Diagnosis of defective HW is realized by using exact methods on selected HW errors and many other HW errors can be determined based on evaluating information recorded and saved in CM.

Exact methods for determining HW errors by CM

1. Disk errors.

Diagnosis of disks is either performed by tests by an external program, or monitoring of S.M.A.R.T. parameters. Read more about monitoring of disks' health in the section <u>S.M.A.R.T. Health of disks</u> [1].

2. Monitoring of HW status of servers.

Thanks to Watches, we can monitor several server parameters, whose faulty values indicate HW errors. More about monitoring of servers' HW can be found in the section <u>Monitoring of HW status</u> <u>of servers</u> [2].

3. Monitoring of the insides of PC a NB

Through Watches, several computer parameters can be monitored. Find out more about monitoring of PC and NB in the section **Monitoring of the insides of PC, NB** [3]

Analytical methods

1. Online information

One way how to determine a defective HW by using analytical methods is to watch the section **Online information** on CM portal. More about evaluation of data and graphs can be found in the section <u>View of load (overload) of a computer through Online information - state for the past 48 hrs</u> [4]

| | | | | | * | | Úvodný prehľad | € Kredt ? M | anual 🌒 Odhlásiť |
|--|---------------------|----------------------------------|----------|--------------------------|---------------------------|-----------------|----------------|---------------|------------------|
| | Admin zóna | Prehliadanie a Vyhodnotenie | | Customer Desk | Communicator | | | Operátor: Mer | no operátora 🕜 |
| - Zhalif vielko 🔹 Rozhalif vielko | 🚦 Zóny | | | | | | | | ? |
| - Upozomenia | | Spoločnosť | | Počitač & | Používa | tel. | | | |
| Paruchy | Online Informécie | Operator | | Zoradiť podľa CV | HD Zoradit | ako Vzostupne | Hindat | Roziírené | X X |
| História porúch | | os | | Zahmúť ručne z | adané politale 🗌 Len | online počitače | | | |
| Poruchy na počítačoch | | | | | | | | | |
| - Zobrazenia | System usage | Cpu system usage | 20 % | | | | | | |
| 760 | | Cpu kernel usage Memory usage | 12.% | | | | | | |
| Watches (Online monitoring) | | Disk activity | 10.55 | | | | | | |
| Počítače | | Disk avg read queue | 1 | | | | | | |
| Online Informácie | | Disk avg write queue | 0 | | | | | | |
| Internet bandwidth monitor | Processes by opu | Process 1 | CICIIo | nitor/modules/backup/ | BackupPlus.exe (11 %) | | | | |
| Zmeny na počítači | | Process 2 | CriProg | iram Files (x86)/Mozilla | Firefox/firefox.exe (6 %) | | | | |
| Foto dokumentácia Manažerské informácie | Processes by memory | Process 1 | System | (MB) | | 1 | | | |
| | | Process 2 | audiodg | acca (103) | | | | | 1 |
| Reporty | Locality A | In last | | | | | | | |
| Prenesené dáta na ADSL a FIV | Local ip 1 | Ipmac Gateway inimac | 172.16.7 | 75-110 (ACIENT/2/CEP8A | <u>40</u> | | | | |
| | | Adapter name | WLFiad | Aotér Broadcom 43130N (| 802.11b/b/o.1x1 | | | | |
| | | Avg down speed in last 30s | 99 B/a | | and condition and | | | | |
| | | Avg up speed in last | 44.01 | | | | | | |

Image: Online informácie

Example of use: When a PC is frozen or in an error state, save the status from online information, where you can see the processes, which currently load the processor and the memory. If these information differ at the next PC failure, you might assume that it's a case of defective HW.

Data in online information are evaluated in 3 minutes intervals and only display two processes, which load the PC the most.

2. System information from C-Monitor Console

The difference between Online information and system info is, that in system info, the data are updated every 30 seconds and it shows all processes of the selected PC.



Image: Systémové informácie z C-Monitor Console

3. Confirmation of complete PC shutdown due to HW error or power outage (c-monitor log)

When the shutdown was caused by SW, it usually ends up in the blue screen. When it's a spontaneous shutdown, the last archived C-Monitor Log won't contain App Exit Request at the end. In other cases of HW and SW errors you may see the blue screen, and in other cases of the shutdown you should notice a correct request for computer shutdown in the C-Monitor Log. Confirmation of power outage can be solved by a better UPS and its enhanced monitoring.



Diagnosis of defective HW

Published on Customer Monitor (https://customermonitor.co)

| Ca MonitorConsole | | | |
|--|--|--|---|
| C-Monitor Tools Help | | C-Monitor Execution, C-Monitor Log History | 5 |
| Settings | 🖪 🖬 🗞 🗛 🥂 Fiber | A A | |
| Scheduler | Date Time 🔻 Description | | |
| Watches | 2012/09.14 09:17:18:954 Monitor Log 2012/09:13 14:15:11:760 Manitor Log 2012/09:12 16:44:07:192 Manitor Log | 🕢 sar, rec. tri - Poznámkový blok | |
| C-Monitor Runtime Information's | 2012.09.11 23:17:01:125 Manitor Log | Súbor Uprevy Formát Zobraziť Pomocník | |
| Waking Tasko Running Tasko Running Tasko Watches State Watches Daverk Log C-Monitor Dunerk Log C-Monitor Dunerk Log Ensile hom Tasks. Watches waiting for sending Received, pacesead Ensile Ensile waiting for sending Ensile - All (without waiting for sending) Sent Ensile - C-Monitor System Messages Sent Ensile - C-Monitor System Messages Sent Ensile - Davis ID Maxiets ID Maxiets | 2012/03.11 23/02/46/538 Monitor Log 2012/03.01 12/51/00.71/2 Monitor Log 2012/03.05 09/302/20 Monitor Log 2012/03.05 09/302/20 Monitor Log 2012/03.05 09/302/20 Monitor Log 2012/03.05 09/302/20 Monitor Log 2012/03.07 19/04/65/20 Monitor Log 2012/03.01 09/42/16/567 Monitor Log 2012/03.01 09/42/16/567 Monitor Log 2012/03.01 09/42/16/567 Monitor Log 2012/03.01 16/4/51/44 Monitor Log 2012/03.01 16/4/51/44 Monitor Log 2012/03.01 16/4/51/44 Monitor Log 2012/03.02 16/4/51/44 Monitor Log 2012/03.02 16/4/51/44 Monitor Log 2012/03.02 16/4/51/44 Monitor Log 2012/03.02 19/302/23/4 Monitor Log 2012/03.02 19/302/23/4 Monitor Log 2012/03.02 16/32/10/26/30 Monitor Log 2012/03.02 16/32 | 2012.08.31/39:11:09:348 / Evaluating Watches 2012.08.31/39:11:09:848 / Evaluating Watches 2012.08.31/39:11:5142 / HTTP A0.250.65H95 / 1828 : OK (1252/1378) 2012.08.31/39:11:26:524 / Begin ArchiveIndex Refresh (C:\CMOnitor\Logs\Syste 2012.08.31/39:11:26:524 / Begin ArchiveIndex Refresh (C:\CMOnitor\Logs\Syste 2012.08.31/39:11:36:942 / End ArchiveIndex Refresh (C:\CMOnitor\Logs\Syste 2012.08.31/39:11:36:942 / End ArchiveIndex Refresh (C:\CMOnitor\Logs\Syste 2012.08.31/39:11:39:753 / Tick 2012.08.31/39:11:39:753 / Tick 2012.08.31/39:11:39:831 / Selecting Tasks 2012.08.31/39:11:39:819 / HTTP A218LGH55 / 1830 : ok (80/1108) 2012.08.31/39:11:39:753 / Tick 2012.08.31/39:12:09:768 / Evaluating Watches 2012.08.31/39:12:09:768 / MTTP A218LGH55 / 1831 : ok (80/1108) 2012.08.31/39:12:09:768 / HTTP A218LGH55 / 1831 : ok (80/1108) 2012.08.31/39:12:09:768 / Tick 2012.08.31/39:12:09:768 / Tick 2012.08.31/39:12:09:769 / Tick 2012.08.31/3 | |
| Not Sent Emails - Disabled Not Sent Emails - Failed | 2012.08.21 16.26:48:571 Monitor Log [10/135] 1. 9.2012.19.04:45. Compensated, (53 | 2012.08.31/19:12:30:820 / selecting Tasks 2012.08.31/19:13:01:375 / HTTP A210LGIH55 / 1833 : 0K (89/1198) 2012.08.31/19:13:00:707 / Tick | |
| (1) History | Summery Test Test Series | 2012.08.31/19:13:09:797 / Evaluating Watches 2012.08.31/19:13:09:843 / selecting tasks | |
| Executed Tasks E-Monitor Execution: C-Monitor Log History Watches History System Info Network Info Wating Tasks History Execution Fails Modules logs C-BackopPlus Logs C-Insign Logs C-InveBackop Logs | Monitor Log 2012.08.31/19:13:39:889 / Select 2012.08.31/19:13:34:159 / Class 2012.08.31/19:13:48:471 / HTTP & 2012.08.31/19:14:09:887 / Monitor 2012.08.31/19:14:00:689 / App Im 2012.08.31/19:14:10:688 / Wasche 2012.08.31/19:14:11:696 / Monitor 2012.08.31/19:14:11:696 / Monitor | 2012.08.31/19:13:23:400 / HTTP A210(GLH33 / 1834 : OK (89/1198) 2012.08.31/19:13:39:811 / Tick 2012.08.31/19:13:39:842 / Evaluating Watches 2012.08.31/19:13:39:849 / Selecting Tasks 2012.08.31/19:13:44:195 / Client Unregistered : 00001184 : JURAJ-HP : Juraj- 2012.08.31/19:13:45:471 / HTTP A216(ELH35 / 1835 : OK (89/1196) 2012.08.31/19:14:09:557 / Monitorservice is not running, App Exit Request 2012.08.31/19:14:10:655 / Watches Monitoring Thread Done 2012.08.31/19:14:10:665 / Watches Monitor Finished | î |

Image: Potvrdenie úplného vypnutia PC z dôvodu HW chyby alebo výpadku energie (c-monitor log)



Links

[1] https://customermonitor.co/how-cm-works-0/monitoring-and-diagnostics/free-space-and-health-drives/s-m-r-t-health-disks

[2] https://customermonitor.co/how-cm-works-0/monitoring-and-diagnostics/diagnostic-defective-hw/monitoring-servers-status-through

[3] https://customermonitor.co/how-cm-works-0/monitoring-and-diagnostics/diagnostic-defective-hw/monitoring-insides-pc-nb

[4] https://customermonitor.co/how-cm-works-0/monitoring-and-diagnostics/load-overload-servers-and-computers/view-load-overload

- [5] https://customermonitor.co/sites/default/files/online%20onfo_0.png
- [6] https://customermonitor.co/sites/default/files/system%20info.png
- [7] https://customermonitor.co/sites/default/files/app%20exit.png