

util-vserver (libvserver)
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1 Module Index

1.1 Modules

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2 Data Structure Index

2.1 Data Structures

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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)	19
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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 beast, size_t nb, struct vc_ip_mask_pair const *ips) VC_ATTR_NONNULL((3))`
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) VC_ATTR_NONNULL((2))`
Get some statistics about a context.
- `int vc_virt_stat (xid_t xid, struct vc_virt_stat *stat) VC_ATTR_NONNULL((2))`
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:
 - -1 which means every process in ctx except the init-process
 - 0 which means every process in ctx inclusive the init-process.
- `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) VC_ATTR_NONNULL((3))`
Returns the limits of resource.
- `int vc_set_rlimit(xid_t xid, int resource, struct vc_rlimit const *lim) VC_ATTR_NONNULL((3))`
Sets the limits of resource.
- `int vc_rlimit_stat(xid_t xid, int resource, struct vc_rlimit_stat *stat) VC_ATTR_NONNULL((3))`
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) VC_ATTR_NONNULL((1))`
*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) VC_ATTR_NONNULL((1))`
*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:

xid The new context; special values are:

- 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_migrate (xid_t xid, uint_least64_t flags)

Moves the current process into the specified context.

Parameters:

xid The new context

flags The flags, see VC_VXM_*

Returns:

0 on success, -1 on errors

4.1.2.3 int vc_ctx_stat (xid_t xid, struct vc_ctx_stat * stat)

Get some statistics about a context.

Parameters:

xid The context to get stats about

stat Where to store the result

Returns:

0 on success, -1 on errors.

4.1.2.4 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:

filename The name of the file whose attributes shall be determined.

xid When non-zero and the VC_IATTR_XID bit is set in *mask*, the assigned context of *filename* will be stored there.

flags When non-zero, a bitmask of current attributes will be stored there. These attributes must be requested explicitly by setting the appropriate bit in *mask*

mask 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_XID) && flags==0)`

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

Returns the limits of *resource*.

Parameters:

xid The id of the context

resource The resource which will be queried

lim The result which will be filled with the limits

Returns:

0 on success, and -1 on errors.

4.1.2.6 xid_t vc_get_task_xid (pid_t *pid*)

Returns the context of the given process.

Parameters:

pid the process-id whose xid shall be determined; `pid==0` means the current process.

Returns:

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

4.1.2.7 vc_vci_t vc_get_vci ()

Returns the kernel configuration bits.

Returns:

The kernel configuration bits

4.1.2.8 int vc_get_version ()

Returns the version of the current kernel API.

Returns:

The versionnumber of the kernel API

4.1.2.9 `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:

filename 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

4.1.2.10 `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:

ctx The new context; special values for are

- `VC_SAMECTX` which means the current context (just for changing caps and flags)
- `VC_DYNAMIC_XID` which means the next free context; this value can be used by ordinary users also

remove_cap The linux capabilities which will be **removed**.

flags 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

4.1.2.11 `int vc_reset_minmax (xid_t xid)`

Resets the minimum and maximum observed values of all resources.

Parameters:

xid The id of the context

Returns:

0 on success, and -1 on errors.

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

Returns the current stats of *resource*.

Parameters:

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

Returns:

0 on success, and -1 on errors.

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

Sets the ipv4root information.

Precondition:

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

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

Sets the limits of *resource*.

Parameters:

xid The id of the context
resource The resource which will be queried
lim The new limits

Returns:

0 on success, and -1 on errors.

4.1.2.15 `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:

cmd the command to be executed

xid the xid on which the cmd shall be applied

data additional arguments; depends on cmd

Returns:

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

4.1.2.16 int vc_virt_stat (xid_t xid, struct vc_virt_stat * stat)

Get more statistics about a context.

Parameters:

xid The context to get stats about

stat 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 VC_ATTR_PURE
*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) VC_ATTR_NONNULL((1)
*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.
- 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) VC_ATTR_NONNULL((1))
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`)
VC_ATTR_NONNULL((1

Converts a string into a bcapability-bitmask

Syntax of `str`:

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:

`str` The string to be parsed

`len` The length of the string, or 0 for automatic detection

`err` Pointer to a structure for error-information, or NULL.

`cap` Pointer to a `vc_ctx_caps` structure holding the results; only the `bcaps` and `bmask` fields will be changed and already set values will not be honored. When an error occurred, `cap` 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:

val 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:

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

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:

str The string which shall be parsed

res 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:

str The string to be parsed; both "CAP_XXX" and "XXX" will be accepted

len 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**

5.1.1 Detailed Description

Definition at line 80 of file internal.h.

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**

5.2.1 Detailed Description

Definition at line 86 of file internal.h.

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.

Definition at line 498 of file `vserver.h`.

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`

5.4.1 Detailed Description

Definition at line 775 of file `vserver.h`.

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.

Definition at line 420 of file `vserver.h`.

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.

Definition at line 451 of file `vserver.h`.

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.

Definition at line 850 of file `vserver.h`.

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`

5.8.1 Detailed Description

Definition at line 398 of file `vserver.h`.

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**

5.9.1 Detailed Description

Definition at line 648 of file vserver.h.

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**

5.10.1 Detailed Description

Definition at line 689 of file vserver.h.

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**

5.11.1 Detailed Description

Definition at line 675 of file vserver.h.

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`

5.12.1 Detailed Description

Definition at line 641 of file `vserver.h`.

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 guaranteed 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.

Definition at line 564 of file `vserver.h`.

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.

Definition at line 551 of file `vserver.h`.

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.

Definition at line 592 of file `vserver.h`.

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**

5.16.1 Detailed Description

Definition at line 827 of file vserver.h.

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**

5.17.1 Detailed Description

Definition at line 810 of file vserver.h.

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.

Definition at line 466 of file `vserver.h`.

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`

5.19.1 Detailed Description

Definition at line 516 of file `vserver.h`.

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

- [vserver.h](#)

6 File Documentation

6.1 internal.h File Reference

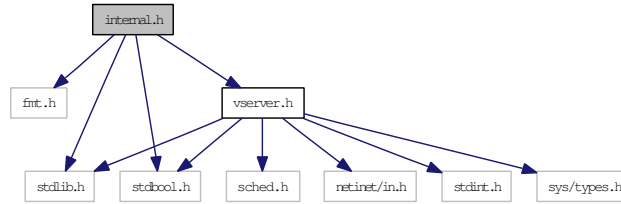
Declarations which are used by util-vserver internally. `#include "fmt.h"`

```
#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>`

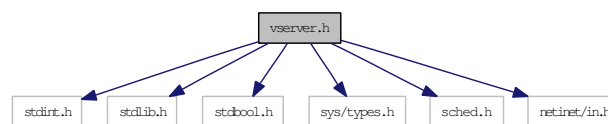
`#include <stdbool.h>`

`#include <sys/types.h>`

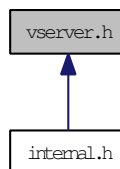
`#include <sched.h>`

`#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 [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_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_RAW_ICMP 0x00000100ull`
- `#define VC_VXC_SYSLOG 0x00001000ull`
- `#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_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_SPACES (1 << 10)`
- `#define VC_VCI_NETV2 (1 << 11)`
- `#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 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_NAMESPACE**, **vcFEATURE_SCHED**,
vcFEATURE_VINFO,
vcFEATURE_VHI, **vcFEATURE_VSHELPER0**, **vcFEATURE_VSHELPER**, **vcFEATURE_-VWAIT**,
vcFEATURE_VNET, **vcFEATURE_VSTAT**, **vcFEATURE_PPTAG**, **vcFEATURE_-PIDSPACE**,
vcFEATURE_SPACES, **vcFEATURE_PERSISTENT**, **vcFEATURE_PIVOT_ROOT** }
- 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) VC_ATTR_-NONNULL((3))
Sets the ipv4root information.
- size_t **vc_get_nb_ipv4root** () VC_ATTR_CONST VC_ATTR_PURE
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) VC_ATTR_NONNULL((2))`
Get some statistics about a context.
- `int vc_virt_stat (xid_t xid, struct vc_virt_stat *stat) VC_ATTR_NONNULL((2))`
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:
 - `-1` which means every process in `ctx` except the `init-process`
 - `0` which means every process in `ctx` inclusive the `init-process`.
- `int vc_get_cflags (xid_t xid, struct vc_ctx_flags *) VC_ATTR_NONNULL((2))`
- `int vc_set_cflags (xid_t xid, struct vc_ctx_flags const *) VC_ATTR_NONNULL((2))`
- `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) VC_ATTR_NONNULL((2))`
- `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) VC_ATTR_NONNULL((2))`
Returns the limits supported by the kernel.
- `int vc_get_rlimit (xid_t xid, int resource, struct vc_rlimit *lim) VC_ATTR_NONNULL((3))`
Returns the limits of resource.
- `int vc_set_rlimit (xid_t xid, int resource, struct vc_rlimit const *lim) VC_ATTR_NONNULL((3))`
Sets the limits of resource.
- `int vc_rlimit_stat (xid_t xid, int resource, struct vc_rlimit_stat *stat) VC_ATTR_NONNULL((3))`
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) VC_ATTR_NONNULL((1))`
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`.
- `nid_t vc_get_task_nid (pid_t pid)`

- `int vc_get_nx_info` (`nid_t` nid, `struct vc_nx_info *`) VC_ATTR_NONNULL((2))
- `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) VC_ATTR_NONNULL((1))
- `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) VC_ATTR_NONNULL((1))

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) VC_ATTR_NONNULL((4))
- `xid_t vc_getfilecontext` (`char` const *filename) VC_ATTR_NONNULL((1))

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) VC_ATTR_NONNULL((3))
- `int vc_get_vhi_name` (`xid_t` xid, `vc_uts_type` type, `char` *val, `size_t` len) VC_ATTR_NONNULL((3))
- `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) VC_ATTR_NONNULL((1))
- `int vc_rem_dlimit` (`char` const *filename, `xid_t` xid, `uint_least32_t` flags) VC_ATTR_NONNULL((1))
- `int vc_set_dlimit` (`char` const *filename, `xid_t` xid, `uint_least32_t` flags, `struct vc_ctx_dlimit` const *limits) VC_ATTR_NONNULL((1))
- `int vc_get_dlimit` (`char` const *filename, `xid_t` xid, `uint_least32_t` flags, `struct vc_ctx_dlimit` *limits) VC_ATTR_NONNULL((1))
- `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 *) VC_ATTR_NONNULL((2))
- `int vc_get_sched` (`xid_t` xid, `struct vc_set_sched *`) VC_ATTR_NONNULL((2))
- `int vc_sched_info` (`xid_t` xid, `struct vc_sched_info` *info) VC_ATTR_NONNULL((2))
- `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) VC_ATTR_NONNULL((1))
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) VC_ATTR_NONNULL((1)
Converts a string into a bcapability-bitmask
Syntax of str:.
- int 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) VC_ATTR_NONNULL((1))
- char const * **vc_lopersonality2text** (uint_least32_t *) VC_ATTR_NONNULL((1))
- int **vc_list2personalityflag** (char const *, size_t len, uint_least32_t *personality, struct **vc_err_listparser** *err) VC_ATTR_NONNULL((1)
- int uint_least32_t **vc_str2personalitytype** (char const *, size_t len) VC_ATTR_NONNULL((1))
- 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_compareVserverById](#) (char const *lhs, vcCfgStyle lhs_style, char const *rhs, vcCfgStyle rhs_style)
- void [vc_exitLikeProcess](#) (int pid, int ret) VC_ATTR_NORETURN
- 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 548 of file vserver.h.

6.2.3.2 an_unsigned_integer_type xid_t

The identifier of a context.

Definition at line 343 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 pkgmanagemt and filesystem (when requested).

6.2.4.3 int 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 vserver configuration directory. When the given vserver 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 vserver. When vserver 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 vserver will be assigned to this variable.

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

Resolves the name of the vserver. 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 vserver 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

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