

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 Windows agent](#)
- [Minimum permission level for Windows agent items](#)

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 the nodata() trigger function 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>,<maxdelay>]			

Key			
Description	Return value	Parameters	Comments
Log file monitoring.	Log	<p>file - full path and name of log file</p> <p>regexp - regular expression⁴ 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).</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).</p> <p>maxdelay - maximum delay in seconds. Type: float. Values: 0 - (default) never ignore log file lines; > 0.0 - ignore older lines in order to get the most recent lines analyzed within "maxdelay" seconds. Read the maxdelay notes before using it!</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>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.</p> <p>Content extraction using the output parameter takes place on the agent.</p> <p>Examples: ⇒ log[/var/log/syslog] ⇒ log[/var/log/syslog,error] ⇒ log[/home/zabbix/logs/logfile,,,100]</p> <p><i>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 '6080' to server. Because a numeric value is being sent, the "Type of information" for this item can be set to "Numeric (unsigned)" and the value can be used in graphs, triggers etc.</p> <p><i>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>The mode parameter is supported since Zabbix 2.0. The output parameter is supported since Zabbix 2.2. The maxdelay parameter is supported since Zabbix 3.2.</p> <p>See also additional information on log monitoring.</p>

log.count[file,<regexp>,<encoding>,<maxproclines>,<mode>,<maxdelay>]

Count of matched lines in log file monitoring.	Integer	<p>file - full path and name of log file</p> <p>regexp - regular expression⁴ describing the required pattern</p> <p>encoding - code page identifier</p> <p>maxproclines - maximum number of new lines per second the agent will analyze. Default value is 10*'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).</p> <p>maxdelay - maximum delay in seconds. Type: float. Values: 0 - (default) never ignore log file lines; > 0.0 - ignore older lines in order to get the most recent lines analyzed within "maxdelay" seconds. Read the maxdelay notes before using it!</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>See also additional information on log monitoring.</p> <p>This item is not supported for Windows Event Log.</p> <p>Supported since Zabbix 3.2.0.</p>
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logrt[file_regexp,<regexp>,<encoding>,<maxlines>,<mode>,<output>,<maxdelay>,<options>]

Key			
Description	Return value	Parameters	Comments
Log file monitoring with log rotation support.	Log	<p>file_regexp - absolute path to file and regular expression⁴ describing the file name pattern</p> <p>regexp - regular expression⁴ 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).</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).</p> <p>maxdelay - maximum delay in seconds. Type: float. Values: 0 - (default) never ignore log file lines; > 0.0 - ignore older lines in order to get the most recent lines analyzed within "maxdelay" seconds. Read the maxdelay notes before using it!</p> <p>options - type of log file rotation. Possible values: <i>rotate</i> (default), <i>copytruncate</i>. Note that <i>copytruncate</i> cannot be used together with <i>maxdelay</i>. In this case <i>maxdelay</i> must be 0 or not specified. See copytruncate notes.</p>	<p>The item must be configured as an active check. Log rotation is based on the last modification time of files.</p> <p>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.</p> <p>Content extraction using the output parameter takes place on the agent.</p> <p>Examples: ⇒ <code>logrt["/home/zabbix/logs/^logfile[0-9]{1,3}\$",,,100]</code> → will match a file like "logfile1" (will not match ".logfile1") ⇒ <code>logrt["/home/user/^logfile_*_[0-9]{1,3}\$","pattern_to_match","UTF-8",100]</code> → will collect data from files such "logfile_abc_1" or "logfile__001".</p> <p><i>Using output parameter for extracting a number from log record:</i> ⇒ <code>logrt[/app1/^test.*log\$, "task run [0-9].+ sec, processed ([0-9]+) records, [0-9]+ errors",,,\1]</code> → will match a log record "2015-11-13 10:08:26 task run 6.08 sec, processed 6080 records, 0 errors" and send only '6080' to server. Because a numeric value is being sent, the "Type of information" for this item can be set to "Numeric (unsigned)" and the value can be used in graphs, triggers etc.</p> <p><i>Using output parameter for rewriting log record before sending to server:</i> ⇒ <code>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"]</code> → 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>The mode parameter is supported since Zabbix 2.0. The output parameter is supported since Zabbix 2.2. The maxdelay parameter is supported since Zabbix 3.2. The options parameter is supported since Zabbix 4.0.</p> <p>See also additional information on log monitoring.</p>
logrt.count[file_regexp,<regexp>,<encoding>,<maxproclines>,<mode>,<maxdelay>,<options>]			
Count of matched lines in log file monitoring with log rotation support.	Integer	<p>file_regexp - absolute path to file and regular expression⁴ describing the file name pattern</p> <p>regexp - regular expression⁴ describing the required content pattern</p> <p>encoding - code page identifier</p> <p>maxproclines - maximum number of new lines per second the agent will analyze. Default value is 10*'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).</p> <p>maxdelay - maximum delay in seconds. Type: float. Values: 0 - (default) never ignore log file lines; > 0.0 - ignore older lines in order to get the most recent lines analyzed within "maxdelay" seconds. Read the maxdelay notes before using it!</p> <p>options - type of log file rotation. Possible values: <i>rotate</i> (default), <i>copytruncate</i>. Note that <i>copytruncate</i> cannot be used together with <i>maxdelay</i>. In this case <i>maxdelay</i> must be 0 or not specified. See copytruncate notes.</p>	<p>The item must be configured as an active check. Log rotation is based on the last modification time of files.</p> <p>See also additional information on log monitoring.</p> <p>The options parameter is supported since Zabbix 4.0.</p> <p>This item is not supported for Windows Event Log.</p> <p>Supported since Zabbix 3.2.0.</p>
net.dns[<ip>,<name>,<type>,<timeout>,<count>,<protocol>]			

Key			
Description	Return value	Parameters	Comments
Checks if DNS service is up.	0 - DNS is down (server did not respond or DNS resolution failed) 1 - DNS is up	ip - IP address of DNS server (leave empty for the default DNS server, ignored on Windows) name - DNS name to query type - record type to be queried (default is SOA) timeout (ignored on Windows) - timeout for the request in seconds (default is 1 second) count (ignored on Windows) - number of tries for the request (default is 2) protocol - the protocol used to perform DNS queries: <i>udp</i> (default) or <i>tcp</i>	Example: ⇒ net.dns[8.8.8.8,zabbix.com,MX,2,1] The possible values for type are: <i>ANY, A, NS, CNAME, MB, MG, MR, PTR, MD, MF, MX, SOA, NULL, WKS</i> (except for Windows), <i>HINFO, MINFO, TXT, SRV</i> Internationalized domain names are not supported, please use IDNA encoded names instead. The protocol parameter is supported since Zabbix 3.0. SRV record type is supported since Zabbix agent versions 1.8.6 (Unix) and 2.0.0 (Windows). Naming before Zabbix 2.0 (still supported): <i>net.tcp.dns</i>
net.dns.record[<ip>,name,<type>,<timeout>,<count>,<protocol>]			
Performs a DNS query.	Character string with the required type of information	ip - IP address of DNS server (leave empty for the default DNS server, ignored on Windows) name - DNS name to query type - record type to be queried (default is SOA) timeout (ignored on Windows) - timeout for the request in seconds (default is 1 second) count (ignored on Windows) - number of tries for the request (default is 2) protocol - the protocol used to perform DNS queries: <i>udp</i> (default) or <i>tcp</i>	Example: ⇒ net.dns.record[8.8.8.8,zabbix.com,MX,2,1] The possible values for type are: <i>ANY, A, NS, CNAME, MB, MG, MR, PTR, MD, MF, MX, SOA, NULL, WKS</i> (except for Windows), <i>HINFO, MINFO, TXT, SRV</i> Internationalized domain names are not supported, please use IDNA encoded names instead. The protocol parameter is supported since Zabbix 3.0. SRV record type is supported since Zabbix agent versions 1.8.6 (Unix) and 2.0.0 (Windows). Naming before Zabbix 2.0 (still supported): <i>net.tcp.dns.query</i>
net.if.collisions[if]			
Number of out-of-window collisions.	Integer	if - network interface name	
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 <i>overruns (fifo)</i> - the number of FIFO buffer errors <i>frame</i> - the number of packet framing errors <i>compressed</i> - the number of compressed packets transmitted or received by the device driver <i>multicast</i> - the number of multicast frames received by the device driver	On Windows, the item gets values from 64-bit counters if available. 64-bit interface statistic counters were introduced in Windows Vista and Windows Server 2008. If 64-bit counters are not available, the agent uses 32-bit counters. 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 the <i>Change per second</i> preprocessing step in order to get bytes per second statistics.
net.if.out[if,<mode>]			

Key			
Description	Return value	Parameters	Comments
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 <i>overruns (fifo)</i> - the number of FIFO buffer errors <i>collisions (colls)</i> - the number of collisions detected on the interface <i>carrier</i> - the number of carrier losses detected by the device driver <i>compressed</i> - the number of compressed packets transmitted by the device driver	On Windows, the item gets values from 64-bit counters if available. 64-bit interface statistic counters were introduced in Windows Vista and Windows Server 2008. If 64-bit counters are not available, the agent uses 32-bit counters. 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 the <i>Change per second</i> preprocessing step 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 <i>overruns (fifo)</i> - the number of FIFO buffer errors <i>compressed</i> - the number of compressed packets transmitted or received by the device driver	On Windows, the item gets values from 64-bit counters if available. 64-bit interface statistic counters were introduced in Windows Vista and Windows Server 2008. If 64-bit counters are not available, the agent uses 32-bit counters. 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 the <i>Change per second</i> preprocessing step 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 Since Zabbix 3.0.0, on Linux kernels 2.6.14 and above, information about listening TCP sockets is obtained from the kernel's NETLINK interface, if possible. Otherwise, the information is retrieved from /proc/net/tcp and /proc/net/tcp6 files.
net.tcp.port[<ip>,<port>]			
Checks if it is possible to make TCP connection to specified 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. 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). Old naming: <i>check_port[*]</i>
net.tcp.service[service,<ip>,<port>]			
Checks if service is running and accepting TCP connections.	0 - service is down 1 - service is running	service - either of: <i>ssh, 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)	Example: ⇒ 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). See also known issues of checking HTTPS service. <i>https</i> and <i>telnet</i> services are supported since Zabbix 2.0. Old naming: <i>check_service[*]</i>
net.tcp.service.perf[service,<ip>,<port>]			

Key			
Description	Return value	Parameters	Comments
Checks performance of TCP service.	0 - service is down seconds - the number of seconds spent while connecting to the service	service - either of: <i>ssh, 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)	Example: ⇒ 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). See also known issues of checking HTTPS service. <i>https</i> and <i>telnet</i> services are supported since Zabbix 2.0. Old naming: <i>check_service_perf[*]</i>
net.udp.listen[<i>port</i>]			
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	Example: ⇒ net.udp.listen[68] On Linux supported since Zabbix agent version 1.8.4
net.udp.service[<i>service</i>,<ip>,<port>]			
Checks if service is running and responding to UDP requests.	0 - service is down 1 - service is running	service - <i>ntp</i> (see details) ip - IP address (default is 127.0.0.1) port - port number (by default standard service port number is used)	Example: ⇒ net.udp.service[ntp,,45] → can be used to test the availability of NTP service on UDP port 45. This item is supported since Zabbix 3.0.0, but <i>ntp</i> service was available for net.tcp.service[] item in prior versions.
net.udp.service.perf[<i>service</i>,<ip>,<port>]			
Checks performance of UDP service.	0 - service is down seconds - the number of seconds spent waiting for response from the service	service - <i>ntp</i> (see details) ip - IP address (default is 127.0.0.1) port - port number (by default standard service port number is used)	Example: ⇒ net.udp.service.perf[ntp] → can be used to test response time from NTP service. This item is supported since Zabbix 3.0.0, but <i>ntp</i> service was available for net.tcp.service[] item in prior versions.
proc.cpu.util[<name>,<user>,<type>,<cmdline>,<mode>,<zone>]			
Process CPU utilisation percentage.	Float	name - process name (default is <i>all processes</i>) user - user name (default is <i>all users</i>) type - CPU utilisation type: <i>total</i> (default), <i>user</i> , <i>system</i> cmdline - filter by command line (it is a regular expression ⁴) mode - data gathering mode: <i>avg1</i> (default), <i>avg5</i> , <i>avg15</i> zone - target zone: <i>current</i> (default), <i>all</i> . This parameter is supported on Solaris only.	Examples: ⇒ proc.cpu.util[,root] → CPU utilisation of all processes running under the "root" user ⇒ proc.cpu.util[zabbix_server,zabbix] → CPU utilisation of all zabbix_server processes running under the zabbix user The returned value is based on single CPU core utilisation percentage. For example CPU utilisation of a process fully using two cores is 200%. The process CPU utilisation data is gathered by a collector which supports the maximum of 1024 unique (by name, user and command line) queries. Queries not accessed during the last 24 hours are removed from the collector. <i>Note that when setting the zone parameter to current (or default) in case the agent has been compiled on a Solaris without zone support, but running on a newer Solaris where zones are supported, then the agent will return NOTSUPPORTED (the agent cannot limit results to only the current zone). However, all is supported in this case.</i> This key is supported since Zabbix 3.0.0 and is available on several platforms (see Items supported by platform).
proc.mem[<name>,<user>,<mode>,<cmdline>,<memtype>]			

Key			
Description	Return value	Parameters	Comments
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 ⁴) memtype - type of memory used by process	Examples: ⇒ <code>proc.mem[,root]</code> → memory used by all processes running under the "root" user ⇒ <code>proc.mem[zabbix_server,zabbix]</code> → memory used by all <code>zabbix_server</code> processes running under the <code>zabbix</code> user ⇒ <code>proc.mem[,oracle,max,oracleZABBIX]</code> → memory used by the most memory-hungry process running under <code>oracle</code> having <code>oracleZABBIX</code> 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. See notes on selecting processes with <code>name</code> and <code>cmdline</code> parameters (Linux-specific). When this item is invoked from the command line and contains a command line parameter (e.g. using the agent test mode: <code>zabbix_agentd -t proc.num[, , apache2]</code>), one extra process will be counted, as the agent will count itself. The <code>memtype</code> parameter is supported on several platforms since Zabbix 3.0.0.
proc.num[<name>,<user>,<state>,<cmdline>,<zone>]			
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>disk</i> - uninterruptible sleep, <i>run</i> - running, <i>sleep</i> - interruptible sleep, <i>trace</i> - stopped, <i>zomb</i> - zombie cmdline - filter by command line (it is a regular expression ⁴) zone - target zone: <i>current</i> (default), <i>all</i> . This parameter is supported on Solaris only.	Examples: ⇒ <code>proc.num[mysql]</code> → number of processes running under the <code>mysql</code> user ⇒ <code>proc.num[apache2,www-data]</code> → number of <code>apache2</code> processes running under the <code>www-data</code> user ⇒ <code>proc.num[,oracle,sleep,oracleZABBIX]</code> → number of processes in <code>sleep</code> state running under <code>oracle</code> having <code>oracleZABBIX</code> in its command line See notes on selecting processes with <code>name</code> and <code>cmdline</code> parameters (Linux-specific). On Windows, only the <code>name</code> and <code>user</code> parameters are supported. When this item is invoked from the command line and contains a command line parameter (e.g. using the agent test mode: <code>zabbix_agentd -t proc.num[, , apache2]</code>), one extra process will be counted, as the agent will count itself. <i>Note</i> that when setting the <code>zone</code> parameter to <i>current</i> (or default) in case the agent has been compiled on a Solaris without zone support, but running on a newer Solaris where zones are supported, then the agent will return <code>NOTSUPPORTED</code> (the agent cannot limit results to only the current zone). However, <i>all</i> is supported in this case. <i>disk</i> and <i>trace</i> values for the <code>state</code> parameter are supported since Zabbix 3.4.0.
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).	Reads <code>/proc/sys/dev/sensors</code> on Linux 2.4. Example: ⇒ <code>sensor[w83781d-i2c-0-2d,temp1]</code> Prior to Zabbix 1.8.4, the <code>sensor[temp1]</code> format was used. Reads <code>/sys/class/hwmon</code> on Linux 2.6+. See a more detailed description of sensor item on Linux. Reads the <code>hw.sensors</code> MIB on OpenBSD. Examples: ⇒ <code>sensor[cpu0,temp0]</code> → temperature of one CPU ⇒ <code>sensor["cpu[0-2]\$,temp,avg]</code> → average temperature of the first three CPU's Supported on OpenBSD since Zabbix 1.8.4.
system.boottime			
System boot time.	Integer (Unix timestamp)		
system.cpu.discovery			
List of detected CPUs/CPU cores. Used for low-level discovery.	JSON object		Supported on all platforms since 2.4.0.
system.cpu.intr			
Device interrupts.	Integer		
system.cpu.load[<cpu>,<mode>]			

Key			
Description	Return value	Parameters	Comments
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> , <i>avg15</i>	Example: ⇒ <code>system.cpu.load[,avg5]</code> <i>percpu</i> is supported since Zabbix 2.0.0. Old naming: <i>system.cpu.loadX</i>
system.cpu.num[<type>]			
Number of CPUs.	Integer	type - possible values: <i>online</i> (default), <i>max</i>	Example: ⇒ <code>system.cpu.num</code>
system.cpu.switches			
Count of context switches.	Integer		Old naming: <i>system[switches]</i>
system.cpu.util[<cpu>,<type>,<mode>]			
CPU utilisation percentage.	Float	cpu - <CPU number> or <i>all</i> (default) type - possible values: <i>idle</i> , <i>nice</i> , <i>user</i> (default), <i>system</i> (default for Windows), <i>iowait</i> , <i>interrupt</i> , <i>softirq</i> , <i>steal</i> , <i>guest</i> (on Linux kernels 2.6.24 and above), <i>guest_nice</i> (on Linux kernels 2.6.33 and above). Parameters <i>user</i> and <i>nice</i> time no longer include <i>guest</i> time and <i>guest_nice</i> time since Zabbix 3.0.14, 3.4.5 and 4.0.0. mode - possible values: <i>avg1</i> (one-minute average, default), <i>avg5</i> , <i>avg15</i>	Example: ⇒ <code>system.cpu.util[0,user,avg5]</code> Old naming: <i>system.cpu.idleX</i> , <i>system.cpu.niceX</i> , <i>system.cpu.systemX</i> , <i>system.cpu.userX</i>
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. Examples of returned values: <i>on Linux:</i> ⇒ <code>system.hostname</code> → linux-w7x1 ⇒ <code>system.hostname</code> → www.zabbix.com <i>on Windows:</i> ⇒ <code>system.hostname</code> → WIN-SERV2008-I6 ⇒ <code>system.hostname[host]</code> → Win-Serv2008-I6LonG The type parameter for this item is supported since Zabbix 1.8.6 . See also a more detailed description .
system.hw.chassis[<info>]			
Chassis information.	String	info - one of <i>full</i> (default), <i>model</i> , <i>serial</i> , <i>type</i> or <i>vendor</i>	Example: <code>system.hw.chassis[full]</code> Hewlett-Packard HP Pro 3010 Small Form Factor PC CZXXXXXXXX Desktop] 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>]			
CPU information.	String or integer	cpu - <CPU number> or <i>all</i> (default) info - possible values: <i>full</i> (default), <i>currfreq</i> , <i>maxfreq</i> , <i>model</i> or <i>vendor</i>	Example: ⇒ <code>system.hw.cpu[0,vendor]</code> → AuthenticAMD Gathers info from <code>/proc/cpuinfo</code> and <code>/sys/devices/system/cpu[cpunum]/cpufreq/cpuinfo_max_freq</code> . If a CPU number and <i>currfreq</i> or <i>maxfreq</i> is specified, a numeric value is returned (Hz). Supported since Zabbix agent version 2.0.
system.hw.devices[<type>]			

Key			
Description	Return value	Parameters	Comments
Listing of PCI or USB devices.	Text	type - <i>pci</i> (default) or <i>usb</i>	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 - <i>all</i> (default) or a regular expression ⁴ format - <i>full</i> (default) or <i>short</i>	Lists MAC addresses of the interfaces whose name matches the given <i>interface</i> regular expression ⁴ (<i>all</i> lists for all interfaces). Example: ⇒ system.hw.macaddr["eth0\$",full] → [eth0] 00:11:22:33:44:55 If <i>format</i> is specified as <i>short</i> , 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>	type - possible values: <i>utc</i> - (default) the time since the Epoch (00:00:00 UTC, January 1, 1970), measured in seconds. <i>local</i> - the time in the 'yyyy-mm-dd,hh:mm:ss.nnn,+hh:mm' format	Must be used as a passive check only. Parameters for this item are supported since Zabbix agent version 2.0. Example: ⇒ system.localtime[local] → create an item using this key and then use it to display host time in the Clock 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 - possible values: <i>wait</i> - wait end of execution (default), <i>nowait</i> - 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. Note: To enable this functionality, agent configuration file must contain EnableRemoteCommands=1 option. The return value of the item is standard output together with standard error produced by command. The exit code is not checked. Empty result is allowed starting with Zabbix 2.4.0. 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: <i>r</i> - average number of runnable kernel threads (float) <i>b</i> - 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: <i>avm</i> - active virtual pages (integer) <i>fre</i> - size of the free list (integer)</p> <p>page,<type> - information about page faults and paging activity: <i>fi</i> - file page-ins per second (float) <i>fo</i> - file page-outs per second (float) <i>pi</i> - pages paged in from paging space (float) <i>po</i> - pages paged out to paging space (float) <i>fr</i> - pages freed (page replacement) (float) <i>sr</i> - pages scanned by page-replacement algorithm (float)</p> <p>faults,<type> - trap and interrupt rate: <i>in</i> - device interrupts (float) <i>sy</i> - system calls (float) <i>cs</i> - kernel thread context switches (float)</p> <p>cpu,<type> - breakdown of percentage usage of processor time: <i>us</i> - user time (float) <i>sy</i> - system time (float) <i>id</i> - idle time (float) <i>wa</i> - idle time during which the system had outstanding disk/NFS I/O request(s) (float) <i>pc</i> - number of physical processors consumed (float) <i>ec</i> - the percentage of entitled capacity consumed (float) <i>lbusy</i> - indicates the percentage of logical processor(s) utilization that occurred while executing at the user and system level (float) <i>app</i> - indicates the available physical processors in the shared pool (float)</p> <p>disk,<type> - disk statistics: <i>bps</i> - indicates the amount of data transferred (read or written) to the drive in bytes per second (integer) <i>tps</i> - indicates the number of transfers per second that were issued to the physical disk/tape (float)</p> <p>Comments This item is supported on AIX only, since Zabbix 1.8.1. Take note of the following limitations in these items: ⇒ system.stat[cpu,app] - supported only on AIX LPAR of type "Shared" ⇒ system.stat[cpu,ec] - supported on AIX LPAR of type "Shared" and "Dedicated" ("Dedicated" always returns 100 (percent)) ⇒ system.stat[cpu,lbusy] - supported only on AIX LPAR of type "Shared" ⇒ system.stat[cpu,pc] - supported on AIX LPAR of type "Shared" and "Dedicated" ⇒ system.stat[ent] - supported on AIX LPAR of type "Shared" and "Dedicated"</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	<p>info - possible values: <i>full</i> (default), <i>short</i> or <i>name</i></p>	<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 and options are present in all distributions): /proc/version (<i>full</i>) /proc/version_signature (<i>short</i>) PRETTY_NAME parameter from /etc/os-release on systems supporting it, or /etc/issue.net (<i>name</i>)</p> <p>Supported since Zabbix agent version 2.0.</p>
system.sw.packages[<package>,<manager>,<format>]			

			Key
Description	Return value	Parameters	Comments
Listing of installed packages.	Text	package - <i>all</i> (default) or a regular expression ⁴ manager - <i>all</i> (default) or a package manager format - <i>full</i> (default) or <i>short</i>	<p>Lists (alphabetically) installed packages whose name matches the given package regular expression⁴ (<i>all</i> lists them all).</p> <p>Example: ⇒ <code>system.sw.packages[mini,dpkg,short]</code> → python-minimal, python2.6-minimal, ubuntu-minimal</p> <p>Supported package managers (executed command): dpkg (dpkg --get-selections) pkgtool (ls /var/log/packages) rpm (rpm -qa) pacman (pacman -Q)</p> <p>If <code>format</code> is specified as <i>full</i>, packages are grouped by package managers (each manager on a separate line beginning with its name in square brackets). If <code>format</code> is specified as <i>short</i>, 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>]			
Swap in (from device into memory) statistics.	Integer	device - device used for swapping (default is <i>all</i>) 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.	<p>Example: ⇒ <code>system.swap.in[,pages]</code></p> <p>The source of this information is: /proc/swaps, /proc/partitions, /proc/stat (Linux 2.4) /proc/swaps, /proc/diskstats, /proc/vmstat (Linux 2.6)</p>
system.swap.out[<device>,<type>]			
Swap out (from memory onto device) statistics.	Integer	device - device used for swapping (default is <i>all</i>) 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.	<p>Example: ⇒ <code>system.swap.out[,pages]</code></p> <p>The source of this information is: /proc/swaps, /proc/partitions, /proc/stat (Linux 2.4) /proc/swaps, /proc/diskstats, /proc/vmstat (Linux 2.6)</p>
system.swap.size[<device>,<type>]			
Swap space size in bytes or in percentage from total.	Integer - for bytes Float - for percentage	device - device used for swapping (default is <i>all</i>) 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)	<p>Example: ⇒ <code>system.swap.size[,pfree]</code> → free swap space percentage</p> <p>If <code>device</code> is not specified Zabbix agent will only take into account swap devices (files), physical memory will be ignored. For example, on Solaris systems <code>swap -s</code> command includes a portion of physical memory and swap devices (unlike <code>swap -l</code>).</p> <p>Note that this key might report incorrect percentage on virtualized (VMware ESXi, VirtualBox) Windows platforms. In this case use <code>perf_counter[\700(Total)\702]</code> key to obtain correct swap usage data.</p> <p>Old naming: <code>system.swap.free</code>, <code>system.swap.total</code></p>
system.uname			
Identification of the system.	String		<p>Example of returned value (Unix): FreeBSD localhost 4.2-RELEASE FreeBSD 4.2-RELEASE #0: Mon Nov i386</p> <p>Example of returned value (Windows): Windows ZABBIX-WIN 6.0.6001 Microsoft® Windows Server® 2008 Standard Service Pack 1 x86</p> <p>On Unix since Zabbix 2.2.0 the value for this item is obtained with <code>uname()</code> system call. Previously it was obtained by invoking <code>"uname -a"</code>. 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.</p> <p>On Windows since Zabbix 3.0 the value for this item is obtained from <code>Win32_OperatingSystem</code> and <code>Win32_Processor</code> WMI classes. Previously it was obtained from volatile Windows APIs and undocumented registry keys. The OS name (including edition) might be translated to the user's display language. On some versions of Windows it contains trademark symbols and extra spaces.</p> <p>Note that on Windows the item returns OS architecture, whereas on Unix it returns CPU architecture.</p>
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.

Key			
Description	Return value	Parameters	Comments
vfs.dev.read[<device>,<type>,<mode>]			
Disk read statistics.	<p>Integer - with type in <i>sectors, operations, bytes</i></p> <p>Float - with type in <i>sps, ops, bps</i></p> <p><i>Note:</i> if using an update interval of three hours or more², will always return '0'</p>	<p>device - disk device (default is <i>all</i>³)</p> <p>type - possible values: <i>sectors, operations, bytes, sps, ops, bps</i></p> <p>This parameter must be specified, since defaults differ under various OSes. <i>sps, ops, bps</i> stand for: sectors, operations, bytes per second, respectively.</p> <p>mode - possible values: <i>avg1</i> (one-minute average, default), <i>avg5, avg15</i>. This parameter is supported only with type in: <i>sps, ops, bps</i>.</p>	<p>You may use relative device names (for example, <i>sda</i>) as well as an optional <i>/dev/</i> prefix (for example, <i>/dev/sda</i>).</p> <p>LVM logical volumes are supported.</p> <p>Default values of 'type' parameter for different OSes: AIX - operations FreeBSD - bps Linux - sps OpenBSD - operations Solaris - bytes</p> <p>Example: ⇒ <code>vfs.dev.read[,operations]</code></p> <p><i>sps, ops</i> and <i>bps</i> on supported platforms used to be limited to 8 devices (7 individual and one <i>all</i>). Since Zabbix 2.0.1 this limit is 1024 devices (1023 individual and one for <i>all</i>).</p> <p>Old naming: <i>io[*]</i></p>
vfs.dev.write[<device>,<type>,<mode>]			
Disk write statistics.	<p>Integer - with type in <i>sectors, operations, bytes</i></p> <p>Float - with type in <i>sps, ops, bps</i></p> <p><i>Note:</i> if using an update interval of three hours or more², will always return '0'</p>	<p>device - disk device (default is <i>all</i>³)</p> <p>type - possible values: <i>sectors, operations, bytes, sps, ops, bps</i></p> <p>This parameter must be specified, since defaults differ under various OSes. <i>sps, ops, bps</i> stand for: sectors, operations, bytes per second, respectively.</p> <p>mode - possible values: <i>avg1</i> (one-minute average, default), <i>avg5, avg15</i>. This parameter is supported only with type in: <i>sps, ops, bps</i>.</p>	<p>You may use relative device names (for example, <i>sda</i>) as well as an optional <i>/dev/</i> prefix (for example, <i>/dev/sda</i>).</p> <p>LVM logical volumes are supported.</p> <p>Default values of 'type' parameter for different OSes: AIX - operations FreeBSD - bps Linux - sps OpenBSD - operations Solaris - bytes</p> <p>Example: ⇒ <code>vfs.dev.write[,operations]</code></p> <p><i>sps, ops</i> and <i>bps</i> on supported platforms used to be limited to 8 devices (7 individual and one <i>all</i>). Since Zabbix 2.0.1 this limit is 1024 (1023 individual and one for <i>all</i>).</p> <p>Old naming: <i>io[*]</i></p>
vfs.dir.count[<dir>,<regex_incl>,<regex_excl>,<types_incl>,<types_excl>,<max_depth>,<min_size>,<max_size>,<min_age>,<max_age>]			

		Key	
Description	Return value	Parameters	Comments
Directory entry count.	Integer	<p>dir - absolute path to directory</p> <p>regex_incl - regular expression⁴ describing the file, directory and symbolic link name pattern for inclusion (include all files, directories and symbolic links if empty; empty string is default value)</p> <p>regex_excl - regular expression⁴ describing the file, directory and symbolic link name pattern for exclusion (don't exclude any if empty; empty string is default value)</p> <p>types_incl - a set of directory entry types to count, possible values: <i>file</i> - regular file, <i>dir</i> - subdirectory, <i>sym</i> - symbolic link, <i>sock</i> - socket, <i>bdev</i> - block device, <i>cdev</i> - character device, <i>fifo</i>- FIFO, <i>dev</i>- synonymous with "bdev,cdev", <i>all</i>- all above mentioned types, i.e. "file,dir,sym,sock,bdev,cdev,fifo". This is the default value, if parameter is left empty. Multiple types must be separated with comma and the entire set enclosed in quotes "".</p> <p>types_excl - a set of directory entry types to NOT count, the same values and syntax as for <types_incl>. If some entry type is in both <types_incl> and <types_excl>, directory entries of this type are NOT counted.</p> <p>max_depth - maximum depth of subdirectories to traverse. -1 (default) - unlimited, 0 - no descending into subdirectories.</p> <p>min_size - minimum size for file to be counted. Files smaller than this will not be counted. The value is in bytes. Memory suffixes can be used.</p> <p>max_size - maximum size for file to be counted. Files larger than this will not be counted. The value is in bytes. Memory suffixes can be used.</p> <p>min_age - minimum age of directory entry to be counted. Entries modified sooner than that will not be counted. The integer value is in seconds. Time suffixes can be used.</p> <p>max_age - maximum age of directory entry to be counted. Entries so old and older will not be counted (modification time). The integer value is in seconds. Time suffixes can be used.</p>	<p>Environment variables, e.g. %APP_HOME%, \$HOME and %TEMP% are not supported.</p> <p>Pseudo-directories "." and ".." are never counted.</p> <p>Symbolic links are never followed for directory traversal.</p> <p>On Windows directory symlinks are skipped and hard links are counted only once.</p> <p><code>regex_incl</code> and <code>regex_excl</code> are Perl Compatible Regular Expressions (PCRE). Both <code>regex_incl</code> and <code>regex_excl</code> are being applied to files and directories when calculating entry size, but are ignored when picking subdirectories to traverse (if <code>regex_incl</code> is "(?i)^.+\.zip\$" and <code>max_depth</code> is not set, then all subdirectories will be traversed, but only files of type zip will be counted). If a file name matches both <code>regex_incl</code> and <code>regex_excl</code> this file will not be counted.</p> <p>Execution time will be limited by a default timeout value that is 3 seconds ("Timeout" parameter in agent configuration file). Since large directory traversal may take longer than that, no data will be returned and the item will be marked as "Not supported". Partial count will not be returned.</p> <p>When filtering by size, only regular files have meaningful sizes. Under Linux and BSD, directories also have non-zero sizes (a few Kb typically). Devices have zero sizes, e.g. the size of <code>/dev/sda1</code> does not reflect the respective partition size. Therefore, when using <code><min_size></code> and <code><max_size></code> parameters, it is advisable to specify <code><types_incl></code> as "file", to avoid surprises.</p> <p>Examples: ⇒ <code>vfs.dir.count[/dev]</code> - monitors number of devices in /dev (Linux) ⇒ <code>vfs.dir.count["C:\Users\ADMINI~1\AppData\Local\Temp"]</code> - monitors number of files in temporary directory (Windows)</p> <p>Supported since Zabbix 4.0.0.</p>
vfs.dir.size[<dir>,<regex_incl>,<regex_excl>,<mode>,<max_depth>]			
Directory size (in bytes).	Integer	<p>dir - absolute path to directory</p> <p>regex_incl - regular expression⁴ describing the file, directory and symbolic link name pattern for inclusion (include all files, directories and symbolic links if empty; empty string is default value)</p> <p>regex_excl - regular expression⁴ describing the file, directory and symbolic link name pattern for exclusion (don't exclude any if empty; empty string is default value)</p> <p>mode - possible values: <i>apparent</i> (default) - gets apparent file sizes rather than disk usage (acts as <code>du -sb dir</code>), <i>disk</i> - gets disk usage (acts as <code>du -s -B1 dir</code>). Unlike <code>du</code> command, <code>vfs.dir.size</code> item takes hidden files in account when calculating directory size (acts as <code>du -sb .[^.]* * within dir</code>).</p> <p>max_depth - maximum depth of subdirectories to traverse. -1 (default) - unlimited, 0 - no descending into subdirectories.</p>	<p>Only directories with at least read permission for <i>zabbix</i> user are calculated.</p> <p>On Windows any symlink is skipped and hard links are taken into account only once.</p> <p>With large directories or slow drives this item may time out due to the Timeout setting in agent and server/proxy configuration files. Increase the timeout values as necessary.</p> <p>Examples: ⇒ <code>vfs.dir.size[/tmp,log]</code> - calculates size of all files in /tmp which contain 'log' ⇒ <code>vfs.dir.size[/tmp,log,^.+\.old\$]</code> - calculates size of all files in /tmp which contain 'log', excluding files containing '.old'</p> <p>The file size limit depends on large file support.</p> <p>Supported since Zabbix 3.4.0.</p>
vfs.file.cksum[file]			

Key			
Description	Return value	Parameters	Comments
File checksum, calculated by the UNIX cksum algorithm.	Integer	file - full path to file	<p>Example: ⇒ <code>vfs.file.cksum[/etc/passwd]</code></p> <p>Example of returned value: 1938292000</p> <p>Old naming: <code>cksum</code></p> <p>The file size limit depends on large file support.</p>
vfs.file.contents[file,<encoding>]			
Retrieving contents of a file.	Text	file - full path to file encoding - code page identifier	<p>Returns an empty string if the file is empty or contains LF/CR characters only.</p> <p>Example: ⇒ <code>vfs.file.contents[/etc/passwd]</code></p> <p>This item is limited to files no larger than 64 Kbytes.</p> <p>Supported since Zabbix agent version 2.0.</p>
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	<p>Example: ⇒ <code>vfs.file.exists[/tmp/application.pid]</code></p> <p>The return value depends on what <code>S_ISREG</code> POSIX macro returns.</p> <p>The file size limit depends on large file support.</p>
vfs.file.md5sum[file]			
MD5 checksum of file.	Character string (MD5 hash of the file)	file - full path to file	<p>Example: ⇒ <code>vfs.file.md5sum[/usr/local/etc/zabbix_agentd.conf]</code></p> <p>Example of returned value: b5052dec577e0fffd622d6ddc017e82</p> <p>The file size limit (64 MB) for this item was removed in version 1.8.6.</p> <p>The file size limit depends on large file support.</p>
vfs.file.regexp[file,regexp,<encoding>,<start line>,<end line>,<output>]			
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 - regular expression ⁴ describing the required pattern 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 N=1...9) escape sequence is replaced with Nth matched group (or an empty string if the N exceeds the number of captured groups).	<p>Only the first matching line is returned. An empty string is returned if no line matched the expression.</p> <p>Content extraction using the output parameter takes place on the agent.</p> <p>The <code>start line</code>, <code>end line</code> and <code>output</code> parameters are supported from version 2.2.</p> <p>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 <code>zabbix</code></p>
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 - regular expression ⁴ describing the required pattern 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).	<p>The <code>start line</code> and <code>end line</code> parameters are supported from version 2.2.</p> <p>Example: ⇒ <code>vfs.file.regmatch[/var/log/app.log,error]</code></p>
vfs.file.size[file]			
File size (in bytes).	Integer	file - full path to file	<p>The file must have read permissions for user <code>zabbix</code>.</p> <p>Example: ⇒ <code>vfs.file.size[/var/log/syslog]</code></p> <p>The file size limit depends on large file support.</p>
vfs.file.time[file,<mode>]			

Key			
Description	Return value	Parameters	Comments
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. {#FSDRIVETYPE} macro is supported on Windows since Zabbix agent version 3.0.
vfs.fs.inode[fs,<mode>]			
Number or percentage of inodes.	Integer - for number Float - for percentage	fs - filesystem mode - possible values: <i>total</i> (default), <i>free</i> , <i>used</i> , <i>pfree</i> (free, percentage), <i>pused</i> (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 - possible values: <i>total</i> (default), <i>free</i> , <i>used</i> , <i>pfree</i> (free, percentage), <i>pused</i> (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>]			
Memory size in bytes or in percentage from total.	Integer - for bytes Float - for percentage	mode - possible values: <i>total</i> (default), <i>active</i> , <i>anon</i> , <i>buffers</i> , <i>cached</i> , <i>exec</i> , <i>file</i> , <i>free</i> , <i>inactive</i> , <i>pinned</i> , <i>shared</i> , <i>slab</i> , <i>wired</i> , <i>used</i> , <i>pused</i> (used, percentage), <i>available</i> , <i>pavailable</i> (available, percentage)	This item accepts three categories of parameters: 1) <i>total</i> - total amount of memory; 2) platform-specific memory types: <i>active</i> , <i>anon</i> , <i>buffers</i> , <i>cached</i> , <i>exec</i> , <i>file</i> , <i>free</i> , <i>inactive</i> , <i>pinned</i> , <i>shared</i> , <i>slab</i> , <i>wired</i> ; 3) user-level estimates on how much memory is used and available: <i>used</i> , <i>pused</i> , <i>available</i> , <i>pavailable</i> . See a more detailed description of <code>vm.memory.size</code> parameters . Old naming: <code>vm.memory.buffers</code> , <code>vm.memory.cached</code> , <code>vm.memory.free</code> , <code>vm.memory.shared</code> , <code>vm.memory.total</code>
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)	Returns an empty string on fail. Example: ⇒ <code>web.page.get[www.zabbix.com,index.php,80]</code>
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)	Returns 0 on fail. Example: ⇒ <code>web.page.perf[www.zabbix.com,index.php,80]</code>
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 - regular expression ⁴ describing the required pattern length - maximum number of characters to return 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 N=1...9) escape sequence is replaced with Nth matched group (or an empty string if the N exceeds the number of captured groups).	Returns an empty string if no match was found or on fail. Content extraction using the output parameter takes place on the agent. The output parameter is supported from version 2.2. Example: ⇒ <code>web.page.regexp[www.zabbix.com,index.php,80,OK,2]</code>
zabbix.stats[<ip>,<port>]			

Key			
Description	Return value	Parameters	Comments
Return a set of Zabbix server or proxy internal metrics remotely.	JSON object	ip - IP/DNS/network mask list of servers/proxies to be remotely queried (default is 127.0.0.1) port - port of server/proxy to be remotely queried (default is 10051)	Note that the stats request will only be accepted from the addresses listed in the 'StatsAllowedIP' server/proxy parameter on the target instance. A selected set of internal metrics is returned by this item. For details, see Remote monitoring of Zabbix stats . Supported since 4.0.5.
zabbix.stats[<ip>,<port>,queue,<from>,<to>]			
Return number of monitored items in the queue which are delayed on Zabbix server or proxy remotely.	JSON object	ip - IP/DNS/network mask list of servers/proxies to be remotely queried (default is 127.0.0.1) port - port of server/proxy to be remotely queried (default is 10051) queue - constant (to be used as is) from - delayed by at least (default is 6 seconds) to - delayed by at most (default is infinity)	Note that the stats request will only be accepted from the addresses listed in the 'StatsAllowedIP' server/proxy parameter on the target instance. Supported since 4.0.5.

Footnotes

¹A 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.

² `vfs.dev.read[]`, `vfs.dev.write[]`: Zabbix agent will terminate "stale" device connections if the item values are not accessed for more than 3 hours. This may happen if a system has devices with dynamically changing paths or if a device gets manually removed. Note also that these items, if using an update interval of 3 hours or more, will always return '0'.

³ `vfs.dev.read[]`, `vfs.dev.write[]`: If default `all` is used for the first parameter then the key will return summary statistics, including all block devices like `sda`, `sbd` 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.

⁴ [Perl Compatible Regular Expression](#) (PCRE) since Zabbix 3.4; POSIX-extended regular expression before that. See also: [Regular expressions supported by location](#).

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.

Troubleshooting agent items

- If used with the passive agent, `Timeout` value in server configuration may need to be higher

than *Timeout* in the agent configuration file. Otherwise the item may not get any value because the server request to agent timed out first.

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