First PostgreSQL Meetup in Geneva
11.10.2018

PostgreSQL User Group Genève
First PostgreSQL Meetup in Geneva

- Leatitia Avrot (Loxodata) : "PostgreSQL pour les débutants"
- Vik Fearing (2ndQuadrant) : "Periods et les tables versionnées"
- Cédric Vilemain (2ndQuadrant) : "Fluidifier ses transferts de données avec PostgreSQL"
- Fabrice Chapuis : Banque Lombard Odier : "Disponibilité de service avec PostgreSQL"
Disponibilité de service avec PostgreSQL

- Contexte:
  - 2 datacenter
  - VMware
  - Linux (redhat 7)
  - DB PostgreSQL
  - Serveur de backup
Disponibilité de service avec PostgreSQL

- **Outage**
  - Host failure (ESX)
  - OS corruption (virtual disk removed)
  - Database crash
  - Physical corruption (filesystem failure)
  - Logical corruption
  - Major outage (DRP)

- **Maintenance**
  - Database software patch
Time

Services restored

6-hours

Outage

2-hours

Last backup or point where data is in a usable state

Recovery Point Objective (RPO)

Recovery Time Objective (RTO)
Disponibilité de service avec PostgreSQL

• Basic
  - 1 VM with synchronous replication at storage level via VMware
• Replication
  - 2 VM with software replication (primary / standby)
• Cluster
  - 2 VM in HA mode (cluster with automatic recovery)
<table>
<thead>
<tr>
<th></th>
<th>Host failure (ESX)</th>
<th>OS corruption</th>
<th>Database crash</th>
<th>Physical corruption</th>
<th>Logical corruption</th>
<th>Database software patch</th>
<th>BCP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 VM with hardware replication</strong></td>
<td>vm automatically reboot on another host</td>
<td>DB restore instance recovery</td>
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<td>DB restore PITR</td>
<td>Requires planning of a service outage</td>
<td>VM is manually restarted on disaster recovery site</td>
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<td></td>
<td>RTO=10' RPO=0</td>
<td>RTO=2h RPO max 24h</td>
<td>RTO=1h RPO=0</td>
<td>RTO=2h RPO=0</td>
<td>RTO=? RPO=0</td>
<td>RTO=?</td>
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<tr>
<td><strong>2 VM with software replication</strong></td>
<td>vm automatically reboot on another host</td>
<td>Manual activation of the standby database</td>
<td>Manual activation of the standby database</td>
<td>Manual activation of the standby database</td>
<td>Manually switch the application on the standby database</td>
<td>Manual activation of the standby database</td>
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<td>RPO = 0 RTO = 5'</td>
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</table>
Disponibilité de service avec PostgreSQL

- Merci de votre attention
- Questions ?
DATA CENTER 1

VM

DB

DATA CENTER 2

VM

DB

Replication