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Using Efficient and Proactive Server Monitoring to Save Costs

Marian Marinov – mm@1h.com
Founder & CEO at 1H Ltd.



AGENDA

- **The problems**
- **How are they usually handled**
- **Is there a more efficient solution?**



The problems

- **Continuous high I/O Usage**
- **Continuous high CPU Usage**
- **Memory deprivation**
- **Continuous high number of processes**
- **Load spikes**



How do we counter fight?

- Deploy custom scripts
- Use a lot of dispersed tools
- Analyze a lot of logs
 - Manually or by 3rd party tools

All of these are usually handled manually by System Administrators

- We have to hire more admins



Automation Options

- We also use monitoring systems
 - Nagios
 - Zenoss
- Rarely they do anything else than reporting
- They are slow - running checks every 1 minute
- Is there room for improvement?



Improving Automation with Guardian

- **Collects all the information required**
 - Does it VERY fast – every 0.5 seconds!
 - Does not effect the server performance
- **Makes decisions what actions to take during different load states of the server**
 - Load levels could be – normal, high or critical
- **Balances the resources faster than any admin can**
 - How fast could you write this command?
`# renice -n 19 -p XXXX && ionice -c2 -n7 -p XXXX`

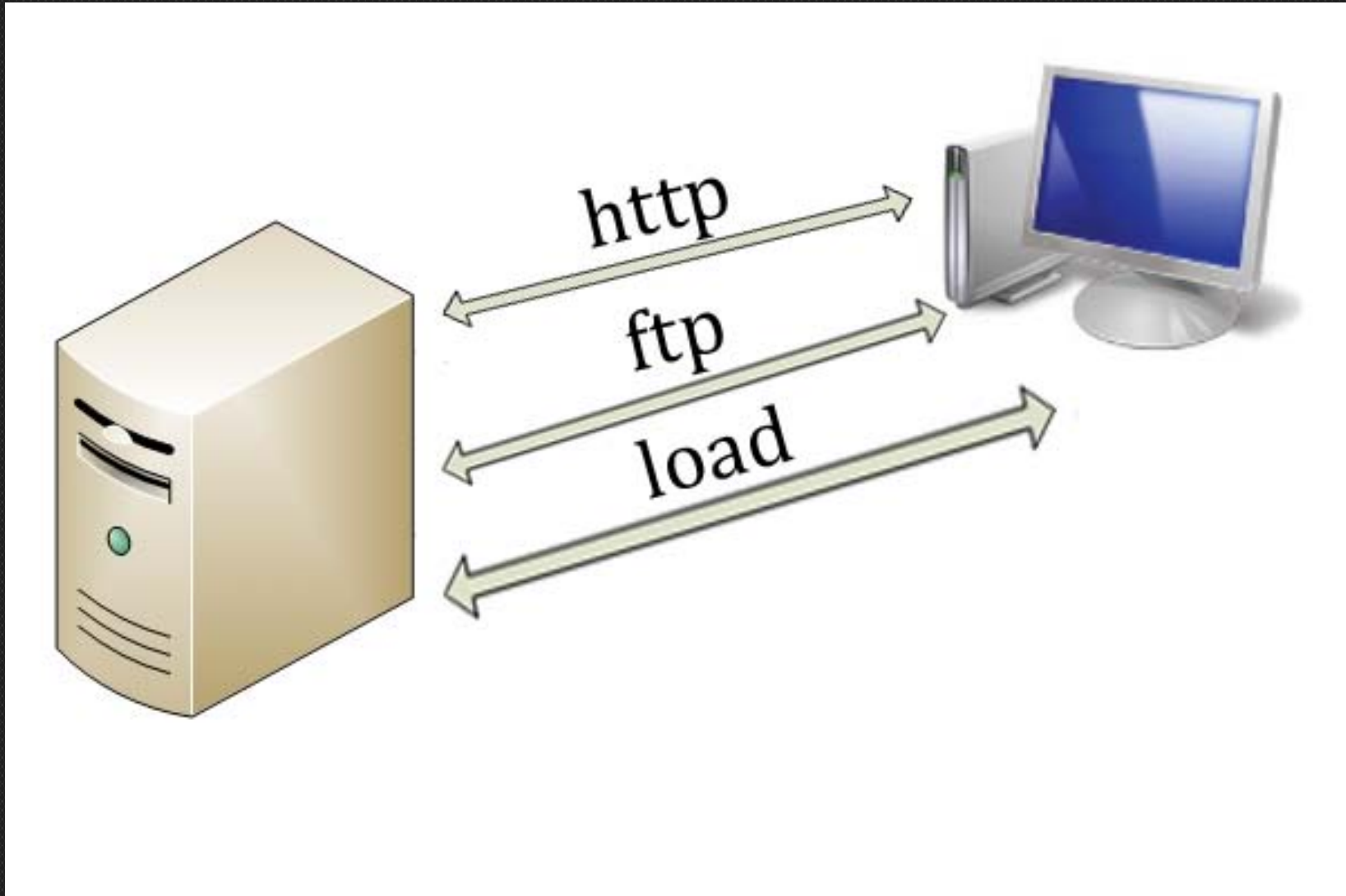


Improving Automation with Guardian

- Pauses archives, stats and syncs during high load and resumes them when the load goes down.
- Kills long running processes
- Monitors services and restarts them if they die
- Monitors MySQL process list and kills stalled queries

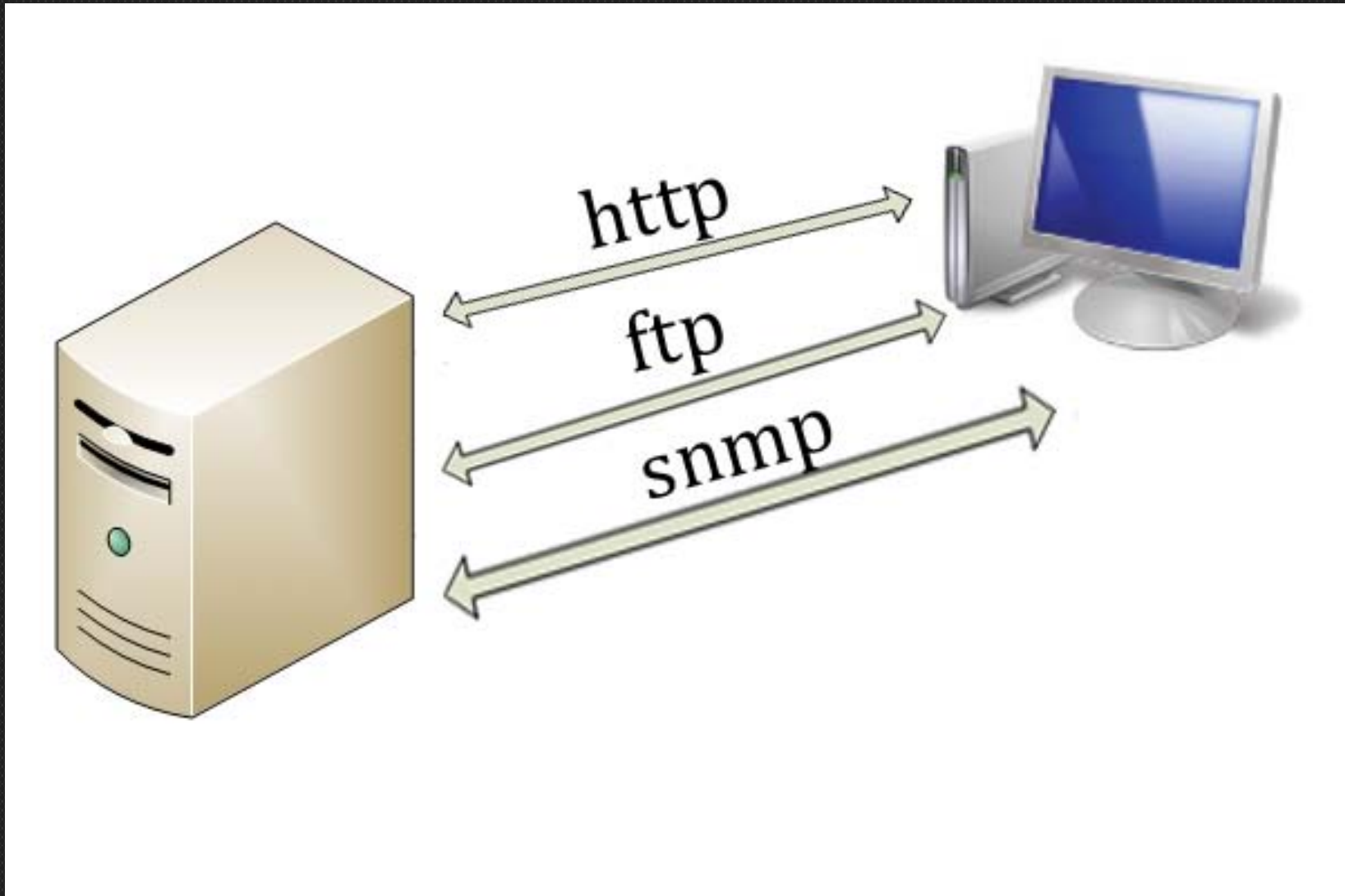


Nagios schemes



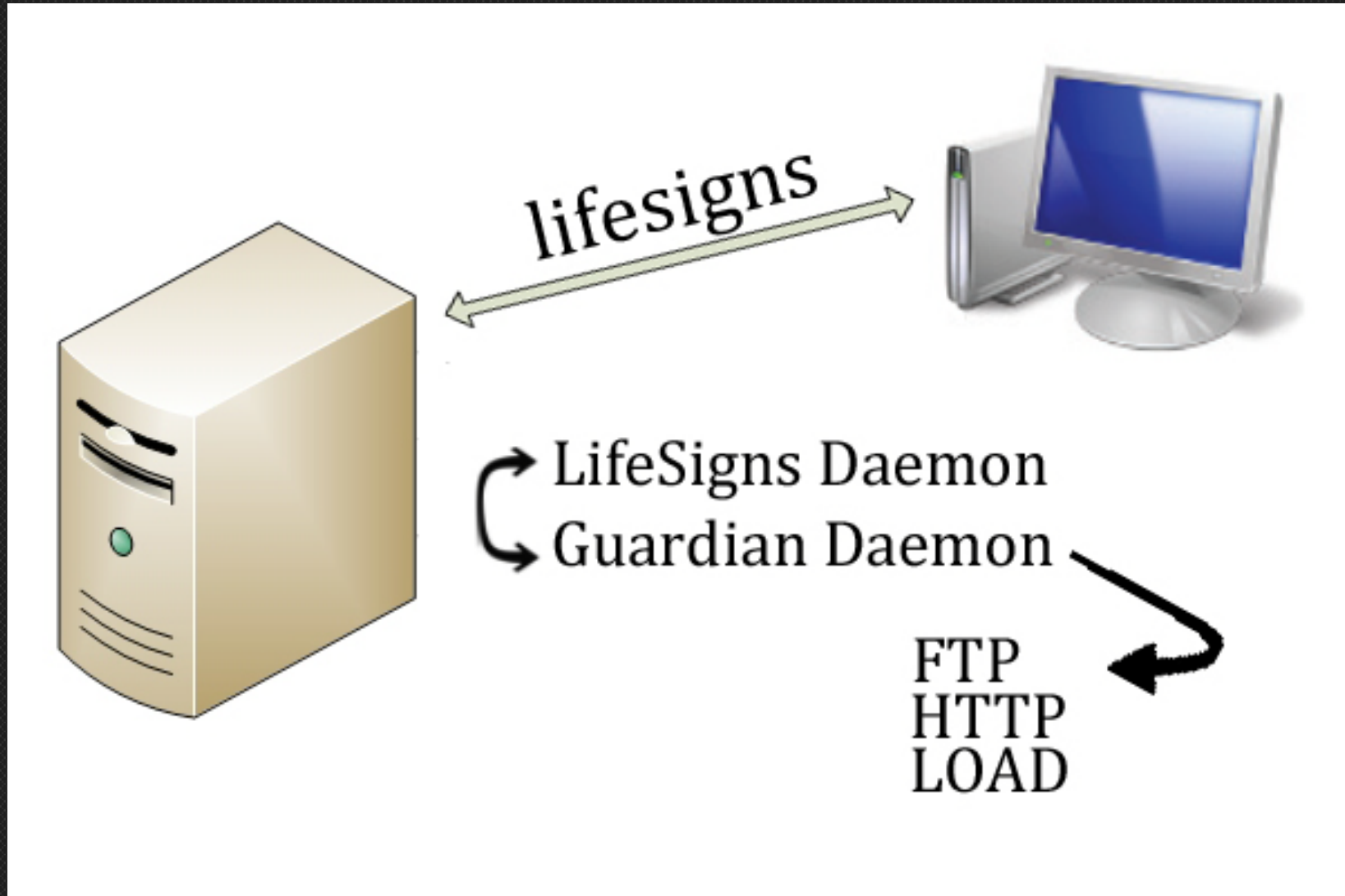


Zenoss scheme





Guardian scheme





Comparison table

➤ Network traffic for a single check

Monitoring system	conns	pkgs	bytes	bits
Nagios	13	123	11275	90200
Zenos	13	94	8592	68736
Guardian	1	12	1064	8512

➤ Network traffic for a whole day with checks every 10 seconds

Monitoring system	1 server	100 servers	1000 servers
Nagios	97,4 Mb	9,7 Gb	97,4 Gb
Zenos	74,2 Mb	7,4 Gb	74,2 Gb
Guardian	9,1 Mb	0,091 Gb	9,1 Gb



Hardware comparison

Based on the number of nodes monitored:

Monitoring system	<250	<500	<1000	<1500	<4000
Nagios	2 CPU Core 2 GB Ram	4 CPU Core 2 GB Ram	Distributed	Distributed	Distributed
Zenos	2 CPU Core 1 GB Ram	4 CPU Core 1 GB Ram	8 CPU Core 1 GB Ram	Distributed	Distributed
Guardian	1 CPU Core 1 GB Ram	1 CPU Core 1 GB Ram	2 CPU Core 2 GB Ram	2 CPU Core 2 GB Ram	4 CPU Core 2 GB Ram



Hardware comparison

- Both Nagios and Zenoss rely heavily on RRD for generating graphs.
- Guardian doesn't use heavy RRD to store its data



Questions





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Thank you

**Please visit us at
HostingCon booth 638!**

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