

Modernes System-Management

Alles ist ein Stream

Sebastian 'tokkee' Harl
<sh@tokkee.org>

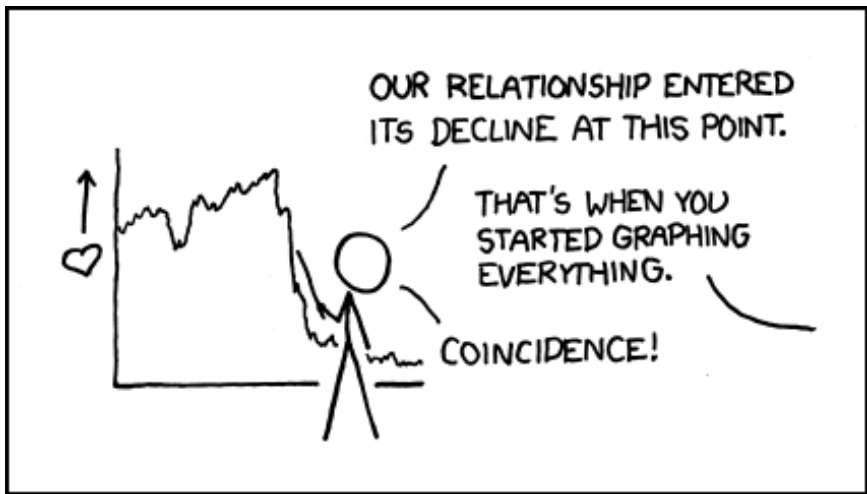
OpenRheinRuhr
07. November 2015
Oberhausen



**OPEN
RHEIN
RUHR**
Ein Pott voll Software

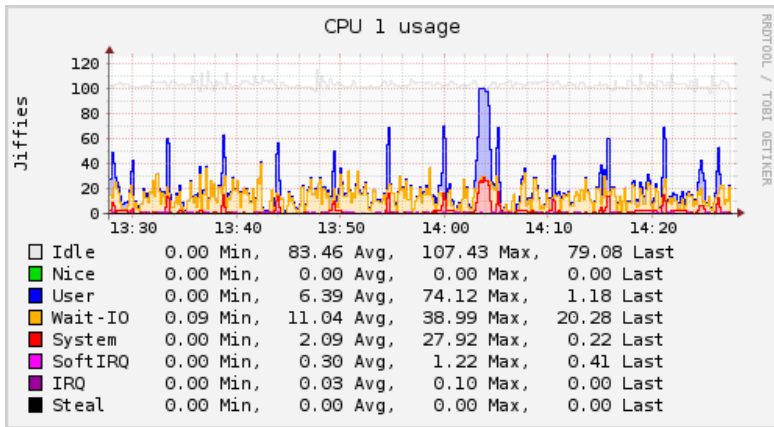


- Monitoring
- Automatisierung
- Logging (Monitoring, Debugging)
- Performance Analyse
- Provisionierung
- Inventarisierung
- ...



(Fast) Alles ist ein Stream

Streams sind Graphen



Monitoring?



Monitor: Hallo, wie geht es dir?

System: Hallo, alles okay.

Monitor: Gut :-)

Monitoring?



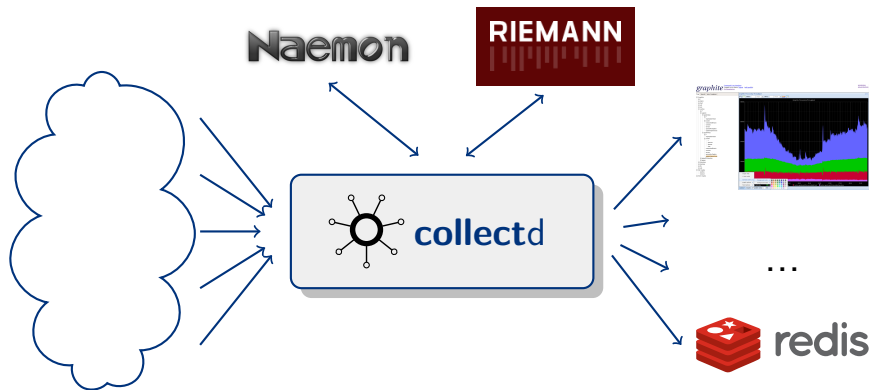
Monitor: Hallo, wie geht es dir?

System: Hallo, alles okay.

Monitor: Gut :-)

Und wenn nicht?

Beispiel: collectd



<https://collectd.org/>

Beispiel: Riemann



Health

	cpu	disk /	disk /boot	disk /disk1	disk /disk2	disk /ssd1	disk /ssd2	disk /ssd3	load	memory
api1.tx	0.39	0.53	0.67	0.01	0.80				0.14	0.48
api2.tx	0.43	0.41	0.67	0.01	0.78				0.18	0.50
api3.tx	0.38	0.43	0.67	0.01	0.81				0.17	0.53
api4.tx	0.35	0.42	0.67	0.01	0.78				0.18	0.51
api5.tx	0.47	0.42	0.67	0.01	0.77				0.14	0.53
api7.tx	0.36	0.41	0.67	0.01	0.80				0.18	0.51
be1.tx	0.10	0.03	0.53						0.02	0.26
be2.tx	0.15	0.04	0.53						0.06	0.37
hub3.tx	0.01	0.01	0.43						0.01	0.31
importer.tx	0.06	0.14	0.45		0.01				0.00	0.57
solr2.tx	0.25	0.44	0.67			0.90	0.28	0.40	0.94	0.79

leue

ns	0.00
>let_batched_user_import	2.00
>let_featured	0.00
>let_feed	0.00
>let_importer_feed	0.00
>let_thumbnails	0.00

API

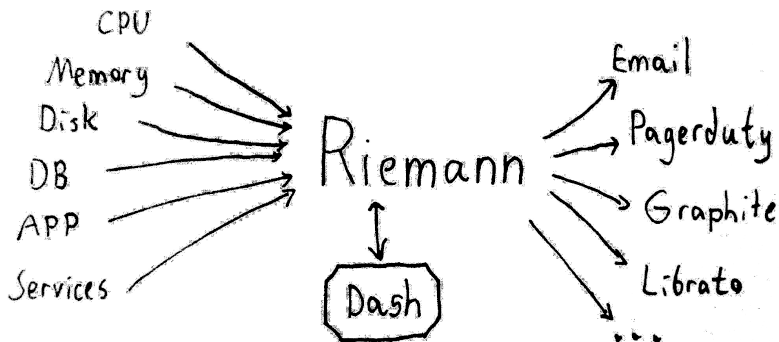
0	0.5	0.95	0.99	1	rate
8.45	59.85	154.00	201.35	201.35	9.68

Importer

facebook rate	feed creator	tumblr rate	twitter rate	youtube rate
11.23		1.00	30.98	1.00

<http://riemann.io/>

Beispiel: Riemann



<http://riemann.io/>



“KISS”

One tool, one job

```
% grep dat007 \  
  | awk '{print $2,$5}' \  
  | sort | uniq -c | sort -n
```

OUR RELATIONSHIP ENTERED
ITS DECLINE AT THIS POINT.



THAT'S WHEN YOU
STARTED GRAPHING
EVERYTHING.

COINCIDENCE!

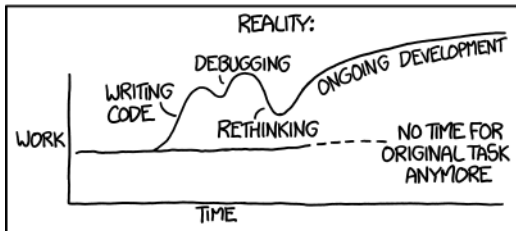
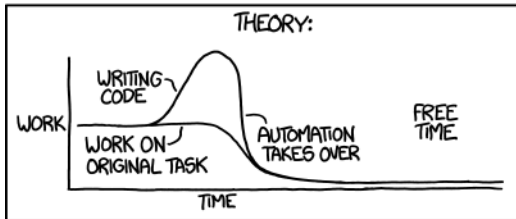
Events

Beispiel: ELK



Automatisierung

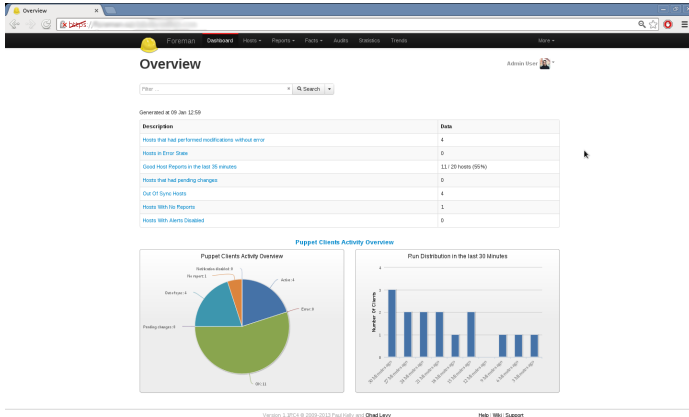
"I SPEND A LOT OF TIME ON THIS TASK.
I SHOULD WRITE A PROGRAM AUTOMATING IT!"





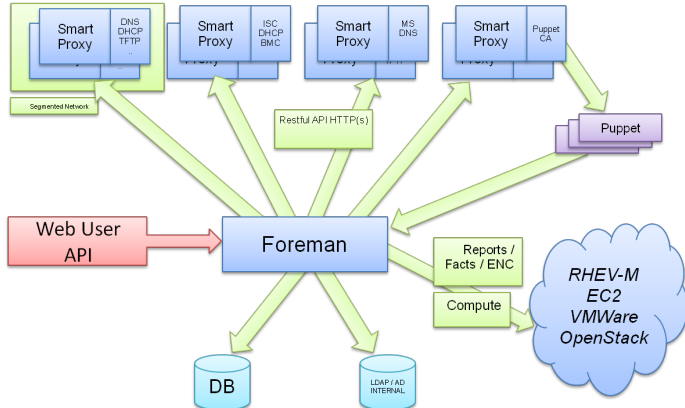
- Konfigurationsmanagement
- Deployment
- Life-Cycle Management
- Inventarisierung

Beispiel: Puppet + Foreman



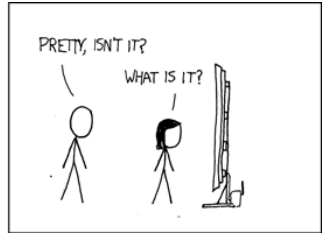
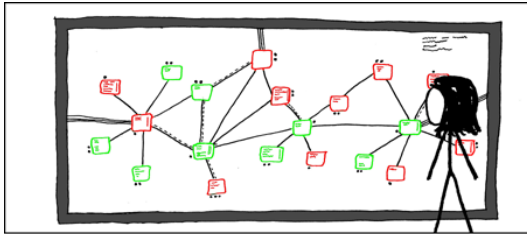
<http://theforeman.org>

Beispiel: Puppet + Foreman

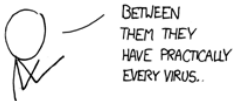


<http://theforeman.org>

Das System. Es lebt!



I'VE GOT A BUNCH OF VIRTUAL WINDOWS MACHINES NETWORKED TOGETHER, HOOKED UP TO AN INCOMING PIPE FROM THE NET. THEY EXECUTE EMAIL ATTACHMENTS, SHARE FILES, AND HAVE NO SECURITY PATCHES.



THERE ARE MAILTROJANS, WARHOL WORMS, AND ALL SORTS OF EXOTIC POLYMORPHICS. A MONITORING SYSTEM ADDS AND WIPES MACHINES AT RANDOM. THE DISPLAY SHOWS THE VIRUSES AS THEY MOVE THROUGH THE NETWORK,



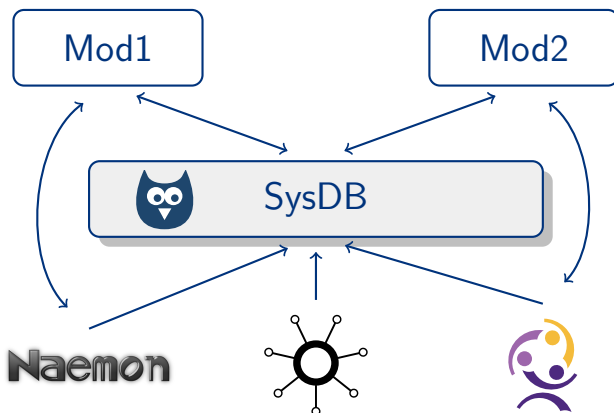
YOU KNOW, NORMAL PEOPLE ARE JUST HAVE AQUARIUMS.





- Aggregation von Informationen
→ “Business Process” Ansicht
- Abgleich von verschiedenen
Verwaltungssystemen
- Verlinkungen: Drill-in

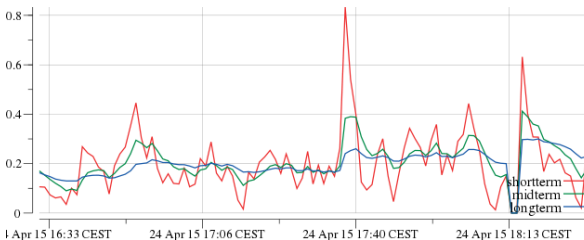
Beispiel: SysDB



<https://sysdb.io/>

[Hosts](#)[Services](#)[Metrics](#)

Metric whisky.tokkee.net — load/load

Time range: — 

Host	whisky.tokkee.net
Last update	2015-04-25 09:32:11 +0200 CEST
Update interval	9.999951626s
Backends	[backend::collectd::unixsock]
Attributes	
plugin	load
type	load



- Erweiterbarkeit:
 - Plugins
 - offene APIs / Protokolle
 - REST, gRPC, JSON, protobuf
- Instrumentarisierung (Monitoring!)
- KISS: “Microservices”

Standard APIs

HOW STANDARDS PROLIFERATE:
(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC.)





Danke für die Aufmerksamkeit!

Fragen, Kommentare, Anmerkungen, Rants?



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