

# nmon for AIX & Linux

## Getting Started

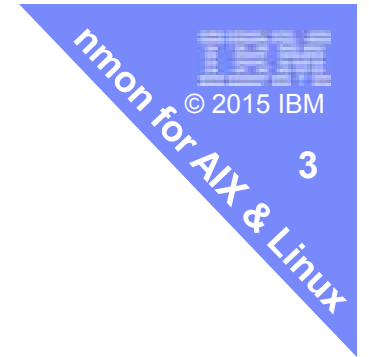
Nigel Griffiths  
POWER Advanced Technology Support  
IBM Europe



Let talk about



Year 18



## View & Analysing AIX / Linux Performance data

## View & Analysing AIX / Linux Performance data

[View Online](#)

```

topas nmon -h=Help Host=blue Refresh=2 secs 09:25.48
CPU-Utilisation-Small-View EntitledCPU= 2.00 UsedCPU= 3.403
Logical CPUs 0-----25-----50-----75-----100
CPU User% Sys% Wait% Idle%|
0 79.5 0.5 0.0 20.0|
1 0.5 0.0 0.0 99.5|
2 0.0 0.0 0.0 100.0|>
3 0.0 0.0 0.0 100.0|>
4 96.5 3.5 0.0 0.0|
5 0.0 5.0 0.0 95.0|
6 0.0 0.0 0.0 100.0|>
7 0.0 0.0 0.0 100.0|>
8 80.0 0.0 0.0 20.0|
9 0.0 0.0 0.0 100.0|
10 0.0 0.0 0.0 100.0|>
11 0.0 0.0 0.0 100.0|>
12 80.0 0.0 0.0 20.0|
13 0.0 0.0 0.0 100.0|
14 0.0 0.0 0.0 100.0|>
15 0.0 0.0 0.0 100.0|>
EntitledCapacity/VirtualCPU +-----+-----+-----+-----+
EC+ 62.8 0.4 0.0 36.7|
VP 53.4 0.4 0.0 31.2|
EC= 170.1% VP= 85.1%
Top-Processes-(116) Mode=3 [1=Basic 2=CPU 3=Perf 4=Size 5=I/O 6=Cmds]
PID %CPU Size Res Res Res Char RAM Paging Command
Used KB Set Text Data I/O Use io other repage
5177680 62.4 176 180 4 176 39493 0t 0 0 0 yes
11534816 50.9 132 72 12 60 0 0 0 0 0 ncpu
39518404 50.8 136 76 12 64 0 0 0 0 0 ncpu
19267742 50.7 124 72 12 60 0 0 0 0 0 ncpu
3801158 0.1 2036 2208 756 1452 0 0 0 0 0 named8
56426658 0.1 4948 6496 2208 4288 0 0 0 0 0 topas_nmon
0 0.0 384 384 0 384 0 0 0 0 0 Swapper
5046464 0.0 1060 1108 140 968 0 0 0 0 0 xmtopas
5177530 0.0 1856 1856 0 1856 0 0 0 0 0 nfd
5243128 0.0 640 668 84 584 0 0 0 0 0 getty
2031678 0.0 960 960 0 960 0 0 0 0 0 gil - TCP/IP
7340034 0.0 868 988 168 820 0 0 0 0 0 xmtopassg
4718762 0.0 800 820 60 760 0 0 0 0 0 syslogd
  
```

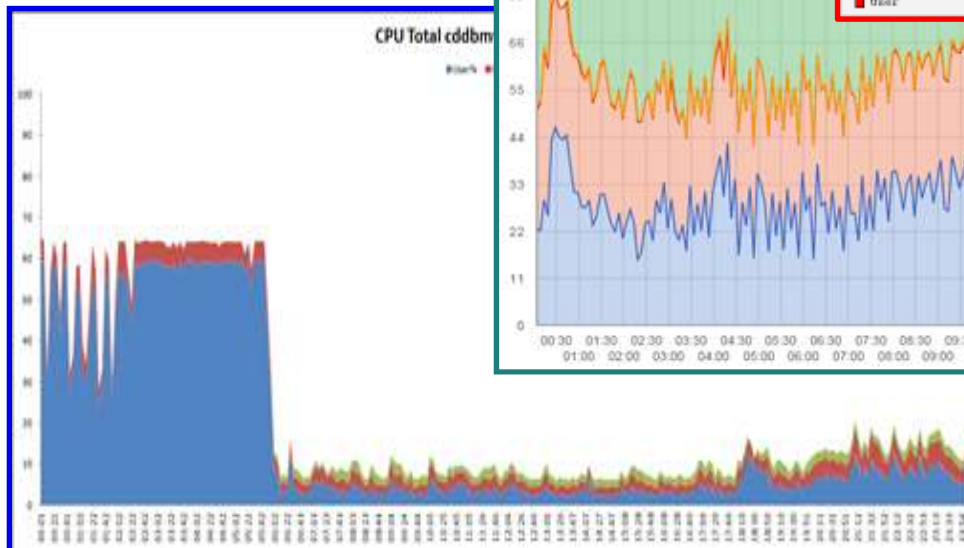
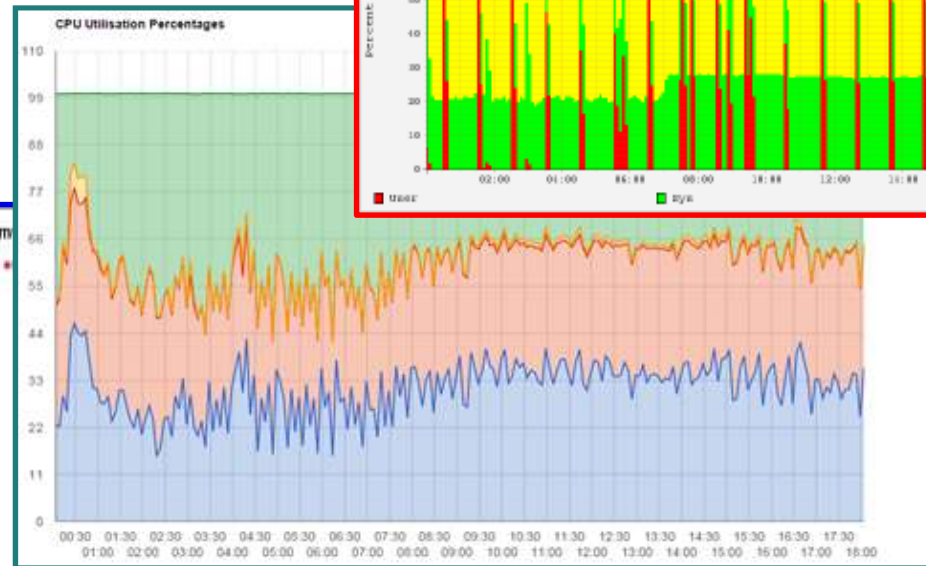
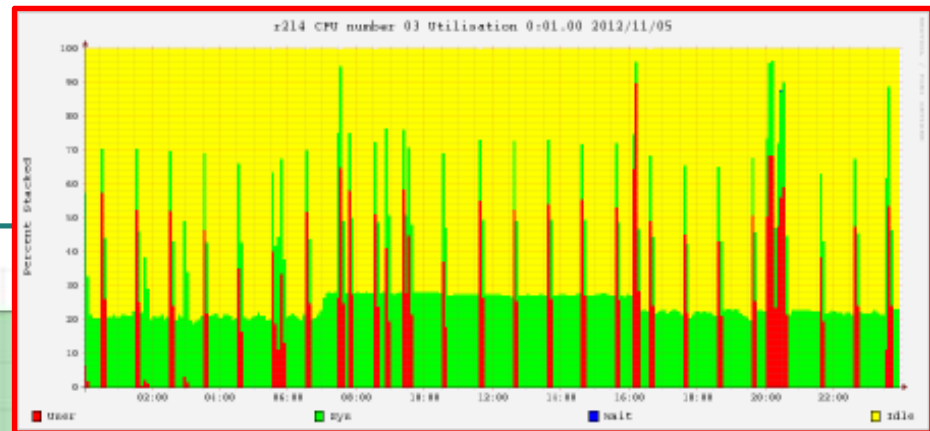
```

nmon-14g [H for help] Hostname=raspberrypi Refresh= 2secs 09:30.41
CPU Utilisation
CPU User% Sys% Wait% Idle%|
1 21.5 6.2 0.0 72.3|
2 71.4 14.6 0.0 14.1|
3 21.7 2.4 0.0 75.8|
4 15.6 7.8 0.0 76.6|
Avg 32.7 7.7 0.0 59.5|
Disk I/O /proc/diskstats mostly in KB/s Warning:contains duplicates
DiskName Busy Read WriteKB|
mmcblk0 100% 0.0 3468.8|
mcbkOp1 0% 0.0 0.0|
mcbkOp2 100% 0.0 3468.8|
Totals Read-MB/s=0.0 Writes-MB/s=6.8 Transfers/sec=13.5
Top Processes Procs=159 mode=3 (1=Basic, 3=Perf 4=Size 5=I/O)
PID %CPU Size Res Res Res Res Shared KB Min Maj Command
Used KB Set Text Data Lib KB Min Maj
16914 98.7 3200 312 20 304 0 256 0 0 yes
15513 20.3 421040 145052 668 228948 0 59900 0 0 epiphany-brows
18068 9.7 532488 182380 668 339756 0 52660 9 0 epiphany-brows
17729 6.3 87664 37140 1256 25000 0 21136 175 0 Xtightvnc
2236 5.8 75300 32868 1688 16516 0 16796 56 0 Xorg
18088 4.4 112008 19116 44 12256 0 14600 0 0 lxterminal
23230 3.9 0 0 0 0 0 0 0 0 kworker/u8:2
  
```

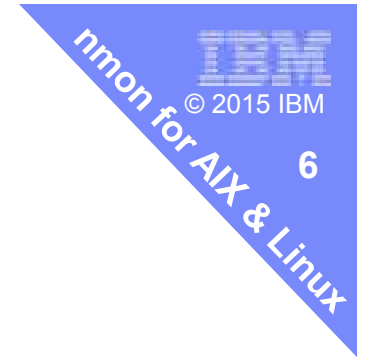
Performance Tuning  
 → Right NOW !!

## View & Analysing AIX / Linux Performance data

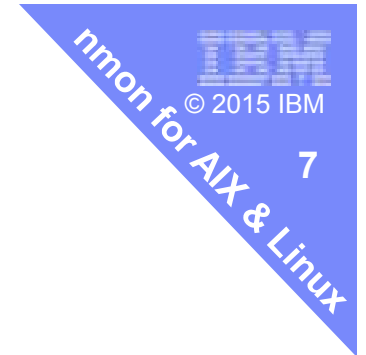
Post mortem Analyse  
→ Graphing



Capacity Tuning  
→ Trends & resource settings



How many different code based for nmon?



How many different code based for nmon?

Answer: FIVE

- 1) Classic for AIX 3 & 4 → /dev/kmem
- 2) Classic for AIX 5 & 6 → Perfstat library
- 3) **topas\_nmon** → **Officially IBM supported**
- 4) nmon for Linux old → Closed source
- 5) **nmon for Linux now** → **Open source**

## Where do I get my nmon?

- 1) Classic for AIX 3 & 4 → /dev/kmem
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Download from binaries  
DeveloperWorks

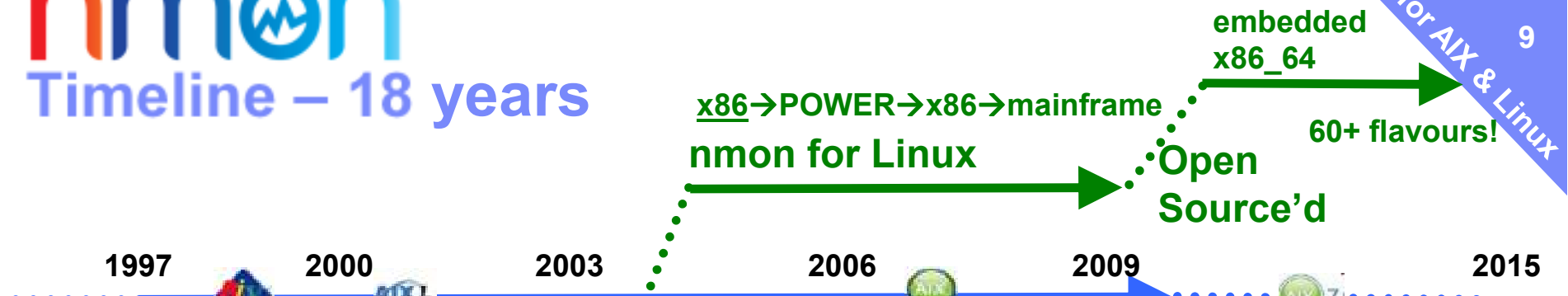
[nmon.sourceforge.net](http://nmon.sourceforge.net)  
Download binary or code

Since AIX 5.3 TL9 & AIX 6 TL2  
Default installed with AIX



# nmon

## Timeline – 18 years



1997

1999 4.3.3

**AIX 3.1.5 - 4.2**  
Benchmarking  
Tuning/Reports

2000

2001

2003

**nmon9f AIX4**  
Last AIX 4.3.3  
Used /dev/kmem

2006

2007

2005

**nmon10 AIX5**  
Uses public API  
& libperfstat

2009

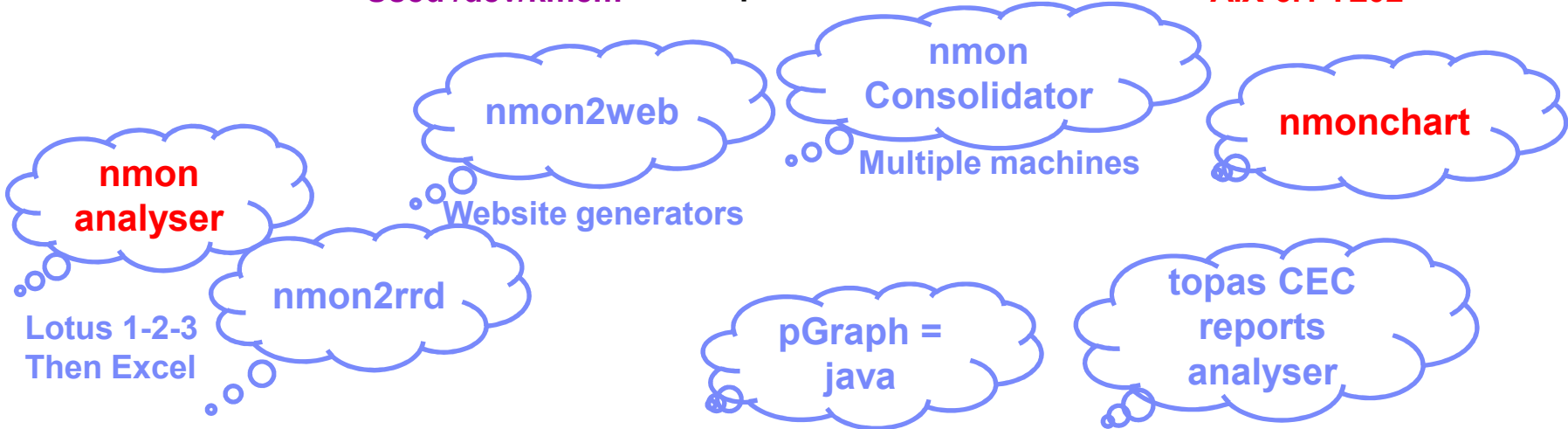
2010

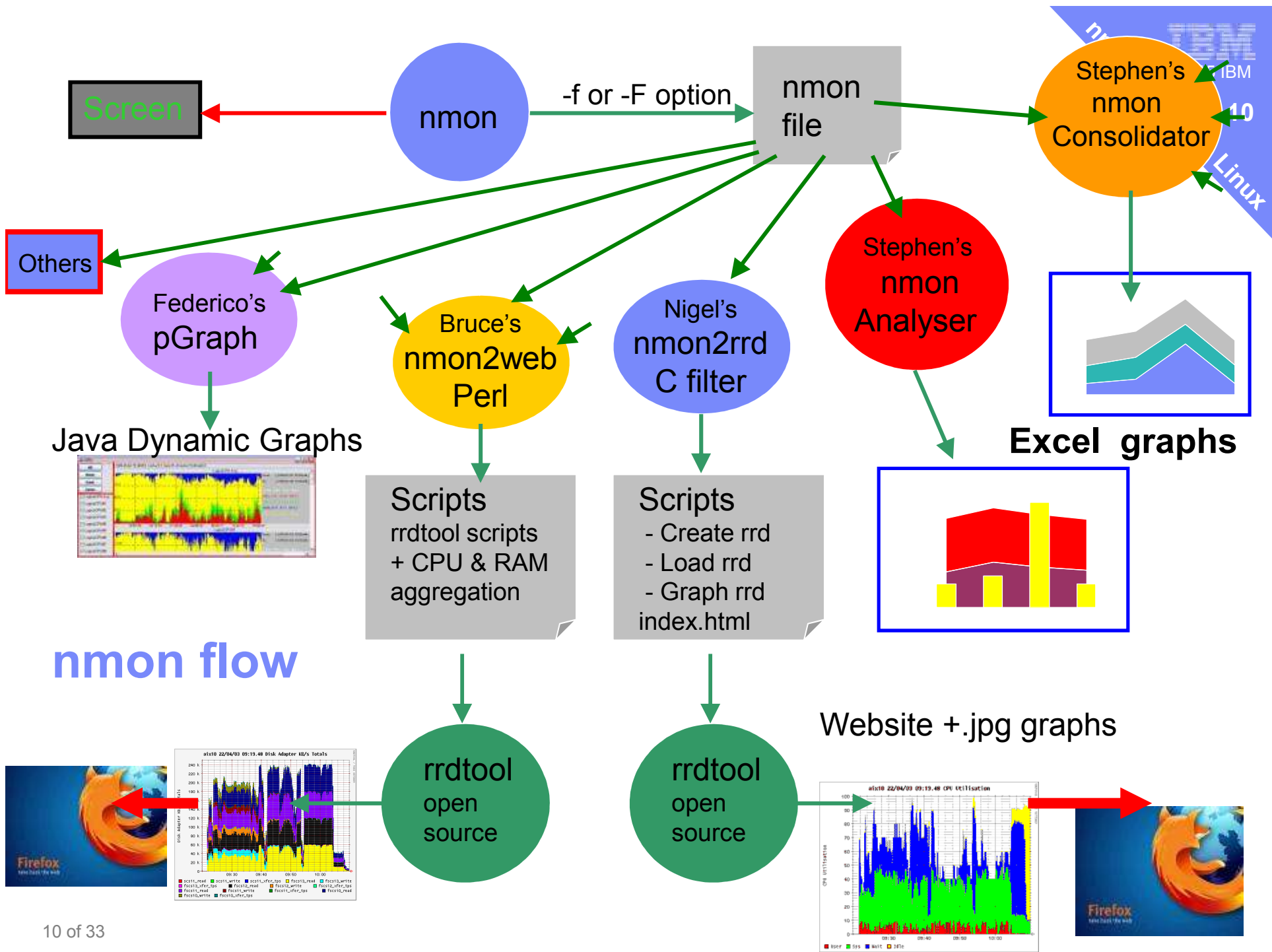
2008

**nmon12f AIX6**

**AIX command topas\_nmon**

**merged in to topas nmon12f function**  
**Released with AIX AIX 5.3 TL09 + AIX 6.1 TL02 +**





# nmon is half the story

**The other half is due to the nmon Analyser  
Excel spreadsheets from Stephen Atkins, UK**

**Another personal time project**

**The sole designer/developer:**

- nmon analyser
- nmon Consolidation
- Topas CEC analyser

**Now supported by Ron McCargar**

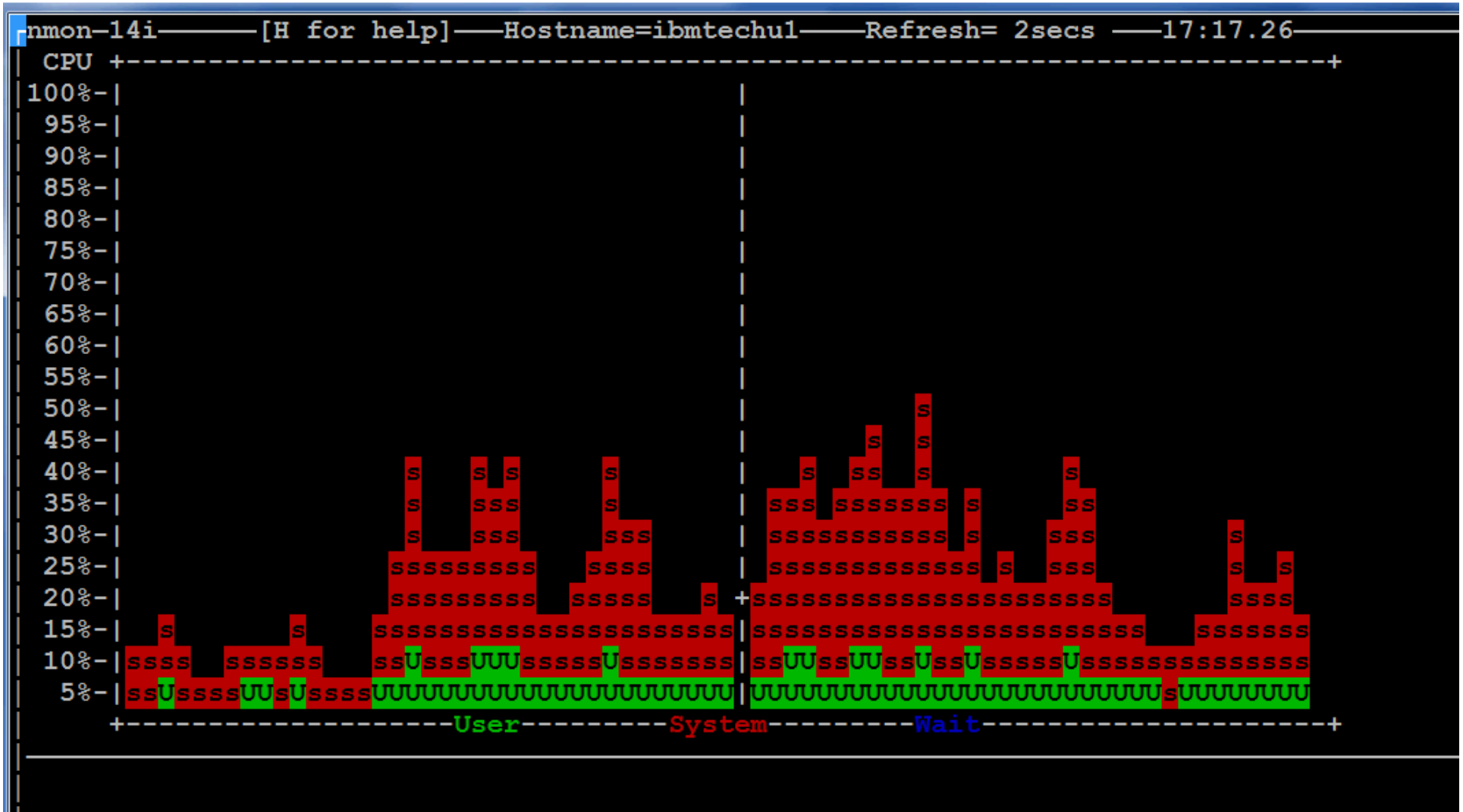
- Thanks Ron



## More and Downloads

1. <http://tinyurl.com/new-nmon-analyser>
2. <http://tinyurl.com/nmon4linux> or  
<http://nmon.sourceforge.net>
3. <http://tinyurl.com/PerfToolsForum>
4. <http://tinyurl.com/OtherPerformanceTools>
5. <http://tinyurl.com/nmonClassic>

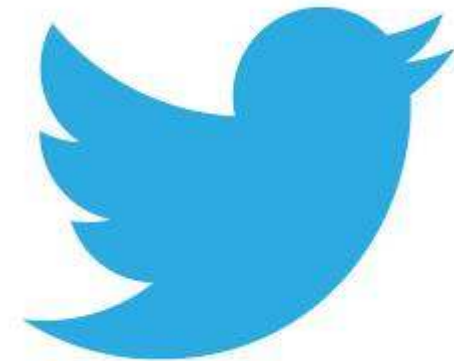
# IBM Power Technical Universities sessions, schedule, personal agenda, feedback website runs on Apache on POWER8 under Linux



## Live Demonstration Time

1. nmon for AIX online blue
2. interaction with topas online ~
3. nmon for Linux website & Repository violet
4. nmon for Linux online violet
  
5. nmon capture blue
6. nmon files format & open in spread sheets
7. nmon Analyser nmon\_Demo
8. nmonchart blue

## Are you keeping up to date?



**mr\_nmon** on twitter

- Only used to POWER / AIX technical content, hints, tips and links



125 techie hands-on videos on **YouTube** at  
<http://www.youtube.com/nigelargriffiths>

## AIXpert Blog

- Lots of mini articles & thoughts
- <http://tinyurl.com/AIXpert>

Also:

- <http://tinyurl.com/ibmAIXVUG>
- <http://tinyurl.com/newAIXwiki>

