

Zabby



About me

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- Software developer of monitoring department at i-Free
- Known at i-Free as “zabbix specialist”



Zabbix at i-Free

- ~400 linux servers, ~60 windows servers
- Over 500 usual templates(our servers are usually unique as snowflakes), over 200 trapper templates
- Zero “not supported” items



So you have a “not supported” item

```
blin@vas56y:~$ zabbix_get -s mas03.t02.i-free.ru -k  
vfs.fs.size[/mnt/nfs]
```

```
ZBX_NOTSUPPORTED
```



Why is it not supported?

```
blin@mas03:~$ sudo less /var/log/zabbix-agent/zabbix_agentd.log
...
26998:20130804:185621.832 Requested [vfs.fs.size[/mnt/nfs]]
26998:20130804:185621.832 Sending back [ZBX_NOTSUPPORTED]
...
```



Zabbix agent vs zabby

- Written in C
- Fast
- Small memory footprint
- Written in python
- Simplicity and exception handling as design goals

```
blin@vas56y:~$ zabbix_get -s mas03.t02.i-free.ru -p 10052 -k  
vfs.fs.size[/mnt/nfs]  
ZBX_NOTSUPPORTED
```

```
blin@mas03:~$ sudo less /var/log/zabby/zabby.log  
2013-08-04 19:07:56 DEBUG [zabby.agent] Received request for  
'vfs.fs.size' with arguments [u'/mnt/nfs']  
2013-08-04 19:07:56 ERROR [zabby.agent] When calling function for  
'vfs.fs.size' with [u'/mnt/nfs']  
2013-08-04 19:07:56 ERROR [zabby.agent] Unexpected exception  
occurred: [Errno 2] No such file or directory: '/mnt/nfs'  
2013-08-04 19:07:56 DEBUG [zabby.agent] Responding with  
ZBX_NOTSUPPORTED
```



What leads to an exception?

Key maps to a python function

```
blin@mas03:~$ cat /etc/zabby/items/10_standard.py
from zabby.items import vfs, ...
```

```
items = {
    ...
    'vfs.fs.size': vfs.fs.size,
}
```




```
blin@mas03:~$ zabby_interactive
>>> vfs.fs.size
<function size at 0x7f25be54e2a8>
>>> vfs.fs.size('/mnt/nfs')
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
  File "/usr/lib/python2.6/dist-packages/zabby/items/vfs/fs.py",
line 22, in size
    free, total = host_os.fs_size(filesystem)
  File "/usr/lib/python2.6/dist-packages/zabby/hostos/linux.py",
line 88, in fs_size
    statvfs_struct = os.statvfs(filesystem)
OSError: [Errno 2] No such file or directory: '/mnt/nfs'
```



```
/usr/lib/python2.6/dist-packages/zabby/items/vfs/fs.py
/usr/lib/python2.6/dist-packages/zabby/hostos/linux.py
```

This files are on your local filesystem, you can browse and change them any time you want.

Although, provided documentation should answer any questions you have.

```
>>> help(vfs.fs.size)
```

```
Help on function size in module zabby.items.vfs.fs:
```

```
size(filesystem, mode='total', host_os=<zabby.hostos.linux.Linux
object>)
```

```
Returns free and total fs size converted according to mode
```

```
:param filesystem: what filesystem to check
```

```
:type filesystem: str
```

```
:param mode: one of free, total, used, pfree, pused
```

```
:raises: WrongArgument if unsupported mode is supplied
```

```
:depends on: [host_os.fs_size]
```



```
>>> help(host_os.fs_size)
Help on method fs_size in module zabby.hostos.linux:

fs_size(self, filesystem) method of zabby.hostos.linux.Linux instance
    Uses statvfs system call to obtain information about filesystem

    See `man 3 statvfs` for more information

>>> host_os.fs_size('/mnt/nfs')
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
  File "/usr/lib/python2.6/dist-packages/zabby/hostos/linux.py", line
88, in fs_size
    statvfs_struct = os.statvfs(filesystem)
OSError: [Errno 2] No such file or directory: '/mnt/nfs'
>>> host_os.fs_size('/')
(1832080592896, 1935540150272)
>>> vfs.fs.size('/', 'pfree')
94.654744328116308
```



I know about the problem, it can't be fixed

```
blin@mas03:~$ cat /etc/zabby/items/90_overrides.py
# You can override item definitions here
import logging
from zabby.items import vfs

LOG = logging.getLogger('override')

def fs_size_override(filesystem, mode='total'):
    if filesystem == '/mnt/nfs':
        LOG.info('Overriding vfs.fs.size call for /mnt/nfs')
        return 0
    return vfs.fs.size(filesystem, mode)

items = {
    'vfs.fs.size': fs_size_override,
}
```



```
blin@mas03:~$ python -i /etc/zabby/items/90_overrides.py
>>> items
{'vfs.fs.size': <function fs_size_override at 0x7fb4a03f9668>}
>>> items['vfs.fs.size']('/mnt/nfs')
0
```

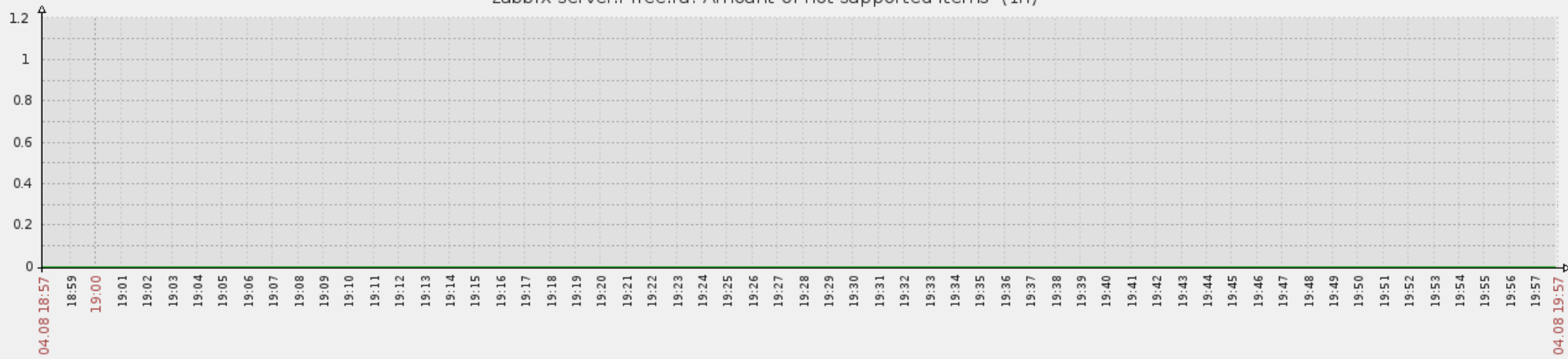
```
blin@mas03:~$ sudo /etc/init.d/zabby reload
Reloading zabby configuration:.
```

```
blin@vas56y:~$ zabbix_get -s mas03.t02.i-free.ru -p 10052 -k
vfs.fs.size[/mnt/nfs]
0
```

```
blin@mas03:~$ sudo less /var/log/zabby/zabby.log
2013-08-04 19:34:36 INFO [__main__] Got SIGHUP, reloading config
...
2013-08-04 19:34:36 DEBUG [zabby.config_manager] Loading items
from /etc/zabby/items
/90_overrides.py
...
2013-08-04 19:34:39 DEBUG [zabby.agent] Received request for
'vfs.fs.size' with arguments [u'/mnt/nfs']
2013-08-04 19:34:39 INFO [override] Overriding vfs.fs.size call
for /mnt/nfs
2013-08-04 19:34:39 DEBUG [zabby.agent] Responding with 0
```



zabbix-server.i-free.ru: Amount of not supported items (1h)



■ Amount of not supported items [all] last 0 min 0 avg 0 max 0

Data from history. Generated in 0.10 sec



Fork me on github :)

<https://github.com/blin/zabby>

