

## 5 Simple checks

### 5.1 Overview

Simple checks are normally used for remote agent-less checks of services.

Note that Zabbix agent is not needed for simple checks. Zabbix server/proxy is responsible for the processing of simple checks (making external connections, etc).

Examples of using simple checks:

```
net.tcp.service[ftp,,155]
net.tcp.service[http]
net.tcp.service.perf[http,,8080]
```

User name and Password fields in simple check item configuration are used for VMware monitoring items; ignored otherwise.

### 5.2 Supported simple checks

List of supported simple checks:

See also:

- [VMware monitoring item keys](#)

Key			
Description	Return value	Parameters	Comments
<b>icmpping[&lt;target&gt;,&lt;packets&gt;,&lt;interval&gt;,&lt;size&gt;,&lt;timeout&gt;]</b>			
Host accessibility by ICMP ping.	0 - ICMP ping fails 1 - ICMP ping successful	<b>target</b> - host IP or DNS name <b>packets</b> - number of packets <b>interval</b> - time between successive packets in milliseconds <b>size</b> - packet size in bytes <b>timeout</b> - timeout in milliseconds	Example: <b>icmpping[,4]</b> - if at least one packet of the four is returned, the item will return 1.  See also: table of <a href="#">default values</a> .
<b>icmppingloss[&lt;target&gt;,&lt;packets&gt;,&lt;interval&gt;,&lt;size&gt;,&lt;timeout&gt;]</b>			

Key			
Description	Return value	Parameters	Comments
Percentage of lost packets.	Float.	<b>target</b> - host IP or DNS name <b>packets</b> - number of packets <b>interval</b> - time between successive packets in milliseconds <b>size</b> - packet size in bytes <b>timeout</b> - timeout in milliseconds	See also: table of <a href="#">default values</a> .
<b>icmpingsec[&lt;target&gt;,&lt;packets&gt;,&lt;interval&gt;,&lt;size&gt;,&lt;timeout&gt;,&lt;mode&gt;]</b>			
ICMP ping response time (in seconds).	Float.	<b>target</b> - host IP or DNS name <b>packets</b> - number of packets <b>interval</b> - time between successive packets in milliseconds <b>size</b> - packet size in bytes <b>timeout</b> - timeout in milliseconds <b>mode</b> - one of min, max, avg (default)	If host is not available (timeout reached), the item will return 0. If the return value is less than 0.0001 seconds, the value will be set to 0.0001 seconds.  See also: table of <a href="#">default values</a> .
<b>net.tcp.service[service,&lt;ip&gt;,&lt;port&gt;]</b>			
Check if service is running and accepting TCP connections.	0 - service is down 1 - service is running	<b>service</b> - one of ssh, ntp, ldap, smtp, ftp, http, pop, nntp, imap, tcp, https, telnet (see <a href="#">details</a> ) <b>ip</b> - IP address or DNS name (by default, host IP/DNS is used) <b>port</b> - port number (by default standard service port number is used).	Example: <b>net.tcp.service[ftp,,45]</b> can be used to test the availability of FTP server on TCP port 45. Note that with <b>tcp</b> service indicating the port is mandatory. Note that these checks may result in additional messages in system daemon logfiles (SMTP and SSH sessions being logged usually). Checking of encrypted protocols (like IMAP on port 993 or POP on port 995) is currently not supported. As a workaround, please use net.tcp.service[tcp,<ip>,<port>] for checks like these. Services <b>https</b> and <b>telnet</b> supported since Zabbix 2.0. Service <b>ntp</b> only works since Zabbix 2.0.15 and Zabbix 2.2.10, despite being available in earlier versions.
<b>net.tcp.service.perf[service,&lt;ip&gt;,&lt;port&gt;]</b>			

Key			
Description	Return value	Parameters	Comments
Service performance check.	0 - service is down sec - number of seconds spent while connecting to the service	<b>service</b> - one of ssh, ntp, ldap, smtp, ftp, http, pop, nntp, imap, tcp, https, telnet (see <a href="#">details</a> ) <b>ip</b> - IP address or DNS name (by default, host IP/DNS is used) <b>port</b> - port number (by default standard service port number is used).	Example: <b>net.tcp.service.perf[ssh]</b> can be used to test the speed of initial response from SSH server. Note that with <b>tcp</b> service indicating the port is mandatory. Checking of encrypted protocols (like IMAP on port 993 or POP on port 995) is currently not supported. As a workaround, please use <code>net.tcp.service.perf[tcp,&lt;ip&gt;,port]</code> for checks like these. Services <b>https</b> and <b>telnet</b> supported since Zabbix 2.0. Service <b>ntp</b> only works since Zabbix 2.0.15 and Zabbix 2.2.10, despite being available in earlier versions. Called <code>tcp_perf</code> before Zabbix 2.0.

### Timeout processing

Zabbix will not process a simple check longer than the Timeout seconds defined in the Zabbix server/proxy configuration file.

### 5.3 ICMP pings

Zabbix uses external utility **fping** for processing of ICMP pings.

The utility is not part of Zabbix distribution and has to be additionally installed. If the utility is missing, has wrong permissions or its location does not match the location set in the Zabbix server/proxy configuration file ('FpingLocation' parameter), ICMP pings (**icmpping**, **icmppingloss**, **icmppingsec**) will not be processed.

See also: [known issues](#)

**fping** must be executable by the user Zabbix daemons run as and setuid root. Run these commands as user **root** in order to set up correct permissions:

```
shell> chown root:zabbix /usr/sbin/fping
shell> chmod 4710 /usr/sbin/fping
```

After performing the two commands above check ownership of the **fping** executable. In some cases the ownership can be reset by executing the `chmod` command.

Defaults, limits and description of values for ICMP check parameters:

Parameter	Unit	Description	Fping's flag	Defaults set by		Allowed limits by Zabbix	
				fping	Zabbix	min	max
packets	number	number of request packets to a target	-C		3	1	10000

Parameter	Unit	Description	Fping's flag	Defaults set by		Allowed limits by Zabbix	
				fping	Zabbix	min	max
interval	milliseconds	time to wait between successive packets	-p	1000		20	unlimited
size	bytes	packet size in bytes 56 bytes on x86, 68 bytes on x86_64	-b	56 or 68		24	65507
timeout	milliseconds	<b>fping v3.x</b> - timeout to wait after last packet sent (affected by "-C" flag) <b>fping v4.x</b> - individual timeout for each packet	-t	<b>fping v3.x</b> - 500 <b>fping v4.x</b> - inherited from -p flag, but not more than 2000		50	unlimited

Warning: fping defaults can differ depending on platform and version - if in doubt, check fping documentation.

Zabbix writes IP addresses to be checked by any of three *icmping\** keys to a temporary file, which is then passed to **fping**. If items have different key parameters, only ones with identical key parameters are written to a single file.

All IP addresses written to the single file will be checked by fping in parallel, so Zabbix icmp pinger process will spend fixed amount of time disregarding the number of IP addresses in the file.

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