

INT 301: Open Source CA3

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Roll no: 65

Section: KE022

PROJECT LINK - <https://github.com/JaswanthKoduru/INT301-CA.git>

Q42. Using desired Open-source Software to display an overview of all the hardware and operating system detail;
also do live monitoring to show the temperature and current usage of various hardware components.

1. Introduction

1.1 Objective of the project

1.2 Description of the project

1.3 Scope of the project

2. System Description

2.1 Target system description

2.2 Assumptions and Dependencies (If applicable)

2.3 Functional/Non-Functional Dependencies (if any)

2.4 Data set used in support of your project

3. Analysis Report

3.1 System snapshots and full analysis report

4. Reference/ Bibliography

Introduction

1.1) Objectives of the project

- The main objectives of the project include providing comprehensive information about the configuration of your system.
- Using ASTRA32 to get a detailed analysis of your system which includes hardware and software details.
- Detection of the Hard Disk Drive Temperature.
- Hardware monitoring which includes processor, video card, disk drivers and other details.

1.2) **Description of the project**

- This project aims to give an overview of all the hardware and operating system details, along with live monitoring of the system which shows the current temperature and the usage of different hardware components.
- Often, the inbuilt system details do not provide users with a wide range of information about the pc's. So, we could use an open-source software tool that helps us to view various details about the system in an easy manner.
- The software tool used to achieve it is an open-source software known as "ASTRA32".
- Astra32 is used to provide a detailed analysis of your system, it also offers diagnostics and comes with features like Driver Troubleshooting and quick HDD Health Status.

1.3) Scope of the project

- Astra32 gives accurate information about the detected devices.
- It has a unique feature of driver troubleshooter which allows searching for all the physical devices and creates a list of all the drivers which are not properly installed, or which are completely missing.
- It will also test your hard drive for reliability, and with the quick HDD Health Status function, you will always know if your hard drive is OK or if it needs a backup
- It works even with the hard drives plugged to the external hard drives, gives information about all USB devices.
- In short, you would quickly have complete information about your whole computer system.

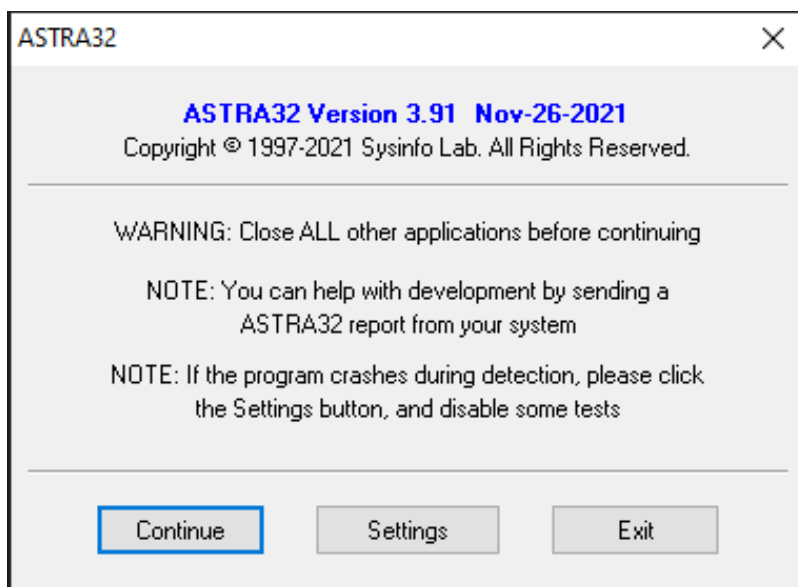
Description

2.1) System Description

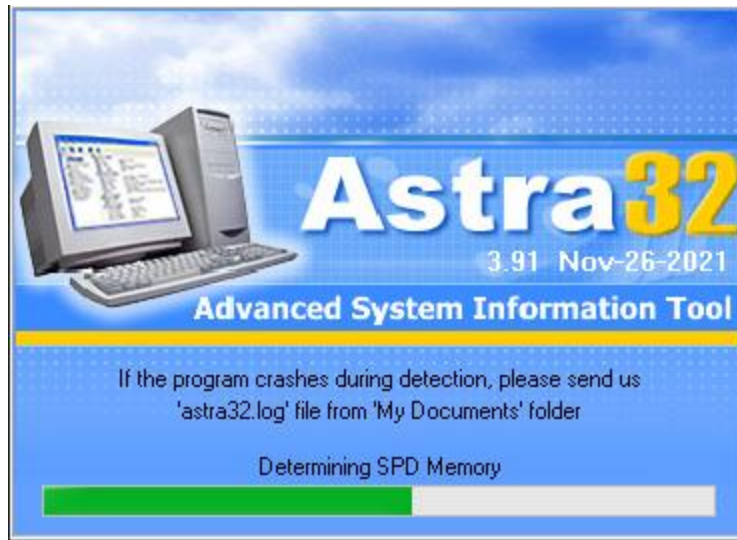
Platforms: Windows 7, Windows 8, Windows 8.1, Windows 10/XP
x64/Server 2003 x64/ Vista x64/server 2008 x64, MS Windows
NT4/2000/XP/Server, 2003/Vista/Server

Analysis Report

System snapshots and full analysis report



Once installed, you can initiate the scan to know the details of the system.



Within a short duration, Astra scans for all the system details.

ASTRA32 - Advanced System Information Tool 3.91 (UNREGISTERED DEMO)

File Reports Language Help

Summary Reports Back Forward Drivers Sensors Help

DEMO VERSION
Click here to order

ASTRA32

- System Summary
- Motherboard
- Processor
- BIOS
- PCI/AGP Devices
- Memory Modules
- Memory (SMBIOS)
- Storage (ATA/ATAPI)
- Storage (ASPI)
- Logical Drives
- USB Devices
- ISA/PNP Devices
- Printers
- Slots (SMBIOS)
- Ports (SMBIOS)
- Network
- Monitor
- Video
- Diagnostics
- Software

Processor

- Processor: Intel Core i5-3210M Mobile 2500 MHz
- CPU Clock: 2494.4 MHz (25.0 x 99.8 MHz)
- Level 1 Cache: 2 x 32 kB + 2 x 32 kB (data+instr.)
- Level 2 Cache: 2 x 256 kB
- Level 3 Cache: 1 x 3 MB

Motherboard

- System Name: Hewlett-Packard HP ProBook 6570b
- Motherboard Vendor: Compaq Computer Corporation
- Board Model: Hewlett-Packard 17AB
- BIOS Version: Compaq BIOS
- Chipset Name: Intel HM76 (Panther Point)
- Northbridge Vendor: Intel Corporation
- Northbridge: Ivy Bridge DRAM Controller
- Southbridge Vendor: Intel Corporation
- Southbridge: HM76 Chipset LPC Controller
- DMI/SMBIOS Version: 2.7

Memory

- Memory Size: 7.88 GB
- System Memory: 8074 MB
- Memory Module: 4 GB DDR3-1600 (PC3-12800) SDRAM (Micron Technology)
- Memory Module: 4 GB DDR3-1600 (PC3-12800) SDRAM (Micron Technology)

Storage

- Disk Model: ST320LT007-9ZV142
- Disk Size: 305245 MB (298.09 GB)

FEATURE-LIMITED DEMO VERSION

The user is provided with a summary of the system details.

ASTRA32 - Advanced System Information Tool 3.91 (UNREGISTERED DEMO)

File Reports Language Help

Summary Reports Back Forward Drivers Sensors Help

DEMO VERSION
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ASTRA32

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- Logical Drives
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- Slots (SMBIOS)
- Ports (SMBIOS)
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- Monitor
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- Diagnostics
- Software

Processor

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- CPU Clock: 2494.4 MHz (25.0 x 99.8 MHz)
- Level 1 Cache: 2 x 32 kB + 2 x 32 kB (data+instr.)
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- Level 3 Cache: 1 x 3 MB

Motherboard

- System Name: Hewlett-Packard HP ProBook 6570b
- Motherboard Vendor: Compaq Computer Corporation
- Board Model: Hewlett-Packard 17AB
- BIOS Version: Compaq BIOS
- Chipset Name: Intel HM76 (Panther Point)
- Northbridge Vendor: Intel Corporation
- Northbridge: Ivy Bridge DRAM Controller
- Southbridge Vendor: Intel Corporation
- Southbridge: HM76 Chipset LPC Controller
- DMI/SMBIOS Version: 2.7

Memory

- Memory Size: 7.88 GB
- System Memory: 8074 MB
- Memory Module: 4 GB DDR3-1600 (PC3-12800) SDRAM (Micron Technology)
- Memory Module: 4 GB DDR3-1600 (PC3-12800) SDRAM (Micron Technology)

Storage

- Disk Model: ST320LT007-9ZV142
- Disk Size: 305245 MB (298.09 GB)

FEATURE-LIMITED DEMO VERSION

For the system that is being used, it provides the summary which include various details like


































System name - which is HP ProBook 6570b.

Memory – 8 Gb of which 7.88Gb is usable (2 Ram sticks of 4 Gb each).

Disk – size of approximately 300Gb.

Hardware Details

The hardware details include Processor, Motherboard, Memory, Storage etc.

 Processor	
 Processor	Intel Core i5-3210M Mobile 2500 MHz
 CPU Clock	2494.4 MHz (25.0 x 99.8 MHz)
 Level 1 Cache	2 x 32 kB + 2 x 32 kB (data+instr.)
 Level 2 Cache	2 x 256 kB
 Level 3 Cache	1 x 3 MB
 Motherboard	
 System Name	Hewlett-Packard HP ProBook 6570b
 Motherboard Vendor	Compaq Computer Corporation
 Board Model	Hewlett-Packard 17AB
 BIOS Version	Compaq BIOS
 Chipset Name	Intel HM76 (Panther Point)
 Northbridge Vendor	Intel Corporation
 Northbridge	Ivy Bridge DRAM Controller
 Southbridge Vendor	Intel Corporation
 Southbridge	HM76 Chipset LPC Controller
 DMI/SMBIOS Version	2.7
 Memory	
 Memory Size	7.88 GB
 System Memory	8074 MB
 Memory Module	4 GB DDR3-1600 (PC3-12800) SDRAM (Micron Technology)
 Memory Module	4 GB DDR3-1600 (PC3-12800) SDRAM (Micron Technology)
 Storage	
 Disk Model	ST320LT007-9ZV142
 Disk Size	305245 MB (298.09 GB)
 CD/DVD Model	hp DVD A DS8A8SH
 CD/DVD Speed	24x (Write: 24x)
 Video	
 Monitor Vendor	LG Display
 Monitor Model	Unknown (LGD 0395)
 Video Chip Vendor	Intel Corporation
 Video Chip	Ivy Bridge Graphics Controller
 Bus Type	CPU Integrated

Software Details

The software details like Operating System, Network Details, Software Utilities etc.

System Name	
Operating System	
Operating System	MS Windows 10 Enterprise x64 Edition (10.0.19044)
Windows Folder	C:\WINDOWS
Modem	


Network	
Network Name	JASWANTH
User Name	Jaswanth's PC
User Role	Administrator
Logon Domain	JASWANTH
Interface 1	
Network Chip Vendor	Intel Corporation
Network Chip	82579V Gigabit Network Connection
Subsys Vendor	Hewlett-Packard Company
Bus Type	PCI
Description	Intel(R) 82579V Gigabit Network Connection
Adapter Manufacturer	Hewlett Packard
MAC Address	B4-B5[DEMO Version]
Adapter Type	Ethernet
Link Speed	0 bps
MTU Size	1500 byte
Adapter Status	Enabled


Temperature


It shows us the temperatures of the different cores that are present. (dual core for this system)


It shows the live temperature of the individual cores and disk drives.

And we can see that the values change even for a short duration of time.


 **Processor**


 Processor


 Core Voltage


 Package Temperature


Intel Core i5-3210M Mobile 2500 MHz
0.966 V
50 °C (122 °F)

 **Core 1**


 Temperature Core


 Core Clock


 FSB Clock


 Multiplier


50 °C (122 °F)
2893.5 MHz (Original: 2500 MHz)
99.8 MHz
29.0

 **Core 2**


 Temperature Core


 Core Clock


 FSB Clock

 Multiplier

45 °C (113 °F)
2893.5 MHz (Original: 2500 MHz)
99.8 MHz
29.0

 **Disk Drive**

 Disk Model

 Disk Temperature

ST320LT007-9ZV142
37 °C (99 °F)



Processor

Processor	Intel Core i5-3210M Mobile 2500 MHz
Core Voltage	0.956 V
Package Temperature	54 °C (129 °F)



Core 1

Temperature Core	54 °C (129 °F)
Core Clock	2893.5 MHz (Original: 2500 MHz)
FSB Clock	99.8 MHz
Multiplier	29.0



Core 2

Temperature Core	52 °C (126 °F)
Core Clock	2893.5 MHz (Original: 2500 MHz)
FSB Clock	99.8 MHz
Multiplier	29.0




















































Disk Drive

Disk Model	ST320LT007-9ZV142
Disk Temperature	37 °C (99 °F)





























Various hardware components





















It shows us various hardware details like CPU utilization, cache, disks, monitor details, disk drivers etc.

1. Cpu utilization

 ASTRA32 <ul style="list-style-type: none"> System Summary Motherboard Processor<ul style="list-style-type: none"> CPU Cache CPU (SMBIOS) Cache (SMBIOS) BIOS PCI/AGP Devices Memory Modules Memory (SMBIOS) Storage (ATA/ATAPI) Storage (ASPI) Logical Drives USB Devices ISA/PNP Devices Printers Slots (SMBIOS) Ports (SMBIOS) Network Monitor Video Diagnostics Hardware Monitoring	 CPU <ul style="list-style-type: none"> Processor Intel Core i5-3210M Mobile 2500 MHz Coprocessor Internal CPU Clock 2494.3 MHz Level 1 Cache 2 x 32 kB + 2 x 32 kB (data+instr.) Level 2 Cache 2 x 256 kB Level 3 Cache 1 x 3 MB Code Name Ivy Bridge Manufacturing Process 22 nm FSB Clock 99.8 MHz Multiplier 25.0 Expected Clock 2500 MHz Overclocking Support Not Supported Max Turbo Clock 3100.0 MHz Turbo Boost 4/6 (Enabled) Turbo Clock (1 core) 3100 MHz Turbo Clock (2 core) 2900 MHz Socket Type Socket G2 (988B rPGA) / BGA-1023 Package Temperature 53 °C (127 °F) Temperature Core 1 53 °C (127 °F) Temperature Core 2 49 °C (120 °F) Maximum Temperature (Tjmax) 105 °C (221 °F) Core Voltage 0.881 V Core Voltage -
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2. Cache information

 ASTRA32	
 System Summary	
 Motherboard	
 Processor	
 CPU	
 Cache	
 CPU (SMBIOS)	
 Cache (SMBIOS)	
 BIOS	
 PCI/AGP Devices	
 Memory Modules	
 Memory (SMBIOS)	
 Storage (ATA/ATAPI)	
 Storage (ASPI)	
 Logical Drives	
 USB Devices	
 ISA/PNP Devices	
 Printers	
 Slots (SMBIOS)	
 Ports (SMBIOS)	
 Network	
 Monitor	
 Video	
 Diagnostics	
 Hardware Monitoring	
 Disk Diagnostics	
 Drivers Troubleshooter	
 Software	

 Level 1 Instruction Cache	
 Size	2 x 32 kB
 Associativity	8-way
 Line Size	64 byte
 TLB 4K Pages	
Number of Entries	64
Associativity	4-way
 TLB 2/4M Pages	
Number of Entries	8
Associativity	full
 Level 1 Data Cache	
 Size	2 x 32 kB
 Associativity	8-way
 Line Size	64 byte
 TLB 4K Pages	
Number of Entries	512
Associativity	4-way
 TLB 2/4M Pages	
Number of Entries	32
Associativity	4-way
 Level 2 Cache	
 Size	2 x 256 kB
 Associativity	8-way
 Line Size	64 byte
 Level 3 Cache	
 Size	1 x 3 MB
 Associativity	12-way
 Line Size	64 byte

3.Disk Status

ASTRA32

System Summary

Motherboard

Processor

CPU

Cache

CPU (SMBIOS)

Cache (SMBIOS)

BIOS

PCI/AGP Devices

Memory Modules

Memory (SMBIOS)

Storage (ATA/ATAPI)

ST320LT007-9ZV142

hp DVD A DS8A8SH

Storage (ASPI)

Logical Drives

USB Devices

ISA/PNP Devices

Printers

Slots (SMBIOS)

Ports (SMBIOS)

Network

Monitor

Video

Diagnostics

Hardware Monitoring

Disk Diagnostics

Drivers Troubleshooter

Disk 1 Status

Disk Model

ST320LT007-9ZV142

Disk Size

305245 MB (298.09 GB)

Interface Type

Serial ATA II (SATA/300)

Serial Number

W0Q5S[DEMO Version]

Controller Revision

0005HPM1

Disk Marketing Size

320073 MB (320.07 GB)

Buffer Size

16384.0 kB

Location (Vendor)

Intel Corporation

Location (Device)

7 Series Chipset Family 6-port SATA Controller [AHCI mode]

Device Location

Disk Temperature

36 °C (97 °F)

Reallocated Sectors

1156

Disk Health Status

Bad

Comment

Disk health is bad. The risk of HDD failure is extremely high, do data backup immediately and run a HDD diagnostic utility provided by your HDD vendor

Comment

4.Monitor

ASTRA32

- System Summary
- Motherboard
- Processor
 - CPU
 - Cache
 - CPU (SMBIOS)
 - Cache (SMBIOS)
- BIOS
- PCI/AGP Devices
- Memory Modules
- Memory (SMBIOS)
- Storage (ATA/ATAPI)
 - ST320LT007-9ZV14
 - hp DVD A DS8A
- Storage (ASPI)
- Logical Drives
- USB Devices
- ISA/PNP Devices
- Printers
 - Physical Printers
 - Installed Printers
- Slots (SMBIOS)
- Ports (SMBIOS)
- Network
- Monitor**
 - Unknown (LGD 0395)
- Video
- Diagnostics
- Hardware Monitoring
- Disk Diagnostics
- Drivers Troubleshoot

Monitor

- Monitor Vendor: LG Display
- Monitor Model: Unknown (LGD 0395)
- Viewable Size: 15.5" (39.5 sm)
- Serial Number: 0
- Manufacture Date: January 2012
- EDID Version: 1.4
- Monitor ID: LGD0395
- Aspect Ratio: 16:9
- Horizontal Size: 344 mm
- Vertical Size: 194 mm
- Gamma Factor: 2.200
- Display Type: RGB Color
- Input Signal: Digital
- Current Resolution: 1366x768 32bpp @ 40 Hz

DPMS Features

- Active Off: Not Supported
- Suspend: Not Supported
- Standby: Not Supported

Supported Modes

- Mode 1: 1366x768 @ 40 Hz
- Mode 2: 1366x768 @ 60 Hz (Recommended)

Driver

- Driver Status: The device is working properly
- Manufacturer: (Standard monitor types)
- Device Description: Generic PnP Monitor
- Device Class: Monitor
- Driver Provider: Microsoft
- Driver Version: 10.0.19041.1151
- Driver Date: 6-21-2006
- Inf File: monitor.inf

5.Local Drives

ASTRA32

- System Summary
- Motherboard
- Processor
 - CPU
 - Cache
 - CPU (SMBIOS)
 - Cache (SMBIOS)
- BIOS
- PCI/AGP Devices
- Memory Modules
- Memory (SMBIOS)
- Storage (ATA/ATAPI)
 - ST320LT007-9ZV14
 - hp DVD A DS8A
- Storage (ASPI)
- Logical Drives**
- USB Devices
- ISA/PNP Devices
- Printers
 - Physical Printers
 - Installed Printers
- Slots (SMBIOS)
- Ports (SMBIOS)
- Network

Local Drives

C:

- Drive Letter: C:
- Drive Type: Fixed Disk
- Volume Label:
- File System: NTFS
- Volume Serial Number: 9AF5-358C
- Total Size: 101.64 GB
- Free Space: 18.38 GB (18.1%)
- Location: ST320LT007-9ZV142 (W0Q5S WPN)

D:

- Drive Letter: D:
- Drive Type: Fixed Disk
- Volume Label:
- File System: NTFS
- Volume Serial Number: 06C1-09D5
- Total Size: 195.31 GB
- Free Space: 162.93 GB (83.4%)
- Location: ST320LT007-9ZV142 (W0Q5S WPN)

E:

- Drive Letter: E:
- Drive Type: Optical Drive
- Location: hp DVD A DS8A8SH

Reference/Bibiliography

- <http://www.astra32.com/>
- <http://www.astra32.com/help/source/hardwmon.htm>
- <https://www.trishtech.com/2018/02/astra32-gives-details-of-pc-hardware-software/>