

1 Zabbix agent

Overview

These checks use the communication with Zabbix agent for data gathering.

There are [passive](#) and [active](#) agent checks. When configuring an item, you can select the required type:

- *Zabbix agent* - for passive checks
- *Zabbix agent (active)* - for active checks

Supported item keys

The table provides details on the item keys that you can use with Zabbix agent items.

See also:

- [Items supported by platform](#)
- [Item keys specific for WIN32 agent](#)

Mandatory and optional parameters

Parameters without angle brackets are mandatory. Parameters marked with angle brackets < > are optional.

Key			
Description	Return value	Parameters	Comments
agent.hostname			
Agent host name.	String		Returns the actual value of the agent hostname from a configuration file.
agent.ping			
Agent availability check.	Nothing - unavailable 1 - available		Use function nodata() to check for host unavailability.
agent.version			
Version of Zabbix agent.	String		Example of returned value: 1.8.2
kernel.maxfiles			
Maximum number of opened files supported by OS.	Integer		
kernel.maxproc			
Maximum number of processes supported by OS.	Integer		
log[file,<regexp>,<encoding>,<maxlines>,<mode>,<output>]			

Key			
Description	Return value	Parameters	Comments
Monitoring of log file.	Log	<p>file - full path and name of log file</p> <p>regexp - regular expression describing the required pattern</p> <p>encoding - code page identifier</p> <p>maxlines - maximum number of new lines per second the agent will send to Zabbix server or proxy. This parameter overrides the value of 'MaxLinesPerSecond' in zabbix_agentd.conf</p> <p>mode - possible values: <i>all</i> (default), <i>skip</i> - skip processing of older data (affects only newly created items that have not returned any data yet). The mode parameter is supported from version 2.0.</p> <p>output - an optional output formatting template. The \0 escape sequence is replaced with the matched part of text (from the first character where match begins until the character where match ends) while an \N (where N=1...9) escape sequence is replaced with Nth matched group (or an empty string if the N exceeds the number of captured groups). If <output> is left empty - the whole line containing the matched text is returned. Note that all global regular expression types except 'Result is TRUE' always return the whole matched line and the <output> parameter is ignored. The output parameter is supported from version 2.2.</p>	<p>The item must be configured as an active check. If file is missing or permissions do not allow access, item turns unsupported.</p> <p>Content extraction using the output parameter takes place on the agent.</p> <p><i>Examples:</i> log[/var/log/syslog] log[/var/log/syslog,error] log[/home/zabbix/logs/logfile,,,100]</p> <p><i>Example of using output parameter for extracting a number from log record:</i> log[/app1/app.log,"task run [0-9.]+ sec, processed ([0-9]+) records, [0-9]+ errors",,,1]→ will match a log record "2015-11-13 10:08:26 task run 6.08 sec, processed 6080 records, 0 errors" and send only number 6080 to server. Because a number is being sent, the "Type of information" for this log item can be changed from "Log" to "Numeric (unsigned)" and the value can be used in graphs, triggers etc.</p> <p><i>Example of using output parameter for rewriting log record before sending to server:</i> log[/app1/app.log,"([0-9 :-]+) task run ([0-9.]+) sec, processed ([0-9]+) records, ([0-9]+) errors",,,1 RECORDS: \3, ERRORS: \4, DURATION: \2"]→ will match a log record "2015-11-13 10:08:26 task run 6.08 sec, processed 6080 records, 0 errors " and send a modified record "2015-11-13 10:08:26 RECORDS: 6080, ERRORS: 0, DURATION: 6.08" to server.</p> <p>See also additional information on log monitoring.</p>
logrt[file_regexp,<regexp>,<encoding>,<maxlines>,<mode>,<output>]			

Key			
Description	Return value	Parameters	Comments
Monitoring of log file with log rotation support.	Log	<p>file_regexp - absolute path to file and regexp describing the file name pattern</p> <p>regexp - regular expression describing the required content pattern</p> <p>encoding - code page identifier</p> <p>maxlines - maximum number of new lines per second the agent will send to Zabbix server or proxy. This parameter overrides the value of 'MaxLinesPerSecond' in zabbix_agentd.conf</p> <p>mode - possible values: <i>all</i> (default), <i>skip</i> - skip processing of older data (affects only newly created items that have not returned any data yet). The mode parameter is supported from version 2.0.</p> <p>output - an optional output formatting template. The \0 escape sequence is replaced with the matched part of text (from the first character where match begins until the character where match ends) while an \N (where N=1...9) escape sequence is replaced with Nth matched group (or an empty string if the N exceeds the number of captured groups). If <output> is left empty - the whole line containing the matched text is returned. Note that all global regular expression types except 'Result is TRUE' always return the whole matched line and the <output> parameter is ignored. The output parameter is supported from version 2.2.</p>	<p>The item must be configured as an active check. Log rotation is based on the last modification time of files.</p> <p>Note that logrt is designed to work with one currently active log file, with several other matching inactive files rotated. If, for example, a directory has many active log files, a separate logrt item should be created for each one. Otherwise if one logrt item picks up too many files it may lead to exhausted memory and a crash of monitoring.</p> <p>Content extraction using the output parameter takes place on the agent.</p> <p><i>Examples:</i> logrt["/home/zabbix/logs/^logfile[0-9]{1,3}\$",,,,100]→ will match a file like "logfile1" (will not match ".logfile1") logrt["/home/user/^logfile_*_[0-9]{1,3}\$","pattern_to_match","UTF-8",100] - will collect data from files such "logfile_abc_1" or "logfile__001".</p> <p><i>Example of using output parameter for extracting a number from log record:</i> logrt[/app1/^test.*log\$, "task run [0-9]+ sec, processed ([0-9]+) records, [0-9]+ errors",,,,1]→ will match a log record "2015-11-13 10:08:26 task run 6.08 sec, processed 6080 records, 0 errors" and send only number 6080 to server. Because a number is being sent, the "Type of information" for this log item can be changed from "Log" to "Numeric (unsigned)" and the value can be used in graphs, triggers etc.</p> <p><i>Example of using output parameter for rewriting log record before sending to server:</i> logrt[/app1/^test.*log\$, "([0-9 :-]+) task run ([0-9.]+) sec, processed ([0-9]+) records, ([0-9]+) errors",,,, "\1 RECORDS: \3, ERRORS: \4, DURATION: \2"]→ will match a log record "2015-11-13 10:08:26 task run 6.08 sec, processed 6080 records, 0 errors " and send a modified record "2015-11-13 10:08:26 RECORDS: 6080, ERRORS: 0, DURATION: 6.08" to server.</p> <p>See also additional information on log monitoring.</p>
net.dns[<ip>,name,<type>,<timeout>,<count>]			
Checks if DNS service is up.	0 - DNS is down (server did not respond or DNS resolution failed) 1 - DNS is up	<p>ip - IP address of DNS server (leave empty for the default DNS server, ignored on Windows)</p> <p>name - DNS name to query</p> <p>type - record type to be queried (default is SOA)</p> <p>timeout (ignored on Windows) - timeout for the request in seconds (default is 1 second)</p> <p>count (ignored on Windows) - number of tries for the request (default is 2)</p>	<p><i>Example key:</i> net.dns[8.8.8.8,zabbix.com,MX,2,1]</p> <p>The possible values for type are: ANY, A, NS, CNAME, MB, MG, MR, PTR, MD, MF, MX, SOA, NULL, WKS (except for Windows), HINFO, MINFO, TXT, SRV</p> <p>SRV record type is supported since Zabbix agent versions 1.8.6 (Unix) and 2.0.0 (Windows).</p> <p>Internationalized domain names are not supported, please use IDNA encoded names instead.</p> <p>Naming before Zabbix 2.0 (still supported): <i>net.tcp.dns</i></p>
net.dns.record[<ip>,name,<type>,<timeout>,<count>]			
Performs a DNS query.	Character string with the required type of information	<p>ip - IP address of DNS server (leave empty for the default DNS server, ignored on Windows)</p> <p>name - DNS name to query</p> <p>type - record type to be queried (default is SOA)</p> <p>timeout (ignored on Windows) - timeout for the request in seconds (default is 1 second)</p> <p>count (ignored on Windows) - number of tries for the request (default is 2)</p>	<p><i>Example key:</i> net.dns.record[8.8.8.8,zabbix.com,MX,2,1]</p> <p>The possible values for type are: ANY, A, NS, CNAME, MB, MG, MR, PTR, MD, MF, MX, SOA, NULL, WKS (except for Windows), HINFO, MINFO, TXT, SRV</p> <p>SRV record type is supported since Zabbix agent versions 1.8.6 (Unix) and 2.0.0 (Windows).</p> <p>Internationalized domain names are not supported, please use IDNA encoded names instead.</p> <p>Naming before Zabbix 2.0 (still supported): <i>net.tcp.dns.query</i></p>
net.if.collisions[if]			

Key			
Description	Return value	Parameters	Comments
Number of out-of-window collisions.	Integer	if - interface	
net.if.discovery			
List of network interfaces. Used for low-level discovery.	JSON object		Supported since Zabbix agent version 2.0. On FreeBSD, OpenBSD and NetBSD supported since Zabbix agent version 2.2. Some Windows versions (for example, Server 2008) might require the latest updates installed to support non-ASCII characters in interface names.
net.if.in[if,<mode>]			
Incoming traffic statistics on network interface.	Integer	if - network interface name (Unix); network interface full description or IPv4 address (Windows) mode - possible values: <i>bytes</i> - number of bytes (default) <i>packets</i> - number of packets <i>errors</i> - number of errors <i>dropped</i> - number of dropped packets	Multi-byte interface names on Windows are supported since Zabbix agent version 1.8.6. Examples: ⇒ net.if.in[eth0,errors] ⇒ net.if.in[eth0] You may obtain network interface descriptions on Windows with net.if.discovery or net.if.list items. You may use this key with a <i>Delta (speed per second)</i> store value in order to get bytes per second statistics.
net.if.out[if,<mode>]			
Outgoing traffic statistics on network interface.	Integer	if - network interface name (Unix); network interface full description or IPv4 address (Windows) mode - possible values: <i>bytes</i> - number of bytes (default) <i>packets</i> - number of packets <i>errors</i> - number of errors <i>dropped</i> - number of dropped packets	Multi-byte interface names on Windows are supported since Zabbix agent 1.8.6 version. Examples: ⇒ net.if.out[eth0,errors] ⇒ net.if.out[eth0] You may obtain network interface descriptions on Windows with net.if.discovery or net.if.list items. You may use this key with a <i>Delta (speed per second)</i> store value in order to get bytes per second statistics.
net.if.total[if,<mode>]			
Sum of incoming and outgoing traffic statistics on network interface.	Integer	if - network interface name (Unix); network interface full description or IPv4 address (Windows) mode - possible values: <i>bytes</i> - number of bytes (default) <i>packets</i> - number of packets <i>errors</i> - number of errors <i>dropped</i> - number of dropped packets	Examples: ⇒ net.if.total[eth0,errors] ⇒ net.if.total[eth0] You may obtain network interface descriptions on Windows with net.if.discovery or net.if.list items. You may use this key with a <i>Delta (speed per second)</i> store value in order to get bytes per second statistics. Note that dropped packets are supported only if both net.if.in and net.if.out work for dropped packets on your platform.
net.tcp.listen[port]			
Checks if this TCP port is in LISTEN state.	0 - it is not in LISTEN state 1 - it is in LISTEN state	port - TCP port number	Example: net.tcp.listen[80] On Linux supported since Zabbix agent version 1.8.4
net.tcp.port[<ip>,<port>]			
Checks if it is possible to make TCP connection to port number port.	0 - cannot connect 1 - can connect	ip - IP address (default is 127.0.0.1) port - port number	Example: net.tcp.port[,80] can be used to test availability of web server running on port 80. Old naming: check_port[*] For simple TCP performance testing use net.tcp.service.perf[tcp,<ip>,<port>] Note that these checks may result in additional messages in system daemon logfiles (SMTP and SSH sessions being logged usually).
net.tcp.service[service,<ip>,<port>]			

Key			
Description	Return value	Parameters	Comments
Checks if service is running and accepting TCP connections.	0 - service is down 1 - service is running	service - either of: <i>ssh, ntp, ldap, smtp, ftp, http, pop, nntp, imap, tcp, https, telnet</i> (see details) ip - IP address (default is 127.0.0.1) port - port number (by default standard service port number is used)	<i>Example key:</i> net.tcp.service[ftp,,45] - can be used to test the availability of FTP server on TCP port 45. 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.port for checks like these. Checking of LDAP and HTTPS by Windows agent is currently not supported. Note that the telnet check looks for a login prompt (':' at the end). Old naming: check_service[*] https and telnet services are supported since Zabbix 2.0. ntp service only works since Zabbix 2.0.15 and Zabbix 2.2.10, despite being available in earlier versions.
net.tcp.service.perf[service,<ip>,<port>]			
Checks performance of service.	0 - service is down seconds - the number of seconds spent while connecting to the service	service - either of: <i>ssh, ntp, ldap, smtp, ftp, http, pop, nntp, imap, tcp, https, telnet</i> (see details) ip - IP address (default is 127.0.0.1) port - port number (by default standard service port number is used)	<i>Example key:</i> net.tcp.service.perf[ssh] - can be used to test the speed of initial response from SSH server. 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.perf[tcp,<ip>,<port>] for checks like these. Checking of LDAP and HTTPS by Windows agent is currently not supported. Note that the telnet check looks for a login prompt (':' at the end). Old naming: check_service_perf[*] https and telnet services are supported since Zabbix 2.0. ntp service only works since Zabbix 2.0.15 and Zabbix 2.2.10, despite being available in earlier versions.
net.udp.listen[port]			
Checks if this UDP port is in LISTEN state.	0 - it is not in LISTEN state 1 - it is in LISTEN state	port - UDP port number	<i>Example:</i> net.udp.listen[68] On Linux supported since Zabbix agent version 1.8.4
proc.mem[<name>,<user>,<mode>,<cmdline>]			
Memory used by process in bytes.	Integer - with mode as <i>max, min, sum</i> Float - with mode as <i>avg</i>	name - process name (default is <i>all processes</i>) user - user name (default is <i>all users</i>) mode - possible values: <i>avg, max, min, sum</i> (default) cmdline - filter by command line (it is a regular expression)	<i>Example keys:</i> proc.mem[,root] - memory used by all processes running under the "root" user proc.mem[zabbix_server,zabbix] - memory used by all zabbix_server processes running under the zabbix user proc.mem[,oracle,max,oracleZABBIX] - memory used by the most memory-hungry process running under oracle having oracleZABBIX in its command line <i>Note:</i> When several processes use shared memory, the sum of memory used by processes may result in large, unrealistic values.
proc.num[<name>,<user>,<state>,<cmdline>]			
The number of processes.	Integer	name - process name (default is <i>all processes</i>) user - user name (default is <i>all users</i>) state - possible values: <i>all</i> (default), <i>run, sleep, zomb</i> cmdline - filter by command line (it is a regular expression)	<i>Example keys:</i> proc.num[,mysql] - number of processes running under the mysql user proc.num[apache2,www-data] - number of apache2 processes running under the www-data user proc.num[,oracle,sleep,oracleZABBIX] - number of processes in sleep state running under oracle having oracleZABBIX in its command line On Windows, only the <i>name</i> and <i>user</i> parameters are supported.
sensor[device,sensor,<mode>]			
Hardware sensor reading.	Float	device - device name sensor - sensor name mode - possible values: <i>avg, max, min</i> (if this parameter is omitted, device and sensor are treated verbatim).	On Linux 2.4, reads <i>/proc/sys/dev/sensors</i> . <i>Example key:</i> sensor[w83781d-i2c-0-2d,temp1] Prior to Zabbix 1.8.4, the sensor[temp1] format was used. On Linux 2.6+, reads <i>/sys/class/hwmon</i> . See a more detailed description of sensor item on Linux. On OpenBSD, reads the <i>hw.sensors</i> MIB. <i>Example keys:</i> sensor[cpu0,temp0] - temperature of one CPU sensor["cpu[0-2]\$,temp,avg] - average temperature of the first three CPU's Supported on OpenBSD since Zabbix 1.8.4.

Key			
Description	Return value	Parameters	Comments
system.boottime			
System boot time.	Integer (Unix timestamp)		
system.cpu.intr			
Device interrupts.	Integer		
system.cpu.load[<cpu>,<mode>]			
CPU load.	Float	cpu - possible values: <i>all</i> (default), <i>percpu</i> (total load divided by online CPU count) mode - possible values: <i>avg1</i> (one-minute average, default), <i>avg5</i> (5-minute average), <i>avg15</i> (an average within 15 minutes)	<i>Example key:</i> <code>system.cpu.load[,avg5]</code> Old naming: <code>system.cpu.loadX</code> Parameter percpu is supported since Zabbix 2.0.0.
system.cpu.num[<type>]			
Number of CPUs.	Integer	type - possible values: <i>online</i> (default), <i>max</i>	<i>Example key:</i> <code>system.cpu.num</code>
system.cpu.switches			
Count of context switches.	Integer		Old naming: <code>system[switches]</code>
system.cpu.util[<cpu>,<type>,<mode>]			
CPU utilisation in percent.	Float	cpu - CPU number (default is all CPUs) type - possible values: <i>idle</i> , <i>nice</i> , <i>user</i> (default), <i>system</i> (default for Windows), <i>lowait</i> , <i>interrupt</i> , <i>softirq</i> , <i>steal</i> mode - possible values: <i>avg1</i> (one-minute average, default), <i>avg5</i> (5-minute average), <i>avg15</i> (an average within 15 minutes)	<i>Example key:</i> <code>system.cpu.util[0,user,avg5]</code> Old naming: <code>system.cpu.idleX</code> , <code>system.cpu.niceX</code> , <code>system.cpu.systemX</code> , <code>system.cpu.userX</code>
system.hostname[<type>]			
System host name.	String	type (Windows only, must not be used on other systems) - possible values: <i>netbios</i> (default) or <i>host</i>	The value is acquired by either <code>GetComputerName()</code> (for netbios) or <code>gethostname()</code> (for host) functions on Windows and by "hostname" command on other systems. The type parameter for this item is supported since 1.8.6 version. Examples of returned values: on Linux: <code>system.hostname</code> → <code>linux-w7x1</code> <code>system.hostname</code> → <code>www.zabbix.com</code> on Windows: <code>system.hostname</code> → <code>WIN-SERV2008-I6</code> <code>system.hostname[host]</code> → <code>Win-Serv2008-I6LonG</code> See also a more detailed description .
system.hw.chassis[<info>]			
Chassis information.	String	info - one of full (default), model, serial, type or vendor	Example: <code>system.hw.chassis[full]</code> <code>Hewlett-Packard HP Pro 3010 Small Form Factor PC CZXXXXXXXX Desktop</code> This key depends on the availability of the SMBIOS table. Will try to read the DMI table from <code>sysfs</code> , if <code>sysfs</code> access fails then try reading directly from memory. Root permissions are required because the value is acquired by reading from <code>sysfs</code> or memory. Supported since Zabbix agent version 2.0.
system.hw.cpu[<cpu>,<info>]			

Key			
Description	Return value	Parameters	Comments
CPU information.	String or integer	cpu - CPU number or all (default) info - one of full (default), currfreq, maxfreq, model or vendor	Example: system.hw.cpu[0,vendor] AuthenticAMD Gathers info from /proc/cpuinfo and /sys/devices/system/cpu/[cpunum]/cpufreq/cpuinfo_max_freq. If a CPU number and currfreq or maxfreq is specified, a numeric value is returned (Hz). Supported since Zabbix agent version 2.0.
system.hw.devices[<type>]			
Listing of PCI or USB devices.	Text	type - pci (default) or usb	Example: system.hw.devices[pci] 00:00.0 Host bridge: Advanced Micro Devices [AMD] RS780 Host Bridge [..] Returns the output of either lspci or lsusb utility (executed without any parameters) Supported since Zabbix agent version 2.0.
system.hw.macaddr[<interface>,<format>]			
Listing of MAC addresses.	String	interface - all (default) or a regular expression format - full (default) or short	Example: system.hw.macaddr["eth0\$",full] [eth0] 00:11:22:33:44:55 Lists MAC addresses of the interfaces whose names match the given interface regexp (<i>all</i> lists for all interfaces). If format is specified as short , interface names and identical MAC addresses are not listed. Supported since Zabbix agent version 2.0.
system.localtime[<type>]			
System time.	Integer - with type as <i>utc</i> String - with type as <i>local</i>	utc - (default) the time since the Epoch (00:00:00 UTC, January 1, 1970), measured in seconds. local - the time in the 'yyyy-mm-dd,hh:mm:ss.nnn,+hh:mm' format Parameters for this item supported from version 2.0.	Example: system.localtime[local] - create an item using this key and then use it to display host time in the <i>Clock</i> screen element.
system.run[command,<mode>]			
Run specified command on the host.	Text result of the command 1 - with mode as <i>nowait</i> (regardless of command result)	command - command for execution mode - one of wait (default, wait end of execution), nowait (do not wait)	Up to 512KB of data can be returned, including trailing whitespace that is truncated. To be processed correctly, the output of the command must be text. Example: system.run[ls -l /] - detailed file list of root directory. <i>Note:</i> To enable this functionality, agent configuration file must have EnableRemoteCommands=1 option. See also: Command execution .
system.stat[resource,<type>]			

Key			
Description	Return value	Parameters	Comments
System statistics.	Integer or float	<p>ent - number of processor units this partition is entitled to receive (float)</p> <p>kthr,<type> - information about kernel thread states:</p> <p>r - average number of runnable kernel threads (float)</p> <p>b - average number of kernel threads placed in the Virtual Memory Manager wait queue (float)</p> <p>memory,<type> - information about the usage of virtual and real memory:</p> <p>avm - active virtual pages (integer)</p> <p>fre - size of the free list (integer)</p> <p>page,<type> - information about page faults and paging activity:</p> <p>fi - file page-ins per second (float)</p> <p>fo - file page-outs per second (float)</p> <p>pi - pages paged in from paging space (float)</p> <p>po - pages paged out to paging space (float)</p> <p>fr - pages freed (page replacement) (float)</p> <p>sr - pages scanned by page-replacement algorithm (float)</p> <p>faults,<type> - trap and interrupt rate:</p> <p>in - device interrupts (float)</p> <p>sy - system calls (float)</p> <p>cs - kernel thread context switches (float)</p> <p>cpu,<type> - breakdown of percentage usage of processor time:</p> <p>us - user time (float)</p> <p>sy - system time (float)</p> <p>id - idle time (float)</p> <p>wa - idle time during which the system had outstanding disk/NFS I/O request(s) (float)</p> <p>pc - number of physical processors consumed (float)</p> <p>ec - the percentage of entitled capacity consumed (float)</p> <p>lbusy - indicates the percentage of logical processor(s) utilization that occurred while executing at the user and system level (float)</p> <p>app - indicates the available physical processors in the shared pool (float)</p> <p>disk,<type> - disk statistics:</p> <p>bps - indicates the amount of data transferred (read or written) to the drive in bytes per second (integer)</p> <p>tps - indicates the number of transfers per second that were issued to the physical disk/tape (float)</p> <p>This item is supported starting from version 1.8.1.</p>	
system.sw.arch			
Software architecture information.	String		<p>Example: system.sw.arch i686</p> <p>Info is acquired from uname() function.</p> <p>Supported since Zabbix agent version 2.0.</p>
system.sw.os[<info>]			
Operating system information.	String	info - one of full (default), short or name	<p>Example: system.sw.os[short] Ubuntu 2.6.35-28.50-generic 2.6.35.11</p> <p>Info is acquired from (note that not all files are present in all distributions): [full] - /proc/version [short] - /proc/version_signature [name] - /etc/issue.net</p> <p>Supported since Zabbix agent version 2.0.</p>
system.sw.packages[<package>,<manager>,<format>]			
Listing of installed packages.	Text	<p>package - all (default) or a regular expression</p> <p>manager - all (default) or a package manager</p> <p>format - full (default) or short</p>	<p>Example: system.sw.packages[mini,dpkg,short] python-minimal, python2.6-minimal, ubuntu-minimal</p> <p>Lists (alphabetically) installed packages whose names match the given package regexp (<i>all</i> lists them all).</p> <p>Supported packages managers: manager (executed command) dpkg (dpkg --get-selections) pkgtool (ls /var/log/packages) rpm (rpm -qa) pacman (pacman -Q)</p> <p>If format is specified as full, packages are grouped by package managers (each manager on a separate line beginning with it's name in square brackets). If format is specified as short, packages are not grouped and are listed on a single line.</p> <p>Supported since Zabbix agent version 2.0.</p>
system.swap.in[<device>,<type>]			

Key			
Description	Return value	Parameters	Comments
Swap in (from device into memory) statistics.	Integer	device - device used for swapping (default is all) type - possible values: <i>count</i> (number of swapins), <i>sectors</i> (sectors swapped in), <i>pages</i> (pages swapped in). See supported by platform for details on defaults.	<i>Example key:</i> system.swap.in[,pages] <i>The source of this information is:</i> <i>Linux 2.4:</i> /proc/swaps, /proc/partitions, /proc/stat <i>Linux 2.6:</i> /proc/swaps, /proc/diskstats, /proc/vmstat
system.swap.out[<device>,<type>]			
Swap out (from memory onto device) statistics.	Integer	device - device used for swapping (default is all) type - possible values: <i>count</i> (number of swapouts), <i>sectors</i> (sectors swapped out), <i>pages</i> (pages swapped out). See supported by platform for details on defaults.	<i>Example key:</i> system.swap.out[,pages] <i>The source of this information is:</i> <i>Linux 2.4:</i> /proc/swaps, /proc/partitions, /proc/stat <i>Linux 2.6:</i> /proc/swaps, /proc/diskstats, /proc/vmstat
system.swap.size[<device>,<type>]			
Swap space size in bytes or in percentage from total.	Integer - for bytes Float - for percentage ¹	device - device used for swapping (default is all) type - possible values: <i>free</i> (free swap space, default), <i>pfree</i> (free swap space, in percent), <i>used</i> (used swap space, in percent), <i>total</i> (total swap space), <i>used</i> (used swap space)	<i>Example key:</i> system.swap.size[,pfree] - free swap space percentage If <i>device</i> is not specified Zabbix agent will only take into account swap devices (files), physical memory will be ignored. For example, on Solaris systems <i>swap -s</i> command includes a portion of physical memory and swap devices (unlike <i>swap -l</i>). Old naming: system.swap.free, system.swap.total
system.uname			
Detailed host information.	String		<i>Example of returned value:</i> FreeBSD localhost 4.2-RELEASE FreeBSD 4.2-RELEASE #0: Mon Nov i386 Since Zabbix 2.2.0, the value for this item is obtained by using the <code>uname()</code> system call, whereas previously it was obtained by invoking “ <code>uname -a</code> ” on Unix systems. Hence, the value of this item might differ from the output of “ <code>uname -a</code> ” and does not include additional information that “ <code>uname -a</code> ” prints based on other sources.
system.uptime			
System uptime in seconds.	Integer		In item configuration , use s or uptime units to get readable values.
system.users.num			
Number of users logged in.	Integer		who command is used on the agent side to obtain the value.
vfs.dev.read[<device>,<type>,<mode>]			
Disk read statistics.	Integer - with type in <i>sectors</i> , <i>operations</i> , <i>bytes</i> Float - with type in <i>sps</i> , <i>ops</i> , <i>bps</i>	device - disk device (default is <i>all</i> ²) type - possible values: <i>sectors</i> , <i>operations</i> , <i>bytes</i> , <i>sps</i> , <i>ops</i> , <i>bps</i> (must be specified, since defaults differ under various OSes). <i>sps</i> , <i>ops</i> , <i>bps</i> stand for: sectors, operations, bytes per second, respectively mode - possible values: <i>avg1</i> (one-minute average, default), <i>avg5</i> (five-minute average), <i>avg15</i> (15-minute average). <i>Note:</i> The third parameter is supported only if the type is in: <i>sps</i> , <i>ops</i> , <i>bps</i> .	Default values of 'type' parameter for different OSes: FreeBSD - <i>bps</i> Linux - <i>sps</i> OpenBSD - <i>operations</i> Solaris - <i>bytes</i> <i>Example key:</i> vfs.dev.read[,operations] Old naming: io[*] Usage of the type parameters <i>ops</i> , <i>bps</i> and <i>sps</i> on supported platforms used to be limited to 8 devices (7 individual devices and one <i>all</i>). Starting with Zabbix 2.0.1 this limit has been increased to 1024 (1023 individual devices and one for <i>all</i>). Supports LVM since Zabbix 1.8.6. Until Zabbix 1.8.6, only relative device names may be used (for example, sda), since 1.8.6 an optional /dev/ prefix may be used (for example, /dev/sda)
vfs.dev.write[<device>,<type>,<mode>]			

Key			
Description	Return value	Parameters	Comments
Disk write statistics.	Integer - with type in <i>sectors, operations, bytes</i> Float - with type in <i>sps, ops, bps</i>	device - disk device (default is <i>all</i>) type - one of sectors, operations, bytes, sps, ops, bps (must specify exactly which parameter to use, since defaults are different under various OSes). sps, ops, bps means: sectors, operations, bytes per second respectively mode - one of avg1 (default), avg5 (average within 5 minutes), avg15. <i>Note:</i> The third parameter is supported only if the type is in: sps, ops, bps.	Default values of 'type' parameter for different OSes: FreeBSD - bps Linux - sps OpenBSD - operations Solaris - bytes Example: <code>vfs.dev.write[,operations]</code> Old naming: <code>io[*]</code> The type parameters ops, bps and sps on supported platforms used to be limited to 8 devices (7 individual devices and one <i>all</i>). Starting with Zabbix 2.0.1 this limit has been increased to 1024 (1023 individual devices and one for <i>all</i>). Supports LVM since Zabbix 1.8.6. Until Zabbix 1.8.6, only relative device names may be used (for example, sda), since 1.8.6 optional /dev/ prefix may be used (for example, /dev/sda)
vfs.file.cksum[file]			
File checksum, calculated by the UNIX cksum algorithm.	Integer	file - full path to file	Example of returned value: 1938292000 Example: <code>vfs.file.cksum[/etc/passwd]</code> Old naming: cksum The file size limit depends on large file support .
vfs.file.contents[file,<encoding>]			
Retrieving contents of a file.	Text	file - full path to file encoding - code page identifier	Returns an empty string if the file is empty or contains LF/CR characters only. Example: <code>vfs.file.contents[/etc/passwd]</code> This item is limited to files no larger than 64 Kbytes. Supported since Zabbix agent version 2.0.
vfs.file.exists[file]			
Checks if file exists.	0 - not found 1 - regular file or a link (symbolic or hard) to regular file exists	file - full path to file	Example: <code>vfs.file.exists[/tmp/application.pid]</code> The return value depends on what S_ISREG POSIX macro returns. The file size limit depends on large file support .
vfs.file.md5sum[file]			
MD5 checksum of file.	Character string (MD5 hash of the file)	file - full path to file	Example of returned value: b5052dec577e0fffd622d6ddc017e82 Example: <code>vfs.file.md5sum[/usr/local/etc/zabbix_agentd.conf]</code> The file size limit (64 MB) for this item was removed in version 1.8.6. The file size limit depends on large file support .
vfs.file.regex[file,regexp,<encoding>,<start line>,<end line>,<output>]			

Key			
Description	Return value	Parameters	Comments
Find string in a file.	The line containing the matched string, or as specified by the optional output parameter	file - full path to file regexp - GNU regular expression encoding - code page identifier start line - the number of first line to search (first line of file by default). end line - the number of last line to search (last line of file by default). output - an optional output formatting template. The <code>\0</code> escape sequence is replaced with the matched part of text (from the first character where match begins until the character where match ends) while an <code>\N</code> (where <code>N=1...9</code>) escape sequence is replaced with <code>N</code> th matched group (or an empty string if the <code>N</code> exceeds the number of captured groups).	Only the first matching line is returned. An empty string is returned if no line matched the expression. Content extraction using the output parameter takes place on the agent. The start line, end line and output parameters are supported from version 2.2. Examples: ⇒ <code>vfs.file.regexp[/etc/passwd,zabbix]</code> ⇒ <code>vfs.file.regexp[/path/to/some/file,"([0-9]+)\$",,3,5,\1]</code> ⇒ <code>vfs.file.regexp[/etc/passwd,^zabbix::([0-9]+),,,,1]</code> → getting the ID of user <i>zabbix</i>
vfs.file.regmatch[file,regexp,<encoding>,<start line>,<end line>]			
Find string in a file.	0 - match not found 1 - found	file - full path to file regexp - GNU regular expression encoding - code page identifier start line - the number of first line to search (first line of file by default). end line - the number of last line to search (last line of file by default).	The start line and end line parameters are supported from version 2.2. Example: ⇒ <code>vfs.file.regmatch[/var/log/app.log,error]</code>
vfs.file.size[file]			
File size (in bytes).	Integer	file - full path to file	File must have read permissions for user zabbix Example: <code>vfs.file.size[/var/log/syslog]</code> The file size limit depends on large file support .
vfs.file.time[file,<mode>]			
File time information.	Integer (Unix timestamp)	file - full path to the file mode - possible values: <i>modify</i> (default) - last time of modifying file content, <i>access</i> - last time of reading file, <i>change</i> - last time of changing file properties	Example: <code>vfs.file.time[/etc/passwd,modify]</code> The file size limit depends on large file support .
vfs.fs.discovery			
List of mounted filesystems. Used for low-level discovery.	JSON object		Supported since Zabbix agent version 2.0.
vfs.fs.inode[fs,<mode>]			
Number or percentage of inodes.	Integer - for number Float - for percentage	fs - filesystem mode - one of total (default), free, used, pfree (free, percentage), pused (used, percentage)	Example: <code>vfs.fs.inode[/,pfree]</code> Old naming: <code>vfs.fs.inode.free[*]</code> , <code>vfs.fs.inode.pfree[*]</code> , <code>vfs.fs.inode.total[*]</code>
vfs.fs.size[fs,<mode>]			
Disk space in bytes or in percentage from total.	Integer - for bytes Float - for percentage	fs - filesystem mode - one of total (default), free, used, pfree (free, percentage), pused (used, percentage)	In case of a mounted volume, disk space for local file system is returned. Example: <code>vfs.fs.size[/tmp,free]</code> Reserved space of a file system is taken into account and not included when using the <i>free</i> mode. Old naming: <code>vfs.fs.free[*]</code> , <code>vfs.fs.total[*]</code> , <code>vfs.fs.used[*]</code> , <code>vfs.fs.pfree[*]</code> , <code>vfs.fs.pused[*]</code>
vm.memory.size[<mode>]			

Key			
Description	Return value	Parameters	Comments
Memory size in bytes or in percentage from total.	Integer - for bytes Float - for percentage	mode - one of total (default), active, anon, buffers, cached, exec, file, free, inactive, pinned, shared, wired, used, pused, available, pavailable	Old naming: vm.memory.buffers, vm.memory.cached, vm.memory.free, vm.memory.shared, vm.memory.total Item vm.memory.size[] accepts three categories of parameters. First category consists of total - total amount of memory. Second category contains platform-specific memory types: active, anon, buffers, cached, exec, file, free, inactive, pinned, shared, wired . Third category are user-level estimates on how much memory is used and available: used, pused, available, pavailable . See a more detailed description of vm.memory.size parameters .
web.page.get[host,<path>,<port>]			
Get content of web page.	Web page source as text (including headers)	host - hostname path - path to HTML document (default is /) port - port number (default is 80)	This item turns unsupported if the resource specified in host does not exist or is unavailable. <i>Note that before version 2.2.22 it would return an empty string on fail.</i> Example: web.page.get[www.zabbix.com,index.php,80]
web.page.perf[host,<path>,<port>]			
Loading time of full web page (in seconds).	Float	host - hostname path - path to HTML document (default is /) port - port number (default is 80)	This item turns unsupported if the resource specified in host does not exist or is unavailable. <i>Note that before version 2.2.22 it would return '0' on fail.</i> Example: web.page.perf[www.zabbix.com,index.php,80]
web.page.regexp[host,<path>,<port>,<regexp>,<length>,<output>]			
Find string on a web page.	The matched string, or as specified by the optional output parameter	host - hostname path - path to HTML document (default is /) port - port number (default is 80) regexp - GNU regular expression length - maximum number of characters to return output - an optional output formatting template. The \0 escape sequence is replaced with the matched part of text (from the first character where match begins until the character where match ends) while an \N (where N=1...9) escape sequence is replaced with Nth matched group (or an empty string if the N exceeds the number of captured groups).	This item turns unsupported if the resource specified in host does not exist or is unavailable. <i>Note that before version 2.2.22 it would return an empty string if no match was found or on fail.</i> Content extraction using the output parameter takes place on the agent. The output parameter is supported from version 2.2. Example: ⇒ web.page.regexp[www.zabbix.com,index.php,80,OK,2]

[1] The system.swap.size key might report incorrect data on virtualized (VMware ESXi, VirtualBox) Windows platforms. In this case use perf_counter[\700(_Total)\702] key to obtain correct swap usage percentage.

[2] If default *all* is used for the first parameter of **vfs.dev.*** keys then the keys will return summary statistics, including: all block devices like sda, sdb and their partitions sda1, sda2, sdb3 ... and multiple devices (MD raid) based on those block devices/partitions and logical volumes (LVM) based on those block devices/partitions.

In such cases returned values should be considered only as relative value (dynamic in time) but not as absolute values.

A Linux-specific note. Zabbix agent must have read-only access to filesystem */proc*. Kernel patches from www.grsecurity.org limit access rights of non-privileged users.

Available encodings

The encoding parameter is used to specify encoding for processing corresponding item checks, so

that data acquired will not be corrupted. For a list of supported encodings (code page identifiers), please consult respective documentation, such as documentation for [libiconv](#) (GNU Project) or Microsoft Windows SDK documentation for “Code Page Identifiers”.

If empty encoding is passed, then UTF-8 (default locale for newer Unix/Linux distributions, see your system's settings) or ANSI with system-specific extension (Windows) is used by default.

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