

# System Tags

## System tags

System tags are objects, values of which are calculated, or detected by process [D2000 Server](#) on the basis of their definition. Values are calculated periodically or on change.

Usage of system tags in D2000 system (examples):

- controlling of output tags in the AUTO mode
- operands in logical a arithmetical expressions
- operands in conditions to raise and finish alarms
- displaying in graphical figures
- displaying in graphs

In the documented version of the D2000 system, there are the following system tags implemented:

| Name               | Type    | Period         | Meaning   |
|--------------------|---------|----------------|---|
| ActNrDynamicObject | Integer | 60 s           | Current number of dynamic object in the system.   |
| ActTagNr           | Integer | on change      | Current number of tags in the application.  |
| ActTransListNr     | Integer | 1 s            | Number of active transactions that have been opened by <a href="#">D2000 Server</a> .   |
| Act_Client         | Integer | on change      | Number of connected clients.  |
| AllocatedMem       | Integer | 10 s           | Allocated memory size [kB].   |
| ArchivChange       |         | not calculated | Change of values in the archive.  |
| CPU_Load           | Integer | 1 s            | Processor load [%] of the process <a href="#">D2000 Server</a> .<br><b>Note:</b> This is a total average processor load which is computed by following formula:<br><i>(user_time + kernel_time)/TimeFromStart</i> |
| Day                | Integer | 24 h           | Current day   |
| DiskSpace          | Integer | 30 s           | Free disk space [kB]  |
| FreeMem            | Integer | 10 s           | for Win32 - Free memory size [kB]<br>for VMS - Remaining paging file quota of process <a href="#">D2000 Server</a> in pagelets (on Alpha systems)   |
| Hour               | Integer | 1 h            | Current hour  |
| IN_QUEUE           | Integer | not calculated | Number of requests for <a href="#">D2000 Server</a>   |
| LogFileSize        | Integer | 15 min         | Log database size [kB]  |
| Min                | Integer | 1 min          | Current minute  |
| Month              | Integer | 24 h           | Current month   |
| Pending_Cfg_Rq     | Integer | 10 s           | Number of queued write requests for the configuration database. These requests may cause a configuration change, alarm blocking or a value change of the object with enabled start value saving.                  |
| Pending_Monitor_Rq | Integer | 10 s           | Number of queued write requests for the log database.   |
| Perf_Cfg_Rq        | Integer | 10 s           | Number of executed configuration database write requests per second.  |
| Perf_Kernel_Rq     | Integer | 10 s           | Number of executed requests for process <a href="#">D2000 Server</a> per second (message processing rate per second).   |
| Perf_Monitor_Rq    | Integer | 10 s           | Number of executed log database write requests per second.  |
| ProcAlarmsNr       | Integer | on change      | Number of active process alarms   |
| Sec                | Integer | 1 s            | Current second  |
| Signal_Trigger     | Boolean | on change      | Start signal of trigger. The system will generate the impulse of the value of TRUE on this system tag according to configuration of system or process alarms - the parameter <b>Raise Signal</b> .                |

|               |               |           |   |
|---------------|---------------|-----------|---|
| SysAlarmsNr   | Integer       | on change | Number of active system alarms.   |
| SystemError   |               |           | System error information. Value of the variable is set by the system - <a href="#">D2000 Server</a> and D2000 system processes. Value of the variable shows the last warning. Each value change sets process alarm of the object. The text in the columns <b>Event description</b> (the <a href="#">Alarm list</a> window in process <a href="#">D2000 HI</a> ) and <b>Incident</b> (the <a href="#">Logging</a> window in process <a href="#">D2000 HI</a> ) for process alarm is controlled by the display mask of the alarm - SM.SystemError (predefined value of the mask is {V} - so it copies object value). Occurrence of a system error is signaled by process alarm and history is stored in the log database.   |
| SystemWarning |               |           | System warning information. Value of the variable is set by the system - <a href="#">D2000 Server</a> and D2000 system processes. Value of the variable shows the last warning. Each value change sets process alarm of the object. The text in the columns <b>Event description</b> (the <a href="#">Alarm list</a> window in process <a href="#">D2000 HI</a> ) and <b>Incident</b> (the <a href="#">Logging</a> window in process <a href="#">D2000 HI</a> ) for process alarm is controlled by the display mask of the alarm - SM.SystemError (predefined value of the mask is {V} - so it copies object value). Occurrence of a system error is signaled by process alarm and history is stored in the log database.   |
| SystemInfo    |               |           | System information. The value of this tag is set by the system - by the process <a href="#">D2000 Server</a> or by other processes of the D2000 system. The value of the tag shows the latest system information. Every change of the value causes setting of a process alarm on this object. The text in the columns <b>Event description</b> (the <a href="#">Alarm list</a> window in the <a href="#">D2000 HI</a> process) and <b>Incident</b> (the <a href="#">Logging</a> window in the <a href="#">D2000 HI</a> process) for the process alarm is controlled using the alarm display mask "SM.. SystemError" (predefined value of the mask is {V}, meaning it copies the object value). The emergence of system information is thus signaled by a process alarm and history is stored in the log database. |
| SysTime       | Time          | 1 s       | System time   |
| TimeFromStart | Relative time | 10 s      | Time from starting the D2000 system.<br><i>Note:</i> For redundant D2000 systems, it is the running time of HS (Hot Server).  |
| UpTime        | Relative time | 10 s      | Running time of a redundant D2000 system.<br><i>Note:</i> For non-redundant D2000 systems - $UpTime = TimeFromStart$ .  |
| WeekDay       | Integer       | 24 h      | Day in week   |
| Year          | Integer       | 24 h      | Current year  |