# Welcome



empower!











Klaas Debeuf Simon Declerck Wouter Bogaert Seppe Dejonckheere



Debugging
and
troubleshooting
A DMS

Advanced track

- 1. A trio of disasters
- 2. Let's get to it!

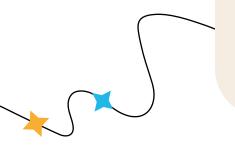
# **Troubleshooting exercise**

- 3. Root cause overview
- 4. Fun Facts









#### Down and out?

The cooling system went down, and with it, the DMA for the whole week. Now it won't start up again?

# **Errors galore!**

Errors keep stacking up and the whole DMA is starting to misbehave, what's happening?

# Reboot remix...

A power surge caused the hosts to reboot unexpectedly. Now the DMS is in disarray?

# It worked just a minute ago?!?

During your nightshift, you went for a quick breather outside at midnight. Only to return to a system flashing errors and warnings...



Let's get

to it!

#### Down and out?

The cooling system went down, and with it, the DMA for a whole week. Now it won't start up again?



# **Investigation**

- SLErrors.txt -> SLDataMiner.txt
  - -> Cloud token expiration!

#### Can we fix it?

Troubleshooting Procedures: STaaS



# **Errors galore!**

Errors keep stacking up and the whole DMA is starting to misbehave, what's happening?

#### Investigation

- Alarm console -> Cassandra node down -> nodetool status -> Cassandra status -> Out of sync!
- SLErrors.txt -> SLDBConnection.txt -> Cassandra status -> Out of sync!

#### Can we fix it?

Set up time synchronization between Cassandra nodes
 Compute Requirements: Time

#### Reboot remix...

A power surge caused the hosts to reboot unexpectedly. Now the DMS is in disarray?

#### Investigation

SLErrors.txt -> SLDMS.txt/SLNet.txt -> Connection
 errors -> DMS.xml -> ipconfig -> Wrong IP addressess!

#### Can we fix it?

 Reassign the IP addressess or stop the cluster and update the files with the new IPs.

Change IP of a DMA in a DMS

# It worked just a minute ago?!?

During your nightshift, you went for a quick breather outside at midnight. Only to return to a system flashing errors and warnings...

### **Investigation**

- SLErrors.txt -> SLDBConnection.txt -> Connection error
  - -> Certificate validation -> Cassandra -> Expired certificate!

#### Can we fix it?

Update the Cassandra TLS certificate
 Encryption in Cassandra

GET INSPIRED



-----> Fun Facts

[ GET INSPIRED ]

#### A vast majority of critical outages involve

- o Self-managed database issues
  - Cassandra repairs, time sync, node outages, latency, ...
  - Maintaining Cassandra Cluster
- o Outdated versions (older than 6 months)
- o Non-cloud connected systems
  - No pro-active monitoring
  - No automated log collection
- o Limited access to the system



