



Dacorum U3A

Computer Support Group

30th October 2015

Agenda



Open forum

Identify subjects for breakout groups
and later meetings

Main presentation

Tea and coffee break (3.30pm)

Breakout into smaller groups

Contents



- Computer Runs Very Slowly
- Computer Freezes
- Computer Shuts Down
- Computer Won't Start up
- Disk Errors
- Network Problems

However



The same facilities are useful in many areas so I will look at those:

- Task Manager
- msconfig
- Safe Mode
- Rescue Disk
- Disk Replacement

Computer Runs Very Slowly



- The number of processes running in the background – Task Manager, Startup, Registry and msconfig
- Insufficient memory – Task Manager
- Registry errors - Registry

Task Manager 1



- Start this using the Ctrl, Alt and Delete keys simultaneously
- On XP starts the Task Manager immediately on later releases there is an intermediate menu
- Allows you to kill applications (useful if they freeze)
- Allows you to view the running processes and see how much of the CPU they are using

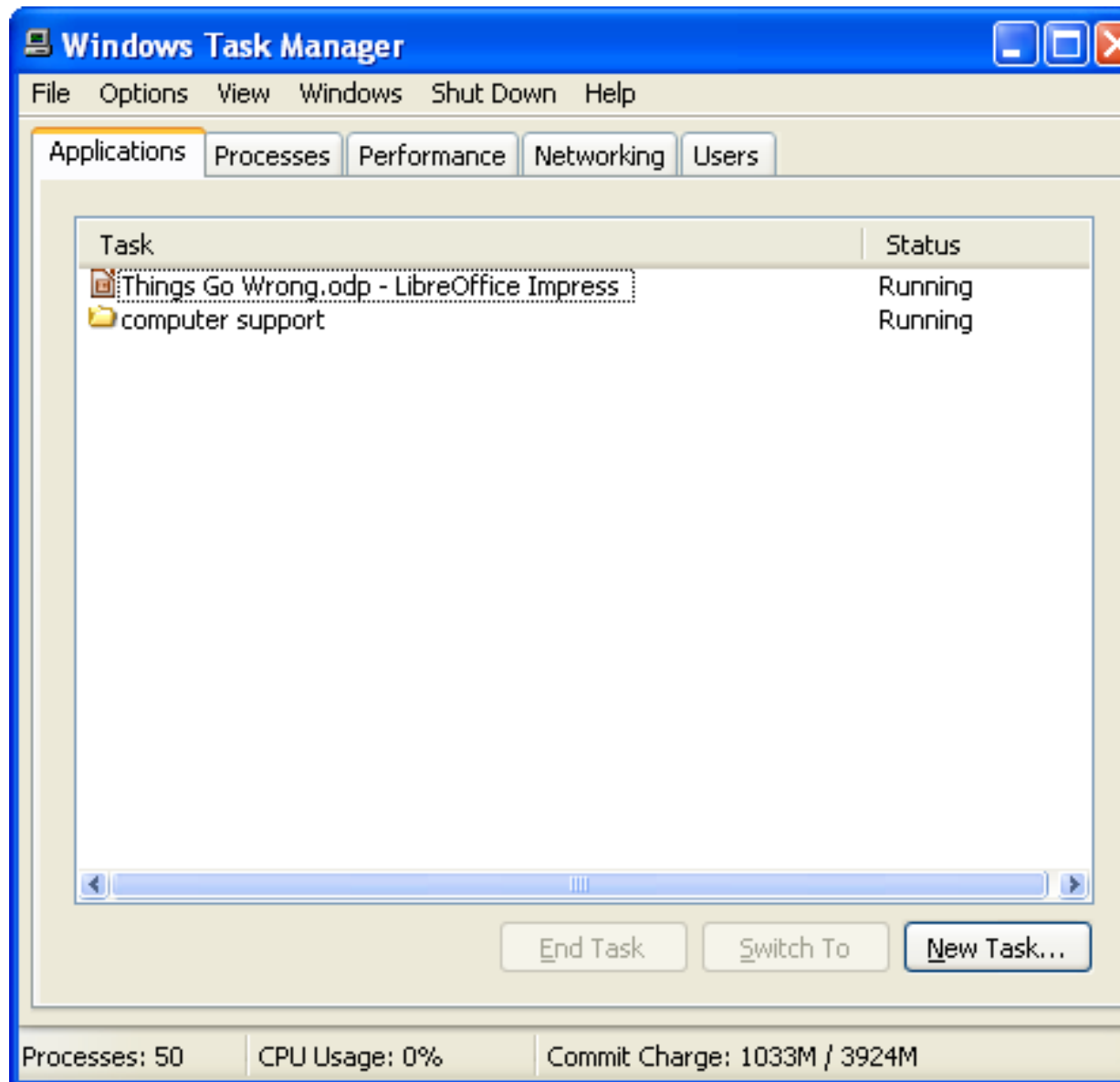
Task Manager 2



- Shows the CPU usage over time
- Shows how much memory is being used and the amount of paging that is happening
- Shows the network performance
- Allows logging off a user (including yourself)

Each Windows version is similar but different

Task Manager (XP)



Task Manager (Windows 10)



The screenshot shows the Windows Task Manager Performance tab. The left sidebar lists system components: CPU (22% 2.70 GHz), Memory (7.0/7.9 GB (89%)), Disk 0 (Z:) (0%), Disk 1 (C:\Data\...) (0%), Disk 2 (C:) (1%), and Ethernet (S: 24.0 R: 8.0 Kbps). The main area displays the Memory section, which is highlighted in blue. It shows a total of 8.0 GB of memory, with 7.9 GB currently in use. A table below shows memory usage over a 60-second period. The 'Memory composition' section shows a bar chart with 'In use' (6.9 GB) and 'Available' (982 MB) segments. A red arrow points to the 'Available' value. Below this, a table lists memory details: Committed (12.3/14.2 GB), Cached (986 MB), Speed (1333 MHz), Slots used (2 of 4), Form factor (DIMM), and Hardware reserved (82.5 MB). At the bottom, there are buttons for 'Fewer details' and 'Open Resource Monitor'.

In use	Available	Speed:	1333 MHz
6.9 GB	982 MB	Slots used:	2 of 4
Committed	Cached	Form factor:	DIMM
12.3/14.2 GB	986 MB	Hardware reserved:	82.5 MB

Startup



Startup can be controlled from many places:

- msconfig
- Registry
- Start Menu

Start Menu



Right Click on the Start Button and select 'Open' and/or 'Open All Users'

Select the Programs folder

Select the Startup Folder

The menu items in there will be started when you log in to Windows

You can delete any that you don't want to run every time

Not sure whether this applies to Windows 10

msconfig



Allows you to control how windows starts

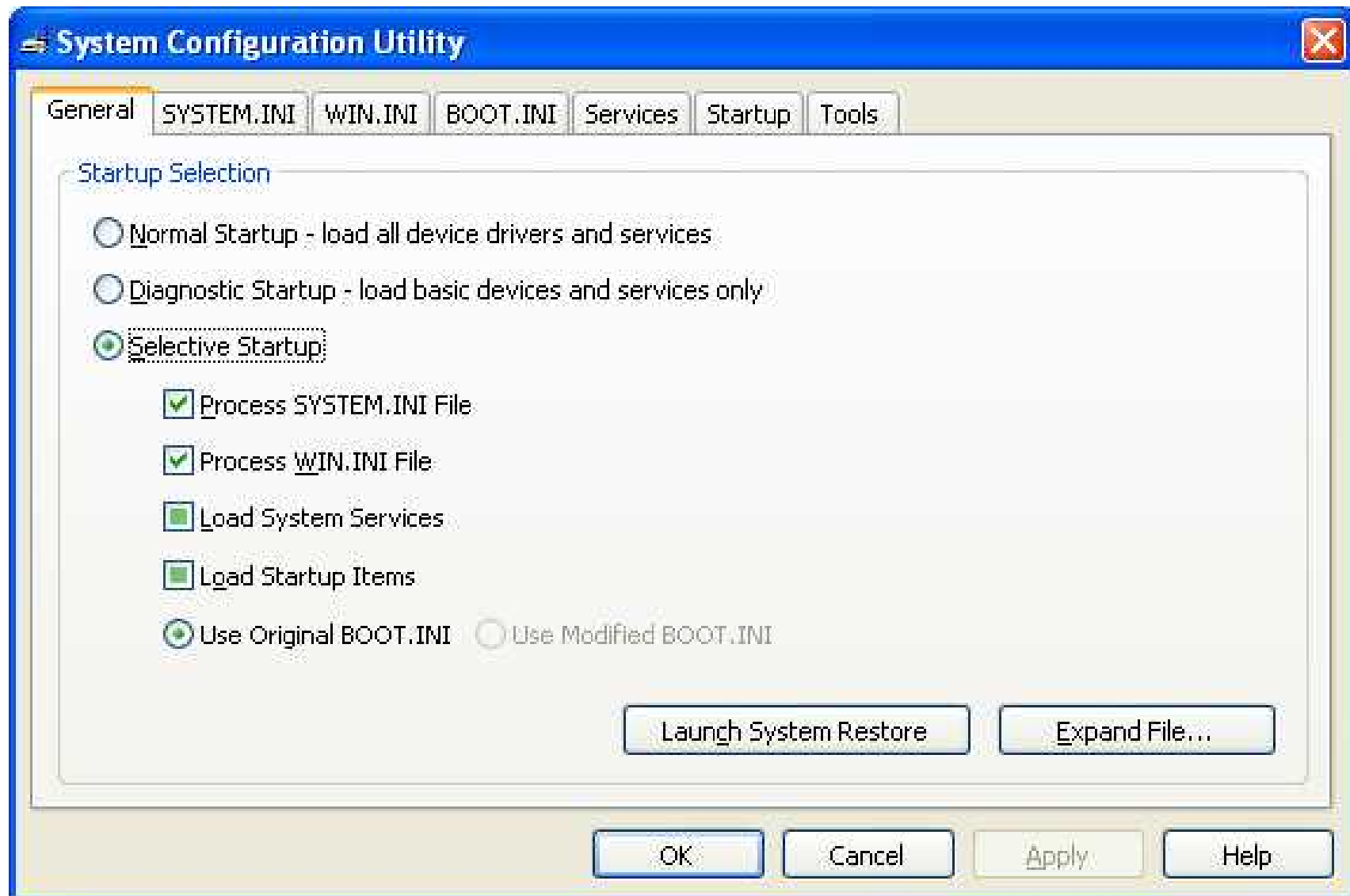
On the Start menu select Run and enter
msconfig

Allows the initial Boot to run with fewer options

Allows you to start stop some startup programs

Provides an interface into System Restore and
other services

msconfig XP



Registry



The Registry is the central control 'file' of Windows (it is actually a database)

It is usually very large (more than 50mb)

It is very complex and difficult to understand

regedit can be used to browse and update it – but be very careful if you do

There are utilities that can be used to improve it but you have to really trust them

It is possible to copy it to if there are errors in it

Computer Freezes



After waiting to allow any disk writes to complete, re-boot the machine. Many desktops have a 'reset' button otherwise hold the power button and the PC should power itself off. If all else fails, unplug from the mains (and remove the battery from a laptop).

If the computer will not reboot, try booting with the Rescue Disk inserted.

If this works can run a virus check and/or restore a previous backup.

Rescue Disk



Can be created through Backup and Recovery but not for XP.

Many Anti Virus programs can create a rescue disk which will check for viruses.

Many disk backup programs can create a disk that can restore a disk backup

Keep it up to date

Try it out and maybe keep a copy

Computer Freezes 2



If this doesn't work fully you may be able to use 'Safe Mode' to fix software errors.

Safe mode can start a minimal version of Windows with no network connection etc.

Safe Mode may be initiated automatically because the previous shut down was not completed.

Safe mode can be entered by continually pressing F2 during boot (perhaps not Windows 10) or using msconfig before the previous shut down.

Safe Mode



Windows Advanced Options Menu

Please select an option:

Safe Mode

Safe Mode with Networking

Safe Mode with Command Prompt

Enable Boot Logging

Enable VGA mode

Last Known Good Configuration (your most recent settings that worked)

Directory Services Restore Mode (Windows domain controllers only)

Debugging Mode

Start Windows Normally

Reboot

Return to OS Choices Menu

Use the up and down arrow keys to move the highlight to your choice.

Computer turns itself off



- If it will turn on again but runs only for a short time. It is may be because it is temperature.
- OpenHardwareMonitor
<http://openhardwaremonitor.org/> (Open Source) should show the temperatures (see next slide)
- Improve cooling
- Desktop: the heat sink may be clogged with fluff
- Laptop: cooled from below use a stand especially one with a built in fan

OpenHardwareMonitor



Not all PC types
are supported

Display will vary
with PC
'motherboard'

The screenshot shows the Open Hardware Monitor application window. The window title is "Open Hardware Monitor" and it has a menu bar with "File", "View", "Options", and "Help". The main content area displays a tree view of sensors and their corresponding data. The data is organized into columns: "Sensor", "Value", "Min", and "Max".

Sensor	Value	Min	Max
BUSHILL1			
945G-M3			
ITE IT8712F			
Voltages			
CPU VCore	1.216 V	1.200 V	1.264 V
VBat	3.008 V	3.008 V	3.008 V
Temperatures			
Temperature #1	41.0 °C	40.0 °C	41.0 °C
Temperature #3	38.0 °C	35.0 °C	59.0 °C
Fans			
Fan #2	2909 RPM	2722 RPM	2961 RPM
Intel Pentium D 3.40GHz			
Clocks			
Bus Speed	200 MHz	200 MHz	200 MHz
CPU Core #1	2400 MHz	2400 MHz	3400 MHz
CPU Core #2	2400 MHz	2400 MHz	3400 MHz
Load			
CPU Total	13.3 %	0.0 %	79.7 %
CPU Core #1	15.6 %	0.0 %	100.0 %
CPU Core #2	10.9 %	0.0 %	96.9 %
Load			
Memory	69.7 %	53.6 %	71.2 %
Data			
Used Memory	1.4 GB	1.1 GB	1.4 GB
Available Memory	0.6 GB	0.6 GB	0.9 GB
SAMSUNG HD300LJ			
Temperatures			
Temperature	39.0 °C	38.0 °C	39.0 °C
Load			
Used Space	83.7 %	83.7 %	83.7 %

Computer turns itself off



If it won't turn on again it may be:

- A disk error
- A software problem
- A configuration error
- Another hardware issue

Disk Error



- Error Check a disk (not tablets!):
 - Start My Computer
 - Right Click on the drive
 - Select 'Properties'
 - Select 'Tools'
 - Select 'Check Now'
- Improve performance (not tablets!):
 - As above but select 'Defragment Now'
 - Can take a long time to run but can be stopped

Disk error



- Disk 'Crashes' (not tablets!)
 - Replacing a disk drive is not too difficult
 - A number of different types: IDE, EIDE, SCSI, SATA, SAS, ... You must have a compatible type
 - May have to change the 'BIOS' (see above)

Disk Error



- If you change the disk you must:
 - Must have a recent backup to restore the disk to a 'good' point
 - Have a 'Rescue Disk' to run the computer while doing a restore
 - Can be some types of Pen Drive
 - XP Backup does NOT backup the whole disk
 - Windows 7,... Backup CAN backup the whole disk but there are limitations running it with multiple disks and on where you can restore to

Software Error



The simplest solution is to revert to an earlier version

- If the computer will start, this is relatively easy
- If the computer won't start you will have to proceed as for a Computer Freeze

Network Problems



If the Network is very slow, it may be the ISP!

However, it could also be that you are using wi-fi. If the PC is a long way from the router (or has thick walls in the way), you may be getting interference from a nearby router. If your machine has an 'IP' socket, a pair of 'Home Plugs' removes the requirement for wi-fi.

If the network fails completely, reboot the router and observe the flashing lights.