



Data Structures

- struct [vc_ip_mask_pair](#)
- struct [vc_ctx_flags](#)
Flags of process-contexts.
- struct [vc_ctx_stat](#)
Statistics about a context.
- struct [vc_virt_stat](#)
Contains further statistics about a context.
- struct [vc_ctx_caps](#)
Capabilities of process-contexts.
- struct [vc_vx_info](#)
- struct [vc_rlimit_mask](#)
Masks describing the supported limits.
- struct [vc_rlimit](#)
The limits of a resources.
- struct [vc_rlimit_stat](#)
Statistics for a resource limit.
- struct [vc_nx_info](#)
- struct [vc_net_addr](#)
- struct [vc_net_flags](#)
- struct [vc_net_caps](#)
- struct [vc_ctx_dlimit](#)
- struct [vc_set_sched](#)
- struct [vc_sched_info](#)
- struct [vc_err_listparser](#)
Information about parsing errors.

Defines

- #define `VC_NOCTX` `((xid_t)(-1))`
- #define `VC_NOXID` `((xid_t)(-1))`
- #define `VC_DYNAMIC_XID` `((xid_t)(-1))`
- #define `VC_SAMECTX` `((xid_t)(-2))`
- #define `VC_NONID` `((nid_t)(-1))`
- #define `VC_DYNAMIC_NID` `((nid_t)(-1))`
- #define `VC_LIM_INFINITY` `(~0ULL)`
- #define `VC_LIM_KEEP` `(~1ULL)`
- #define `VC_CDLIM_UNSET` `(0U)`
- #define `VC_CDLIM_INFINITY` `(~0U)`
- #define `VC_CDLIM_KEEP` `(~1U)`
- #define `S_CTX_INFO_LOCK` `1`
- #define `S_CTX_INFO_SCHED` `2`
- #define `S_CTX_INFO_NPROC` `4`
- #define `S_CTX_INFO_PRIVATE` `8`
- #define `S_CTX_INFO_INIT` `16`
- #define `S_CTX_INFO_HIDEINFO` `32`
- #define `S_CTX_INFO_ULIMIT` `64`
- #define `S_CTX_INFO_NAMESPACE` `128`
- #define `VC_CAP_CHOWN` `0`
- #define `VC_CAP_DAC_OVERRIDE` `1`
- #define `VC_CAP_DAC_READ_SEARCH` `2`
- #define `VC_CAP_FOWNER` `3`
- #define `VC_CAP_FSETID` `4`
- #define `VC_CAP_KILL` `5`
- #define `VC_CAP_SETGID` `6`
- #define `VC_CAP_SETUID` `7`
- #define `VC_CAP_SETPCAP` `8`
- #define `VC_CAP_LINUX_IMMUTABLE` `9`
- #define `VC_CAP_NET_BIND_SERVICE` `10`
- #define `VC_CAP_NET_BROADCAST` `11`
- #define `VC_CAP_NET_ADMIN` `12`
- #define `VC_CAP_NET_RAW` `13`
- #define `VC_CAP_IPC_LOCK` `14`
- #define `VC_CAP_IPC_OWNER` `15`
- #define `VC_CAP_SYS_MODULE` `16`
- #define `VC_CAP_SYS_RAWIO` `17`
- #define `VC_CAP_SYS_CHROOT` `18`
- #define `VC_CAP_SYS_PTRACE` `19`
- #define `VC_CAP_SYS_PACCT` `20`
- #define `VC_CAP_SYS_ADMIN` `21`
- #define `VC_CAP_SYS_BOOT` `22`
- #define `VC_CAP_SYS_NICE` `23`
- #define `VC_CAP_SYS_RESOURCE` `24`
- #define `VC_CAP_SYS_TIME` `25`

- #define **VC_CAP_SYS_TTY_CONFIG** 26
- #define **VC_CAP_MKNOD** 27
- #define **VC_CAP_LEASE** 28
- #define **VC_CAP_AUDIT_WRITE** 29
- #define **VC_CAP_AUDIT_CONTROL** 30
- #define **VC_CAP_SETFCAP** 31
- #define **VC_CAP_MAC_OVERRIDE** 32
- #define **VC_CAP_MAC_ADMIN** 33
- #define **VC_IMMUTABLE_FILE_FL** 0x0000010lu
- #define **VC_IMMUTABLE_LINK_FL** 0x0008000lu
- #define **VC_IMMUTABLE_ALL** (VC_IMMUTABLE_LINK_FL|VC_IMMUTABLE-
_FILE_FL)
- #define **VC_IATTR_XID** 0x01000000u
- #define **VC_IATTR_ADMIN** 0x00000001u
- #define **VC_IATTR_WATCH** 0x00000002u
- #define **VC_IATTR_HIDE** 0x00000004u
- #define **VC_IATTR_WRITE** 0x00000008u
- #define **VC_IATTR_FLAGS** 0x0000000fu
- #define **VC_IATTR_BARRIER** 0x00010000u
- #define **VC_IATTR_IUNLINK** 0x00020000u
- #define **VC_IATTR_IMMUTABLE** 0x00040000u
- #define **VC_IATTR_COW** 0x00080000u
- #define **VC_VXF_INFO_LOCK** 0x00000001ull
- #define **VC_VXF_INFO_NPROC** 0x00000004ull
- #define **VC_VXF_INFO_PRIVATE** 0x00000008ull
- #define **VC_VXF_INFO_INIT** 0x00000010ull
- #define **VC_VXF_INFO_HIDEINFO** 0x00000020ull
- #define **VC_VXF_INFO_ULIMIT** 0x00000040ull
- #define **VC_VXF_INFO_NAMESPACE** 0x00000080ull
- #define **VC_VXF_SCHED_HARD** 0x00000100ull
- #define **VC_VXF_SCHED_PRIO** 0x00000200ull
- #define **VC_VXF_SCHED_PAUSE** 0x00000400ull
- #define **VC_VXF_VIRT_MEM** 0x00010000ull
- #define **VC_VXF_VIRT_UPTIME** 0x00020000ull
- #define **VC_VXF_VIRT_CPU** 0x00040000ull
- #define **VC_VXF_VIRT_LOAD** 0x00080000ull
- #define **VC_VXF_VIRT_TIME** 0x00100000ull
- #define **VC_VXF_HIDE_MOUNT** 0x01000000ull
- #define **VC_VXF_HIDE_NETIF** 0x02000000ull
- #define **VC_VXF_HIDE_VINFO** 0x04000000ull
- #define **VC_VXF_STATE_SETUP** (1ULL<<32)
- #define **VC_VXF_STATE_INIT** (1ULL<<33)
- #define **VC_VXF_STATE_ADMIN** (1ULL<<34)
- #define **VC_VXF_SC_HELPER** (1ULL<<36)
- #define **VC_VXF_REBOOT_KILL** (1ULL<<37)
- #define **VC_VXF_PERSISTENT** (1ULL<<38)

- #define **VC_VXF_FORK_RSS** (1ULL<<48)
- #define **VC_VXF_PROLIFIC** (1ULL<<49)
- #define **VC_VXF_IGNEG_NICE** (1ULL<<52)
- #define **VC_VXF_IGNEG_IONICE** (1ULL<<53)
- #define **VC_VXC_SET_UTSNAME** 0x00000001ull
- #define **VC_VXC_SET_RLIMIT** 0x00000002ull
- #define **VC_VXC_FS_SECURITY** 0x00000004ull
- #define **VC_VXC_TIOCSTI** 0x00000010ull
- #define **VC_VXC_RAW_ICMP** 0x00000100ull
- #define **VC_VXC_SYSLOG** 0x00001000ull
- #define **VC_VXC_OOM_ADJUST** 0x00002000ull
- #define **VC_VXC_AUDIT_CONTROL** 0x00004000ull
- #define **VC_VXC_SECURE_MOUNT** 0x00010000ull
- #define **VC_VXC_SECURE_REMOUNT** 0x00020000ull
- #define **VC_VXC_BINARY_MOUNT** 0x00040000ull
- #define **VC_VXC_QUOTA_CTL** 0x00100000ull
- #define **VC_VXC_ADMIN_MAPPER** 0x00200000ull
- #define **VC_VXC_ADMIN_CLOOP** 0x00400000ull
- #define **VC_VXC_KTHREAD** 0x01000000ull
- #define **VC_VXC_NAMESPACE** 0x02000000ull
- #define **VC_VXSM_FILL_RATE** 0x0001
- #define **VC_VXSM_INTERVAL** 0x0002
- #define **VC_VXSM_FILL_RATE2** 0x0004
- #define **VC_VXSM_INTERVAL2** 0x0008
- #define **VC_VXSM_TOKENS** 0x0010
- #define **VC_VXSM_TOKENS_MIN** 0x0020
- #define **VC_VXSM_TOKENS_MAX** 0x0040
- #define **VC_VXSM_PRIO_BIAS** 0x0100
- #define **VC_VXSM_CPU_ID** 0x1000
- #define **VC_VXSM_BUCKET_ID** 0x2000
- #define **VC_VXSM_IDLE_TIME** 0x0200
- #define **VC_VXSM_FORCE** 0x0400
- #define **VC_VXSM_MSEC** 0x4000
- #define **VC_VXSM_V3_MASK** 0x0173
- #define **VC_NXF_INFO_LOCK** 0x00000001ull
- #define **VC_NXF_INFO_PRIVATE** 0x00000008ull
- #define **VC_NXF_SINGLE_IP** 0x00000100ull
- #define **VC_NXF_LBACK_REMAP** 0x00000200ull
- #define **VC_NXF_LBACK_ALLOW** 0x00000400ull
- #define **VC_NXF_HIDE_NETIF** 0x02000000ull
- #define **VC_NXF_HIDE_LBACK** 0x04000000ull
- #define **VC_NXF_STATE_SETUP** (1ULL<<32)
- #define **VC_NXF_STATE_ADMIN** (1ULL<<34)
- #define **VC_NXF_SC_HELPER** (1ULL<<36)
- #define **VC_NXF_PERSISTENT** (1ULL<<38)
- #define **VC_NXC_TUN_CREATE** 0x00000001ull

- `#define VC_NXC_RAW_ICMP 0x00000100ull`
- `#define VC_VLIMIT_NSOCK 16`
- `#define VC_VLIMIT_OPENFD 17`
- `#define VC_VLIMIT_ANON 18`
- `#define VC_VLIMIT_SHMEM 19`
- `#define VC_VLIMIT_SEMARY 20`
- `#define VC_VLIMIT_NSEMS 21`
- `#define VC_VLIMIT_DENTRY 22`
- `#define VC_VLIMIT_MAPPED 23`
- `#define VC_VCI_NO_DYNAMIC (1 << 0)`
- `#define VC_VCI_PROC_SECURE (1 << 4)`
- `#define VC_VCI_HARDCPU (1 << 5)`
- `#define VC_VCI_IDLELIMIT (1 << 6)`
- `#define VC_VCI_IDLETIME (1 << 7)`
- `#define VC_VCI_COWBL (1 << 8)`
- `#define VC_VCI_FULLCOWBL (1 << 9)`
- `#define VC_VCI_SPACES (1 << 10)`
- `#define VC_VCI_NETV2 (1 << 11)`
- `#define VC_VCI_MEMCG (1 << 12)`
- `#define VC_VCI_DEBUG (1 << 16)`
- `#define VC_VCI_HISTORY (1 << 20)`
- `#define VC_VCI_TAGGED (1 << 24)`
- `#define VC_VCI_PPTAG (1 << 28)`
- `#define VC_DATTR_CREATE 0x00000001`
- `#define VC_DATTR_OPEN 0x00000002`
- `#define VC_DATTR_REMAP 0x00000010`
- `#define VC_VXM_SET_INIT 0x00000001`
- `#define VC_VXM_SET_REAPER 0x00000002`
- `#define VC_NXA_TYPE_IPV4 0x0001`
- `#define VC_NXA_TYPE_IPV6 0x0002`
- `#define VC_NXA_TYPE_NONE 0x0000`
- `#define VC_NXA_TYPE_ANY 0x00FF`
- `#define VC_NXA_TYPE_ADDR 0x0010`
- `#define VC_NXA_TYPE_MASK 0x0020`
- `#define VC_NXA_TYPE_RANGE 0x0040`
- `#define VC_NXA_MOD_BCAST 0x0100`
- `#define VC_NXA_MOD_LBACK 0x0200`
- `#define CLONE_NEWNS 0x00020000`
- `#define CLONE_NEWUTS 0x04000000`
- `#define CLONE_NEWIPC 0x08000000`
- `#define CLONE_NEWUSER 0x10000000`
- `#define CLONE_NEWPID 0x20000000`
- `#define CLONE_NEWNET 0x40000000`
- `#define VC_BAD_PERSONALITY ((uint_least32_t)(-1))`
- `#define vna_v4_ip s.ip.v4`
- `#define vna_v4_ip2 s.ip2.v4`

- `#define vna_v4_mask s.mask.v4`
- `#define vna_v6_ip s.ip.v6`
- `#define vna_v6_ip2 s.ip2.v6`
- `#define vna_v6_mask s.mask.v6`
- `#define VC_LIMIT_VSERVER_NAME_LEN 1024`
- `#define vcSKEL_INTERFACES 1u`
- `#define vcSKEL_PKGMGMT 2u`
- `#define vcSKEL_FILESYSTEM 4u`

Typedefs

- `typedef an_unsigned_integer_type xid_t`
- `typedef an_unsigned_integer_type nid_t`
- `typedef an_unsigned_integer_type tag_t`
- `typedef uint64_t vc_vci_t`
- `typedef uint_least64_t vc_limit_t`

The type which is used for a single limit value.

Enumerations

- `enum vc_uts_type { vcVHI_CONTEXT, vcVHI_SYSNAME, vcVHI_NODENAME, vcVHI_RELEASE, vcVHI_VERSION, vcVHI_MACHINE, vcVHI_DOMAINNAME }`
- `enum vcFeatureSet { vcFEATURE_VKILL, vcFEATURE_IATTR, vcFEATURE_RLIMIT, vcFEATURE_COMPAT, vcFEATURE_MIGRATE, vcFEATURE_NAMSPACE, vcFEATURE_SCHED, vcFEATURE_VINFO, vcFEATURE_VH-I, vcFEATURE_VSHELPER0, vcFEATURE_VSHELPER, vcFEATURE_VWAIT, vcFEATURE_VNET, vcFEATURE_VSTAT, vcFEATURE_PPTAG, vcFEATURE_PIDSPACE, vcFEATURE_SPACES, vcFEATURE_PERSISTENT, vcFEATURE_PIVOT_ROOT, vcFEATURE_MEMCG, vcFEATURE_DYNAMIC }`
- `enum vcXidType { vcTYPE_INVALID, vcTYPE_MAIN, vcTYPE_WATCH, vcTYPE_STATIC, vcTYPE_DYNAMIC }`
- `enum vcCfgStyle { vcCFG_NONE, vcCFG_AUTO, vcCFG_LEGACY, vcCFG_RECENT_SHORT, vcCFG_RECENT_FULL }`
- `enum vcCtxType { vcCTX_XID = 1, vcCTX_NID, vcCTX_TAG }`

Functions

- `int vc_syscall (uint32_t cmd, xid_t xid, void *data)`
The generic vserver syscall
This function executes the generic vserver syscall. It uses the correct syscallnumber (which may differ between the different architectures).
- `int vc_get_version ()`
Returns the version of the current kernel API.
- `vc_vci_t vc_get_vci ()`
Returns the kernel configuration bits.

- `xid_t vc_new_s_context (xid_t ctx, unsigned int remove_cap, unsigned int flags)`
Moves current process into a context
Puts current process into context ctx, removes the capabilities given in remove_cap and sets flags.
- `int vc_set_ipv4root (uint32_t bcast, size_t nb, struct vc_ip_mask_pair const *ips)`
Sets the ipv4root information.
- `size_t vc_get_nb_ipv4root () VC_ATTR_CONST`
Returns the value of NB_IPV4ROOT.
*This function returns the value of NB_IPV4ROOT which was used when the library was built, but **not** the value which is used by the currently running kernel.*
- `xid_t vc_ctx_create (xid_t xid, struct vc_ctx_flags *flags)`
Creates a context without starting it.
This functions initializes a new context. When already in a freshly created context, this old context will be discarded.
- `int vc_ctx_migrate (xid_t xid, uint_least64_t flags)`
Moves the current process into the specified context.
- `int vc_ctx_stat (xid_t xid, struct vc_ctx_stat *stat)`
Get some statistics about a context.
- `int vc_virt_stat (xid_t xid, struct vc_virt_stat *stat)`
Get more statistics about a context.
- `int vc_ctx_kill (xid_t ctx, pid_t pid, int sig)`
Sends a signal to a context/pid
Special values for pid are:
- `int vc_get_cflags (xid_t xid, struct vc_ctx_flags *)`
- `int vc_set_cflags (xid_t xid, struct vc_ctx_flags const *)`
- `int vc_get_ccaps (xid_t xid, struct vc_ctx_caps *)`
- `int vc_set_ccaps (xid_t xid, struct vc_ctx_caps const *)`
- `int vc_get_vx_info (xid_t xid, struct vc_vx_info *info)`
- `xid_t vc_get_task_xid (pid_t pid)`
Returns the context of the given process.
- `int vc_wait_exit (xid_t xid)`
Waits for the end of a context.
- `int vc_get_rlimit_mask (xid_t xid, struct vc_rlimit_mask *lim)`
Returns the limits supported by the kernel.
- `int vc_get_rlimit (xid_t xid, int resource, struct vc_rlimit *lim)`
Returns the limits of resource.
- `int vc_set_rlimit (xid_t xid, int resource, struct vc_rlimit const *lim)`
Sets the limits of resource.
- `int vc_rlimit_stat (xid_t xid, int resource, struct vc_rlimit_stat *stat)`
Returns the current stats of resource.
- `int vc_reset_minmax (xid_t xid)`
Resets the minimum and maximum observed values of all resources.
- `bool vc_parseLimit (char const *str, vc_limit_t *res)`

Parses a string describing a limit

This function parses str and interprets special words like "inf" or suffixes. Valid suffixes are.

- `nid_t vc_get_task_nid` (pid_t pid)
- `int vc_get_nx_info` (nid_t nid, struct `vc_nx_info` *)
- `nid_t vc_net_create` (nid_t nid)
- `int vc_net_migrate` (nid_t nid)
- `int vc_net_add` (nid_t nid, struct `vc_net_addr` const *info)
- `int vc_net_remove` (nid_t nid, struct `vc_net_addr` const *info)
- `int vc_get_nflags` (nid_t, struct `vc_net_flags` *)
- `int vc_set_nflags` (nid_t, struct `vc_net_flags` const *)
- `int vc_get_ncaps` (nid_t, struct `vc_net_caps` *)
- `int vc_set_ncaps` (nid_t, struct `vc_net_caps` const *)
- `int vc_set_iattr` (char const *filename, `xid_t` xid, `uint_least32_t` flags, `uint_least32_t` mask)
- `int vc_fset_iattr` (int fd, `xid_t` xid, `uint_least32_t` flags, `uint_least32_t` mask)
- `int vc_get_iattr` (char const *filename, `xid_t` *xid, `uint_least32_t` *flags, `uint_least32_t` *mask)

Returns information about attributes and assigned context of a file.

This function returns the VC_IATTR_XXX flags and about the assigned context of a file. To request an information, the appropriate bit in mask must be set and the corresponding parameter (xid or flags) must not be NULL.

- `int vc_fget_iattr` (int fd, `xid_t` *xid, `uint_least32_t` *flags, `uint_least32_t` *mask)
- `xid_t vc_getfilecontext` (char const *filename)

Returns the context of filename

This function calls vc_get_iattr() with appropriate arguments to determine the context of filename. In error-case or when no context is assigned, VC_NOCTX will be returned. To differ between both cases, errno must be examined.

- `int vc_set_vhi_name` (`xid_t` xid, `vc_uts_type` type, char const *val, `size_t` len)
- `int vc_get_vhi_name` (`xid_t` xid, `vc_uts_type` type, char *val, `size_t` len)
- `int vc_enter_namespace` (`xid_t` xid, `uint_least64_t` mask, `uint32_t` index)
- `int vc_set_namespace` (`xid_t` xid, `uint_least64_t` mask, `uint32_t` index)
- `int vc_cleanup_namespace` (void)
- `uint_least64_t vc_get_space_mask` (void)
- `uint_least64_t vc_get_space_default` (void)
- `int vc_add_dlimit` (char const *filename, `xid_t` xid, `uint_least32_t` flags)
- `int vc_rem_dlimit` (char const *filename, `xid_t` xid, `uint_least32_t` flags)
- `int vc_set_dlimit` (char const *filename, `xid_t` xid, `uint_least32_t` flags, struct `vc_ctx_dlimit` const *limits)
- `int vc_get_dlimit` (char const *filename, `xid_t` xid, `uint_least32_t` flags, struct `vc_ctx_dlimit` *limits)
- `tag_t vc_get_task_tag` (pid_t pid)
- `int vc_tag_create` (tag_t tag)
- `int vc_tag_migrate` (tag_t tag)
- `int vc_set_sched` (`xid_t` xid, struct `vc_set_sched` const *)
- `int vc_get_sched` (`xid_t` xid, struct `vc_set_sched` *)
- `int vc_sched_info` (`xid_t` xid, struct `vc_sched_info` *info)

- int **vc_set_mapping** (xid_t xid, const char *device, const char *target, uint32_t flags)
- int **vc_unset_mapping** (xid_t xid, const char *device, const char *target, uint32_t flags)
- int **vc_get_badness** (xid_t xid, int64_t *badness)
- int **vc_set_badness** (xid_t xid, int64_t badness)
- uint_least64_t **vc_text2bcap** (char const *str, size_t len)
Converts a single string into bcapability.
- char const * **vc_lobcap2text** (uint_least64_t *val)
Converts the lowest bit of a bcapability or the entire value (when possible) to a textual representation.
- int **vc_list2bcap** (char const *str, size_t len, struct **vc_err_listparser** *err, struct **vc_ctx_caps** *cap)
Converts a string into a bcapability-bitmask
Syntax of str:

```

LIST    <- ELEM | ELEM ' , ' LIST
ELEM    <- '~' ELEM | MASK | NAME
MASK    <- NUMBER | '^' NUMBER
NUMBER  <- 0[0-7]* | [1-9][0-9]* | 0x[0-9,a-f]+
NAME    <- <literal name> | "all" | "any" | "none"

```
- uint_least64_t **vc_text2ccap** (char const *, size_t len)
- char const * **vc_loccap2text** (uint_least64_t *)
- int **vc_list2ccap** (char const *, size_t len, struct **vc_err_listparser** *err, struct **vc_ctx_caps** *)
- int **vc_list2cflag** (char const *, size_t len, struct **vc_err_listparser** *err, struct **vc_ctx_flags** *flags)
- uint_least64_t **vc_text2cflag** (char const *, size_t len)
- char const * **vc_locflag2text** (uint_least64_t *)
- uint_least32_t **vc_list2cflag_compat** (char const *, size_t len, struct **vc_err_listparser** *err)
- uint_least32_t **vc_text2cflag_compat** (char const *, size_t len)
- char const * **vc_hicflag2text_compat** (uint_least32_t *)
- int **vc_text2cap** (char const *)
- char const * **vc_cap2text** (unsigned int)
- int **vc_list2nflag** (char const *, size_t len, struct **vc_err_listparser** *err, struct **vc_net_flags** *flags)
- uint_least64_t **vc_text2nflag** (char const *, size_t len)
- char const * **vc_lonflag2text** (uint_least64_t *)
- uint_least64_t **vc_text2ncap** (char const *, size_t len)
- char const * **vc_loncap2text** (uint_least64_t *)
- int **vc_list2ncap** (char const *, size_t len, struct **vc_err_listparser** *err, struct **vc_net_caps** *)
- uint_least64_t **vc_get_insecurebcaps** () VC_ATTR_CONST
- uint_least32_t **vc_text2personalityflag** (char const *str, size_t len)
- char const * **vc_lpersonality2text** (uint_least32_t *)
- int **vc_list2personalityflag** (char const *, size_t len, uint_least32_t *personality, struct **vc_err_listparser** *err)

- `uint_least32_t vc_str2personalitytype` (char const *, size_t len)
- `bool vc_isSupported` (vcFeatureSet) VC_ATTR_CONST
- `bool vc_isSupportedString` (char const *)
- `vcXidType vc_getXIDType` (xid_t xid) VC_ATTR_CONST
- `bool vc_is_dynamic_xid` (xid_t xid)
- `xid_t vc_xidopt2xid` (char const *, bool honor_static, char const **err_info)
- `nid_t vc_nidopt2nid` (char const *, bool honor_static, char const **err_info)
- `tag_t vc_tagopt2tag` (char const *, bool honor_static, char const **err_info)
- `vcCfgStyle vc_getVserverCfgStyle` (char const *id)
- `char * vc_getVserverName` (char const *id, vcCfgStyle style)
- `char * vc_getVserverCfgDir` (char const *id, vcCfgStyle style)
- `char * vc_getVserverAppDir` (char const *id, vcCfgStyle style, char const *app)
- `char * vc_getVserverVdir` (char const *id, vcCfgStyle style, bool physical)
- `xid_t vc_getVserverCtx` (char const *id, vcCfgStyle style, bool honor_static, bool *is_running, vcCtxType type)
- `char * vc_getVserverByCtx` (xid_t ctx, vcCfgStyle *style, char const *revdir)
- `int vc_compareVserverByld` (char const *lhs, vcCfgStyle lhs_style, char const *rhs, vcCfgStyle rhs_style)
- `void vc_exitLikeProcess` (int pid, int ret)
- `int vc_createSkeleton` (char const *id, vcCfgStyle style, int flags)

6.2.1 Detailed Description

The public interface of the the libvserver library.

Definition in file [vserver.h](#).

6.2.2 Define Documentation

6.2.2.1 `#define VC_DYNAMIC_XID ((xid_t)(-1))`

the value which means a random (the next free) ctx

Definition at line 67 of file [vserver.h](#).

6.2.2.2 `#define VC_NOCTX ((xid_t)(-1))`

the value which is returned in error-case (no ctx found)

Definition at line 64 of file [vserver.h](#).

6.2.2.3 `#define VC_SAMECTX ((xid_t)(-2))`

the value which means the current ctx

Definition at line 69 of file [vserver.h](#).

6.2.3 Typedef Documentation

6.2.3.1 typedef uint_least64_t vc_limit_t

The type which is used for a single limit value.

Special values are

- VC_LIM_INFINITY ... which is the infinite value
- VC_LIM_KEEP ... which is used to mark values which shall not be modified by the [vc_set_rlimit\(\)](#) operation.

Else, the interpretation of the value depends on the corresponding resource; it might be bytes, pages, seconds or litres of beer.

Definition at line 564 of file vserver.h.

6.2.3.2 an_unsigned_integer_type xid_t

The identifier of a context.

Definition at line 359 of file vserver.h.

6.2.4 Function Documentation

6.2.4.1 int vc_add_dlimit (char const * filename, xid_t xid, uint_least32_t flags)

Add a disk limit to a file system.

6.2.4.2 int vc_createSkeleton (char const * id, vcCfgStyle style, int flags)

Create a basic configuration skeleton for a vserver plus toplevel directories for pkgmanagement and filesystem (when requested).

6.2.4.3 int vc_get_dlimit (char const * filename, xid_t xid, uint_least32_t flags, struct vc_ctx_dlimit * limits)

Get a disk limit.

6.2.4.4 tag_t vc_get_task_tag (pid_t pid)

Get the filesystem tag for a process.

6.2.4.5 char* vc_getVserverAppDir (char const * id, vcCfgStyle style, char const * app)

Returns the path of the configuration directory for the given application. The result will be allocated and must be freed by the caller.

6.2.4.6 char* vc_getVserverByCtx (xid_t ctx, vcCfgStyle * style, char const * revdir)

Resolves the cfg-path of the vserver owning the given ctx. 'revdir' will be used as the directory holding the mapping-links; when NULL, the default value will be assumed. The

result will be allocated and must be freed by the caller.

6.2.4.7 `char* vc_getVserverCfgDir (char const * id, vcCfgStyle style)`

Returns the path of the vservers configuration directory. When the given vservers does not exist, or when it does not have such a directory, NULL will be returned. Else, the result will be allocated and must be freed by the caller.

6.2.4.8 `xid_t vc_getVserverCtx (char const * id, vcCfgStyle style, bool honor_static, bool * is_running, vcCtxType type)`

Returns the ctx of the given vservers. When vservers is not running and 'honor_static' is false, VC_NOCTX will be returned. Else, when 'honor_static' is true and a static assignment exists, those value will be returned. Else, the result will be VC_NOCTX.

When 'is_running' is not null, the status of the vservers will be assigned to this variable.

6.2.4.9 `char* vc_getVserverName (char const * id, vcCfgStyle style)`

Resolves the name of the vservers. The result will be allocated and must be freed by the caller.

6.2.4.10 `char* vc_getVserverVdir (char const * id, vcCfgStyle style, bool physical)`

Returns the path to the vservers root-directory. The result will be allocated and must be freed by the caller.

6.2.4.11 `bool vc_is_dynamic_xid (xid_t xid)`

Returns true iff *xid* is a dynamic xid

6.2.4.12 `nid_t vc_nidopt2nid (char const * , bool honor_static, char const ** err_info)`

Maps a nid given at '--nid' options to a nid_t

6.2.4.13 `int vc_rem_dlimit (char const * filename, xid_t xid, uint_least32_t flags)`

Remove a disk limit from a file system.

6.2.4.14 `int vc_set_dlimit (char const * filename, xid_t xid, uint_least32_t flags, struct vc_ctx_dlimit const * limits)`

Set a disk limit.

6.2.4.15 `int vc_tag_create (tag_t tag)`

Create a new filesystem tag space.

6.2.4.16 `int vc_tag_migrate (tag_t tag)`

Migrate to an existing filesystem tag space.

6.2.4.17 `tag_t vc_tagopt2tag (char const *, bool honor_static, char const ** err_info)`

Maps a tag given at '--tag' options to a tag_t

6.2.4.18 `xid_t vc_xidopt2xid (char const *, bool honor_static, char const ** err_info)`

Maps an xid given at '--xid' options to an xid_t