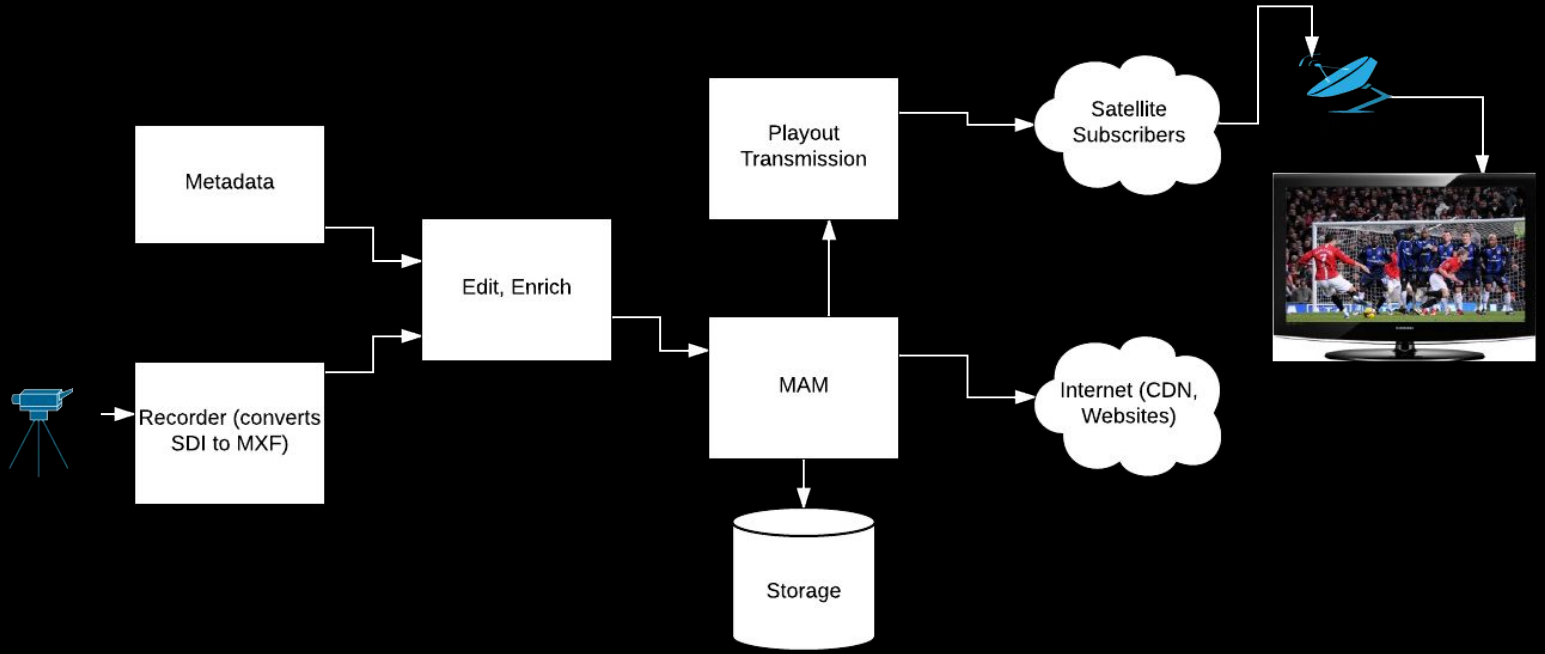
Monitoring broadcast TV

Icinga2 + TV Station = #monitoringlove

Television, high tech legacy

Broadcast television is about keeping pictures on air (black screen = bad)
Large infrastructure to generate an ultimately small signal, then sent to millions

TV Station Overview



Specific stuff

Large storage requirements (petabytes)
Around the clock human touch required
Strong security segmentation
Plenty of industry specific vendors, solutions and terms like SDI-HD

That’s not a router!

Front View, broadcast video router

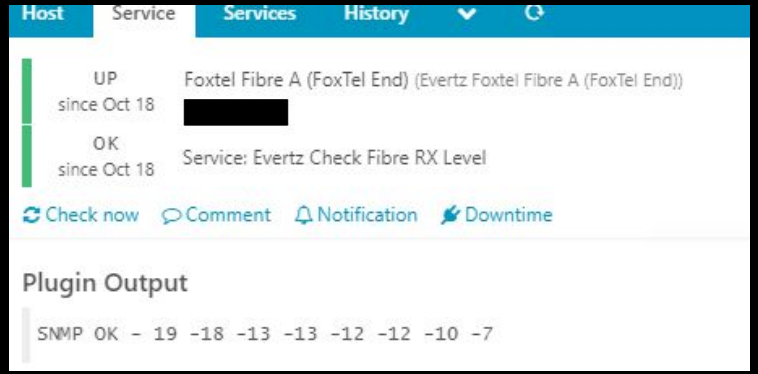
Rear View, broadcast video router

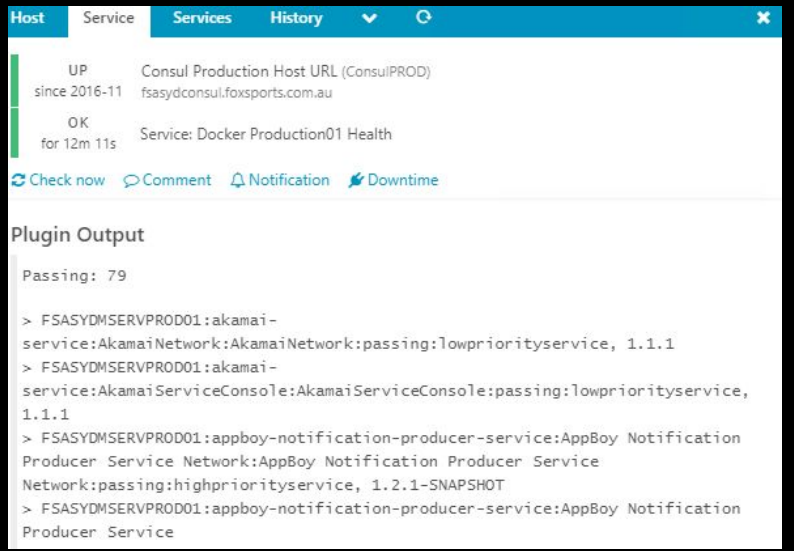
Master Control

Redundancy

Everything has A/B failover
24/7 operation
Cost of failure is measurable and high

Going Digital





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Why Icinga2?

Robust and flexible
Distributed and scalable
Easy plugins
Open Source

Distributed Monitoring

Crucial for success, key advantage of Icinga2
Centralised CA, now with proxy signing
HTTPS API on port 5665 between nodes
Multi-master, delegation

Awesome Config

```
apply Service "imap" {
  import "generic-service"

  check_command = "imap"

  assign where ("imap" in host.vars.roles) || ( ("mailbox" in host.vars.zimbra_roles) && !("-imap" in
host.vars.roles) )
}
apply Service "dns" {
  import "generic-service"

  check_command = "dns"
  display_name = "dns " + host.name

  # auto assign to hosts with addresses and hostnames that match basic domain name syntax)
  assign where host.address && regex(".*\\..*" , host.name) && !host.vars.nohostdns
}
```

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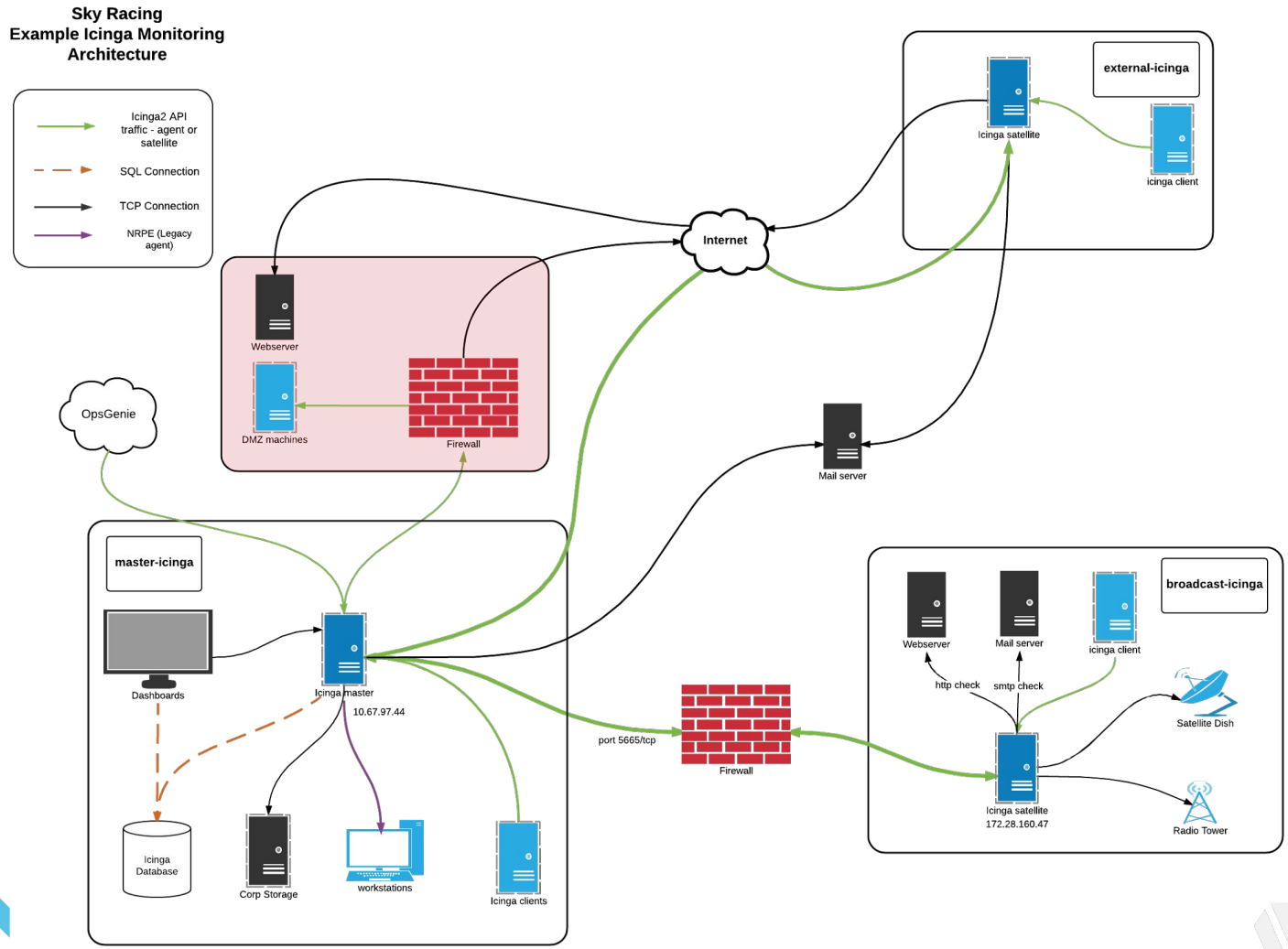
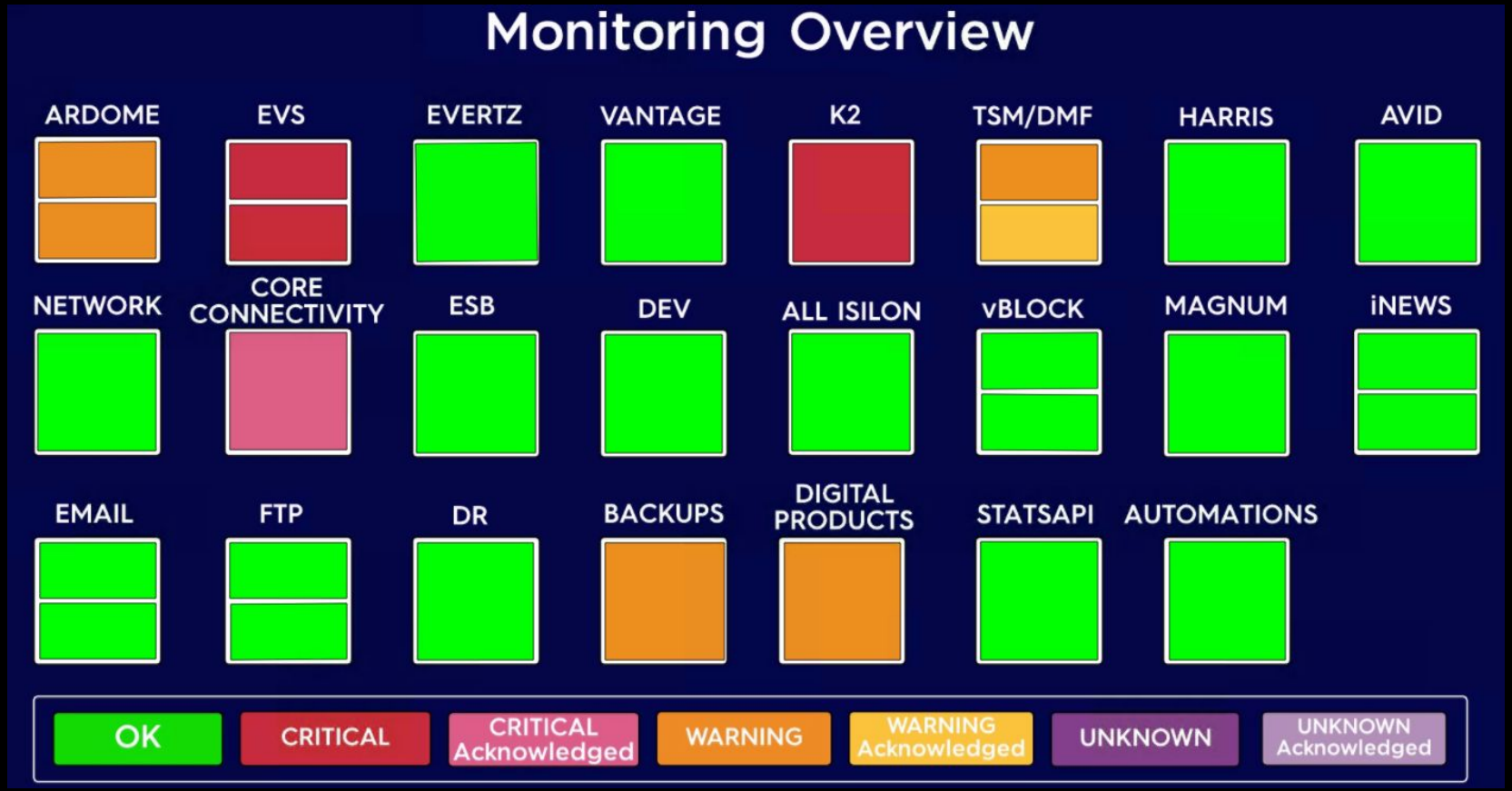

Sky Racing
Example Icinga Monitoring Architecture
Icinga2 API traffic - agent or satellite
SQL Connection
TCP Connection
NRPE (Legacy agent)
external-icinga
Icinga satellite
icinga client
Internet
Webserver
DMZ machines
Firewall
OpsGenie
Mail server
master-icinga
Dashboards
Icinga master
10.67.97.44
Icinga Database
Corp Storage
workstations
Icinga clients
port 5665/tcp
Firewall
broadcast-icinga
Webserver
Mail server
icinga client
http check
smtp check
Satellite Dish
Icinga satellite
172.28.160.47
Radio Tower


Monitoring Overview
ARDOME
EVS
EVERTZ
VANTAGE
K2
TSM/DMF
HARRIS
AVID
NETWORK
CORE CONNECTIVITY
ESB
DEV
ALL ISILON
vBLOCK
MAGNUM
iNEWS
EMAIL
FTP
DR
BACKUPS
DIGITAL PRODUCTS
STATSAPI
AUTOMATIONS
OK
CRITICAL
CRITICAL Acknowledged
WARNING
WARNING Acknowledged
UNKNOWN
UNKNOWN Acknowledged

TSM STATUS

Disk Space Free - DISK OK - free space: / 61363 MB (58% inode=97%): /dev/shm 12008 MB (99% inode=99%): /boot 352 MB (78% inode=99%): /boot/efi 199 MB (99% inode=-): /tsmdb 134567 MB (96% inode=99%): /tsmactlog 2423 MB (8% inode=99%): /tsmarclog 88695 MB (97% inode=99%): /hrdisk 9808203 MB (94% inode=99%): /lrdisk 1068137 MB (99% inode=99%):

TSM Server (Disk Cache)

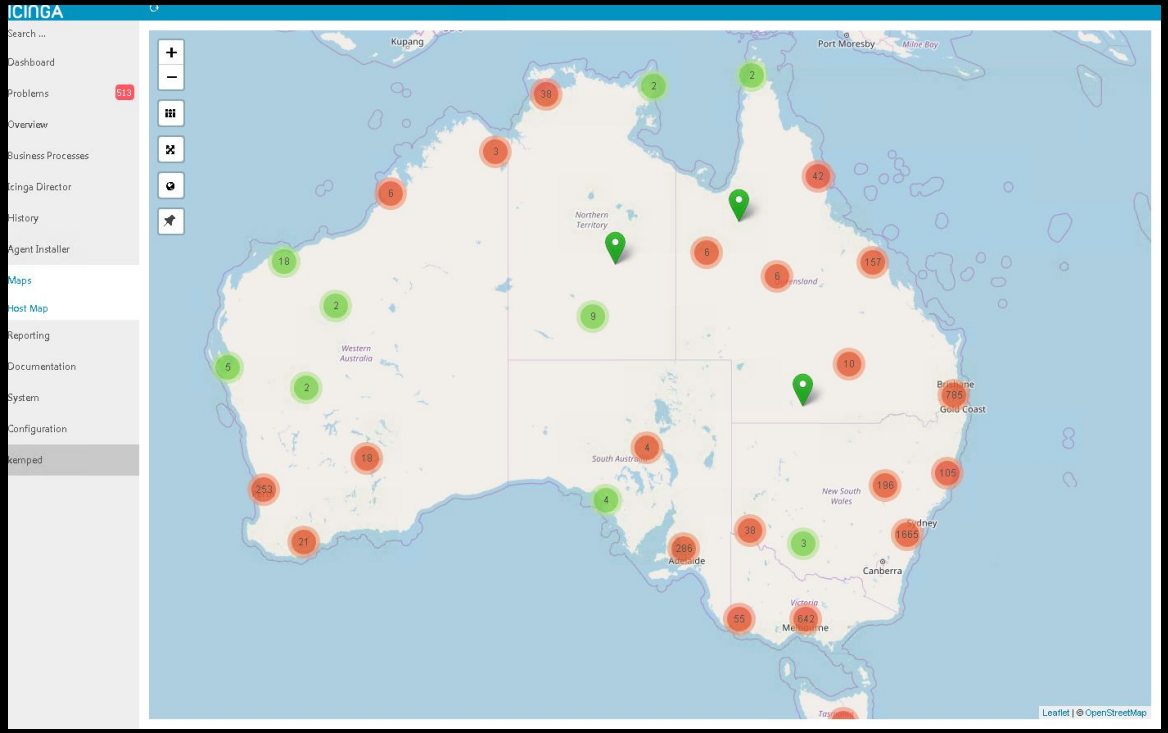
OK: All Paths appear online in TSM

A tapes are under threshold, please load A tapes. Only 40 tapes are left.

OK - 68 B tapes are loaded

OK: All Drives appear online in TSM

OK | CRITICAL | WARNING | CRITICAL Acknowledged | WARNING Acknowledged | UNKNOWN | UNKNOWN Acknowledged



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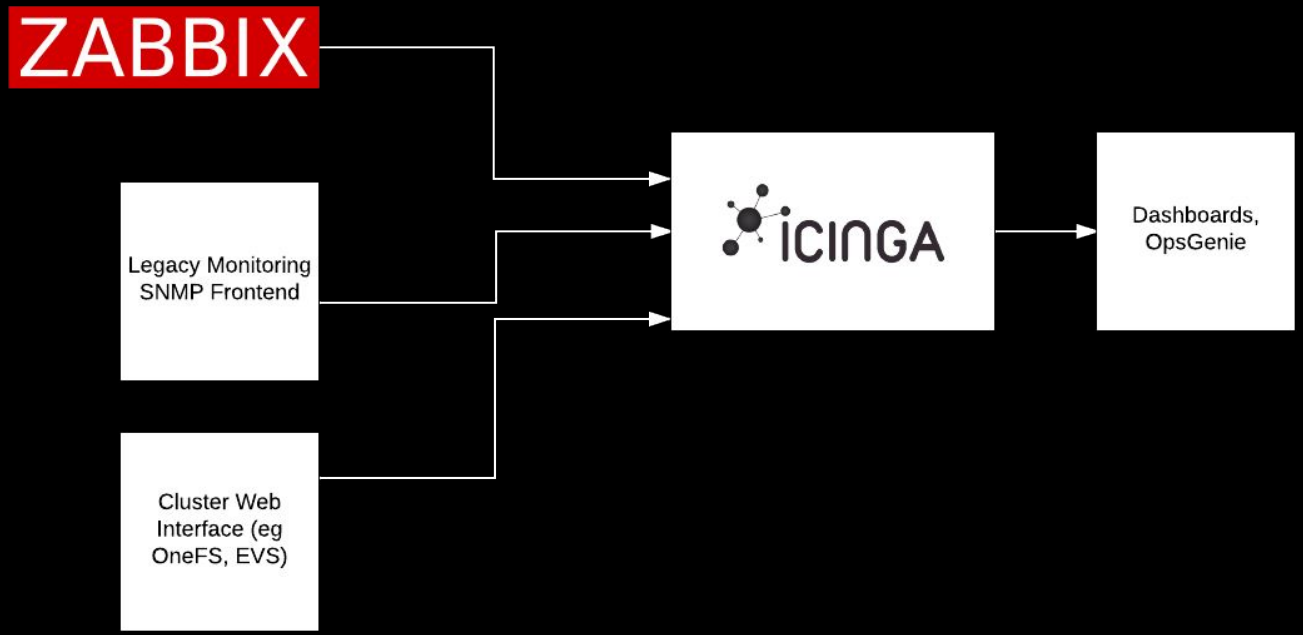
Watching the Watchers

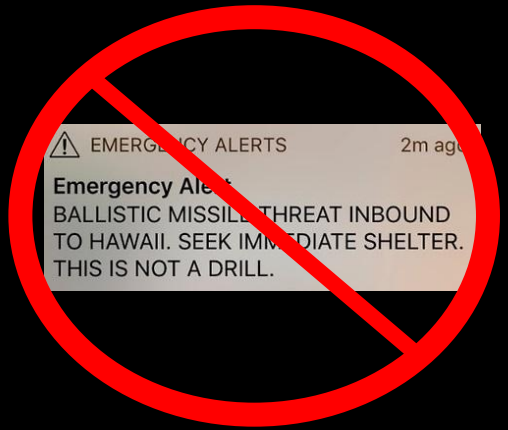


Plugins

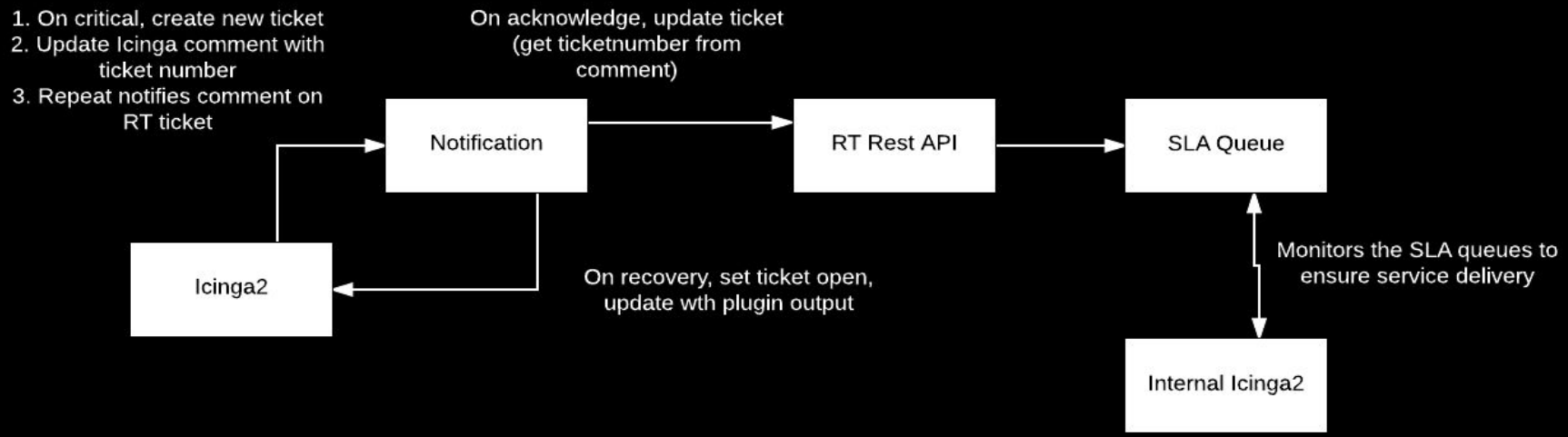
isilon_health tsm graphite email_delivery ardome workstations
activemq oncall packetlight_alarms evs_status_page time
elemental_streams elemental_transcode vizsmbshare
vizmarkets wift amq msgbus ardome vizubet time2

Notifications

OpsGenie - on call management
Nagvis - audio and visual



Notify_rt Workflow



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Lessons Learned

Signal vs Noise is crucial to a successful project
Don’t write the check if no one will listen to it.
Don’t be afraid to write plugins
But do keep them in revision control

Monitoring Adoption

Top down vs Bottom up
Many organisations start with bottom up
Switching to top down doesn't always work well
Engagement with 'producers' and 'consumers' is key

The Ideal

Green is green
Monitoring driven infrastructure
Projects specify checks at inception

Thanks

Fox Sports and Sky Racing/TabCorp

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