

CHAPTER 4: System Software

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INTRODUCTION



- Computers and their applications.
- Gain benefits without worrying about how its done.
- Middle link

System software types

- Operating systems (i.e. windows, iOS..)
- Utilities (Like Antiviruses)
- Device Drivers.
- Language translators.



Operating systems



Operating system: A **collection** of programs that handle technical tasks

Functions

- Manage & coordinate resources
 - Monitor performance
- Provide security & startup the computer



Run applications & provide interface

- Multitasking
 - GUI



Examples



Task-Manager

Datei Optionen Ansicht

Prozesse Leistung App-Verlauf Autostart Benutzer Details Dienste

Name	Status	1% CPU	26% Arbeitsspeicher	0% Datenträger	0% Netzwerk
Apps (2)					
Task-Manager		0%	7.0 MB	0 MB/s	0 MBit/s
Windows-Explorer		0%	22.3 MB	0 MB/s	0 MBit/s
Hintergrundprozesse (14)					
COM Surrogate		0%	0.6 MB	0 MB/s	0 MBit/s
COM Surrogate		0%	1.8 MB	0 MB/s	0 MBit/s
Device Association Framework ...		0%	2.5 MB	0 MB/s	0 MBit/s
Hostprozess für Windows-Aufg...		0%	3.5 MB	0 MB/s	0 MBit/s
Microsoft Distributed Transacti...		0%	0.8 MB	0 MB/s	0 MBit/s
Microsoft Windows Search-Inde...		0%	6.0 MB	0 MB/s	0 MBit/s
Spoolersubsystem-Anwendung		0%	1.9 MB	0 MB/s	0 MBit/s
ThinPrint AutoConnect compo...		0%	1.1 MB	0 MB/s	0 MBit/s

Weniger Details Task beenden

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Event Viewer

File Action View Help

Event Viewer (Local)

- Custom Views
- Windows Logs
 - Application
 - Security
 - Setup
 - System
 - Forwarded Events
- Applications and Services Logs
 - Subscriptions

System Number of events: 5,115

Level	Date and Time	Source	Event ID	Task Category
Information	10/25/2016 9:07:14 PM	Kernel...	16	None
Information	10/25/2016 9:07:12 PM	Kernel...	16	None
Error	10/25/2016 9:07:10 PM	Distribu...	10016	None
Error	10/25/2016 9:07:10 PM	Distribu...	10016	None
Error	10/25/2016 9:07:10 PM	Distribu...	10016	None
Error	10/25/2016 9:07:10 PM	Distribu...	10016	None

Event 10016, DistributedCOM

General Details

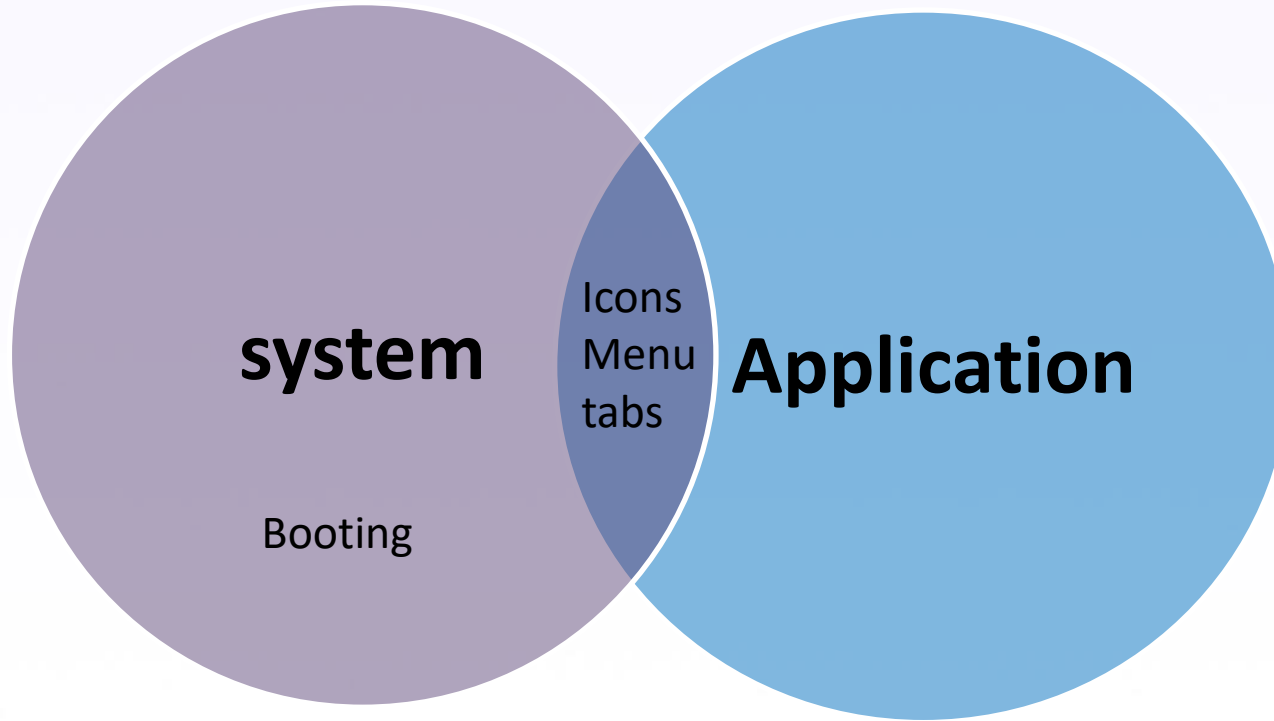
The application-specific permission settings do not grant Local Activation permission for the COM Server application with CLSID {6B38B023-FA8D-40B9-80BD-B950333E2C52} and APPID {4839D0B7-58C2-48F5-8283-E1D1807D0D7D} to the user NT AUTHORITY\LOCAL SERVICE SID (S-1-5-19) from address LocalHost running in the application container Unavailable SID (Unavailable). This security permission has been modified using the Component Services administrative tool.

Actions

- System
- Open Saved Log...
- Create Custom View...
- Import Custom View...
- Clear Log...
- Filter Current Log...
- Properties
- Find...
- Save All Events As...
- Attach a Task To this Log...
- View
- Refresh
- Help
- Event 10016, DistributedCOM
- Event Properties

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Application vs. System software



Categories of OS



- Three basic Categories
- Embedded (RTOS)
- Stand alone.
- Network Operating system.

- **Embedded:**

- Android, IOS  

- **Standalone:**

- Mac OS, Windows, Linux 

- **Network:**

- Unix



Most Used OS



- Windows

- Windows 8
- Windows 10

- UNIX

- Mac

- OS X Mavericks
- OS X Yosemite

- LINUX

Virtualization



Virtualization is the ability to support multiple operating systems on a single physical machine and each virtual machine appears as a separate independent computer so we have :

- Host operating system which is the OS that you are using
- Guest operating system which is the OS that you are virtualize

Utilities



Utilities are specialized programs to make computing easier and the most essential utilities that we have are :

1. **Troubleshooting or diagnostic programs** : this program is here to recognizes and correct problems on your PC.
2. **Antivirus programs** : this program is guarding your computer against viruses.
3. **Backup programs** : this program is copying your files to restore if necessary.
4. **File compression programs** : this program is reducing the size of the files for more efficient storage.

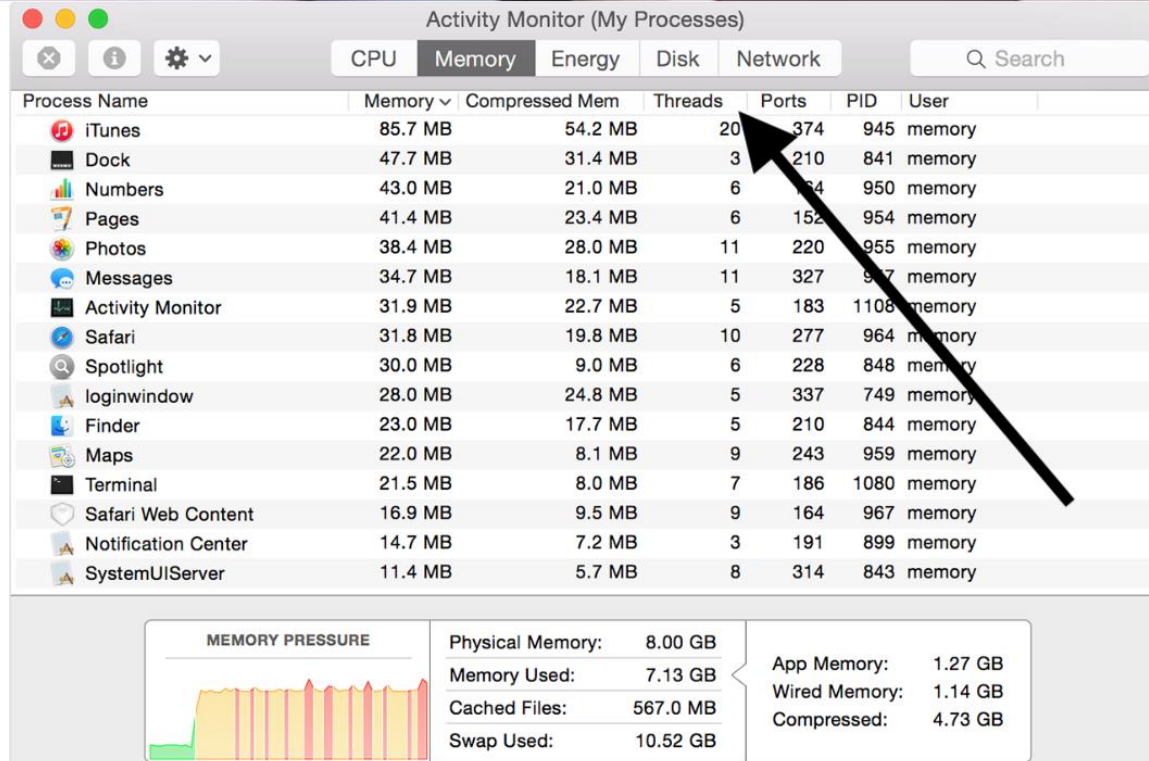
Mac Utilities



What if you have Mac and its just stopped responding?

What should you do?

Mac OS X Activity Monitor is a program designed to help.



Windows Utilities



Windows Operating System comes with useful **utilities** such as:

File History

- Creates a backups for your hard drive
- Makes a copy of all the files in library, desktop, and favorite
- This helps prevent the effect of disk failure

Disk Cleanup

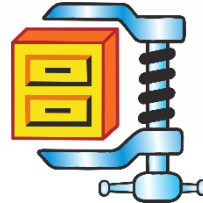
- Eliminates useless files
- Identifies and removes non-essential files
- This helps to free up space, increasing system performance

Disk Defragmentation

- Rearranges files and unused disk space
- Files are organized in tracks and sectors
- This helps to optimize the system performance

Utility Suites

- Combination of several programs into one package
- Less expensive as a whole
- Examples include: Norton utilities, AVG PC Tune-up and WinZip SUS



Potential Career in IT



Computer Support or Technical Support **Specialist**

- Provide technical support to customers
- Able to resolve common networking problems
- Able to use Troubleshooting programs to diagnose problems
- Good analytical mindset, customer service and communication
- Averages a salary of \$29K-\$40K Annually