

Managing a Highly Available VoIP System

Andreas Granig
<agranig@upcbroadband.com>

Agenda

- Sources of Failures
- Countermeasures
- Design Proposal

Sources of Failures

- Major Cause of Downtime
 - 66% for PSTN
 - 75% for Internet Services

Sources of Failures

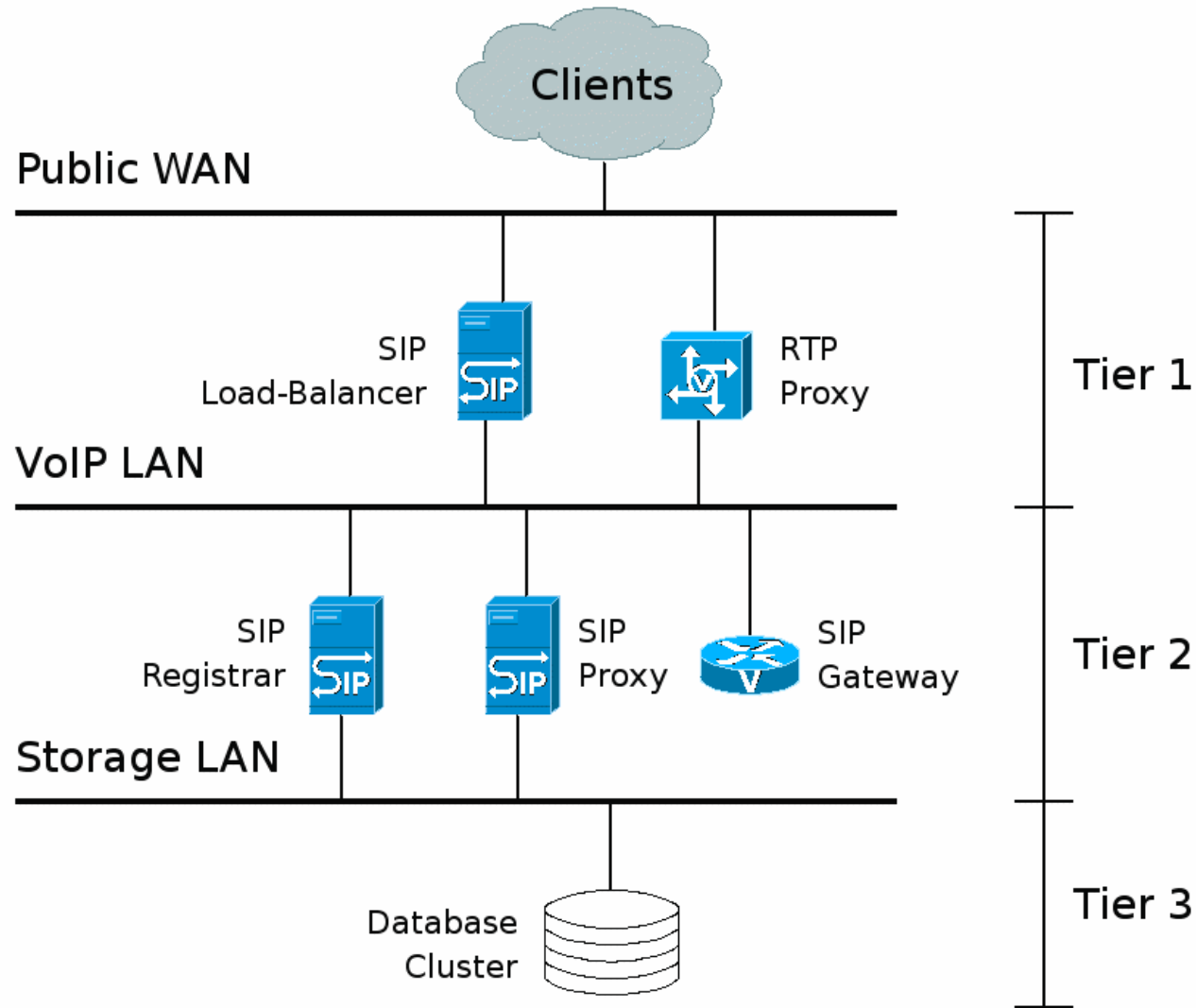
- Major Cause of Downtime
 - 66% for PSTN
 - 75% for Internet Services

Human Error

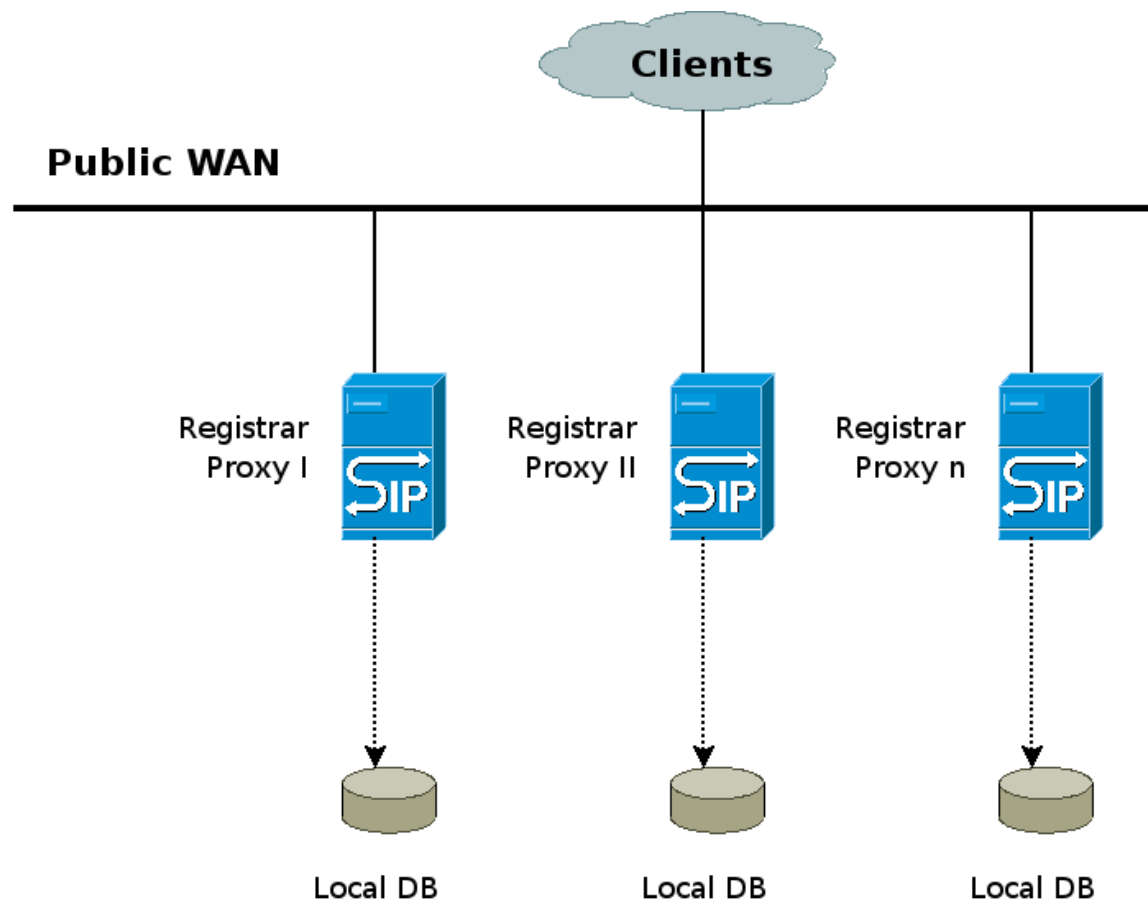
Countermeasures

- Focus on Simplicity
 - Workflow
 - Separation
 - detached subsystems
 - discrete environments

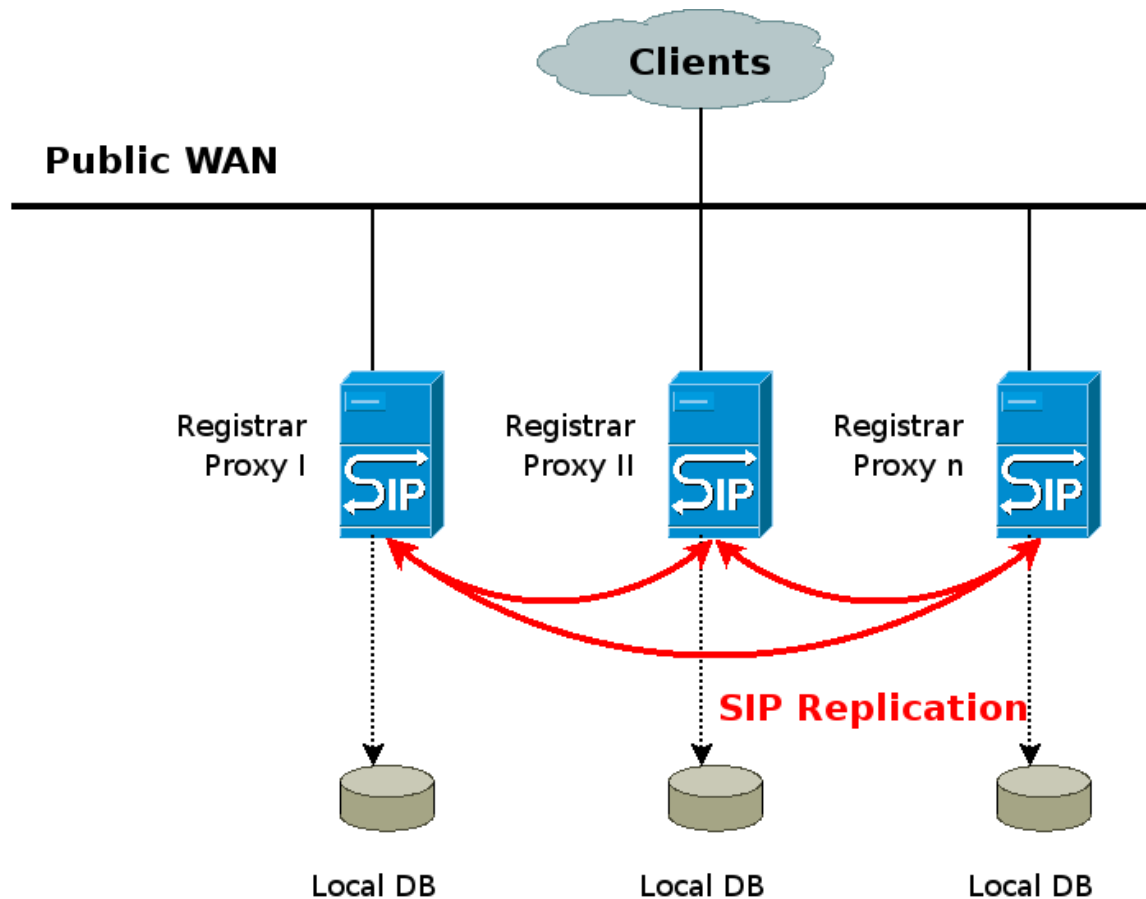
Design Proposal



“Traditional” Design

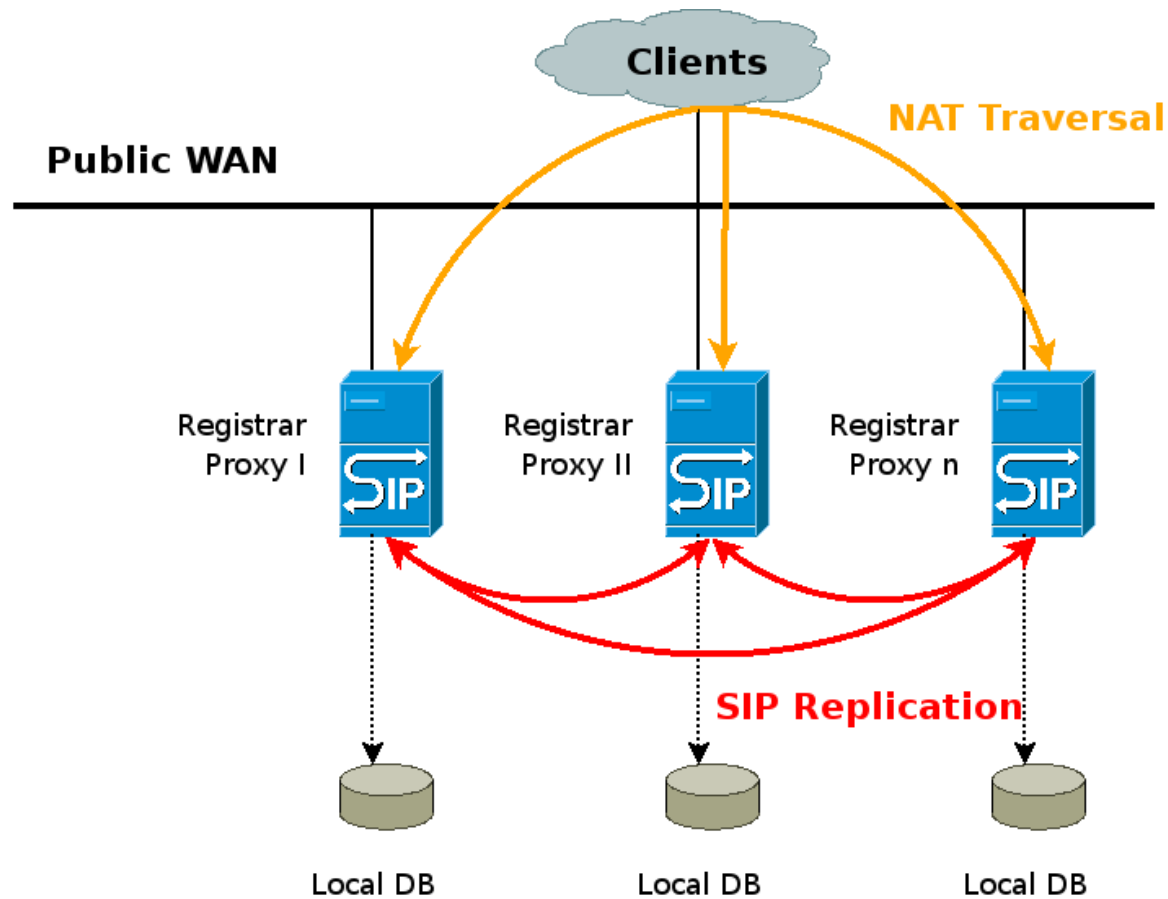


“Traditional” Design



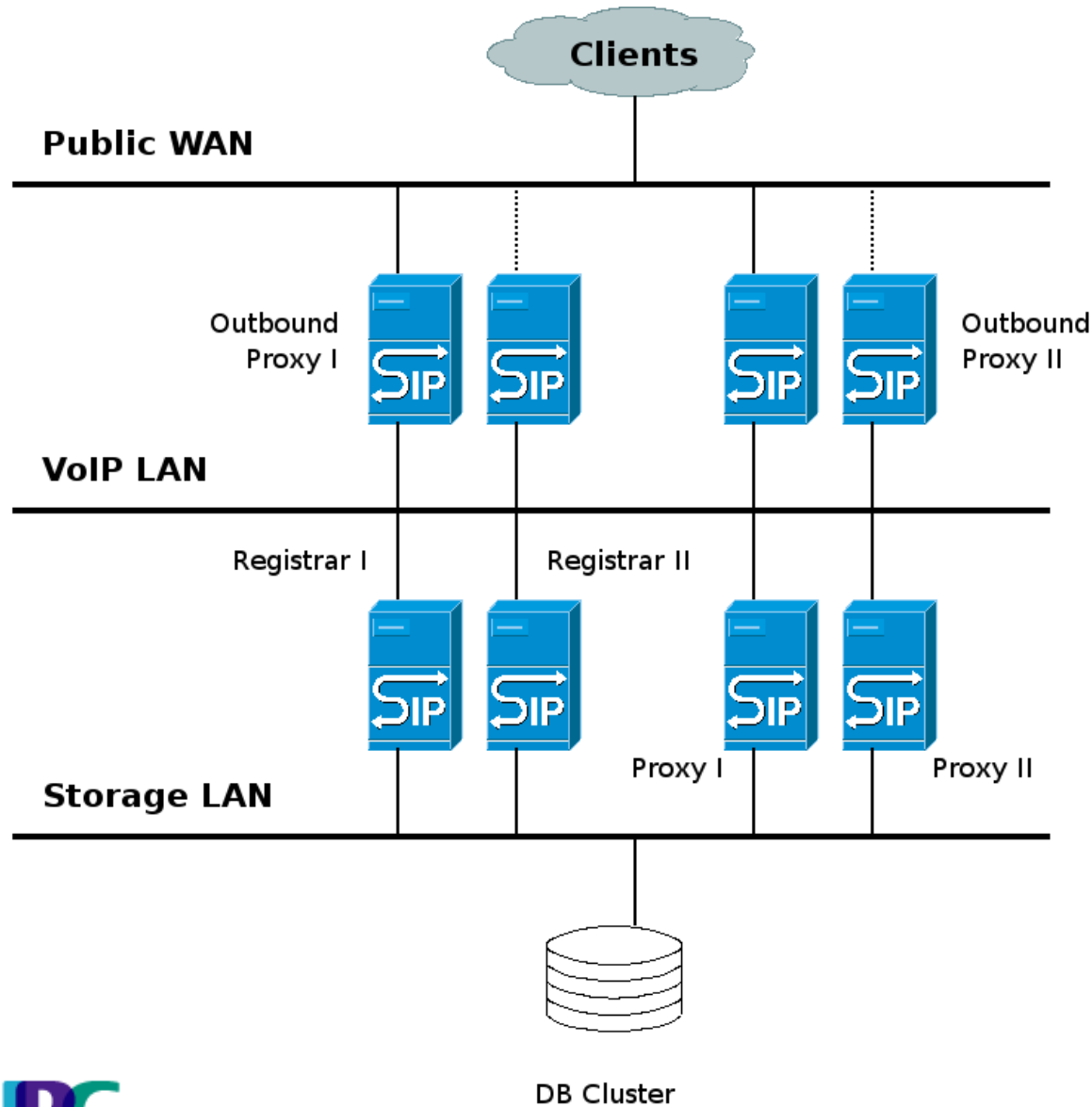
- Scalability?

“Traditional” Design

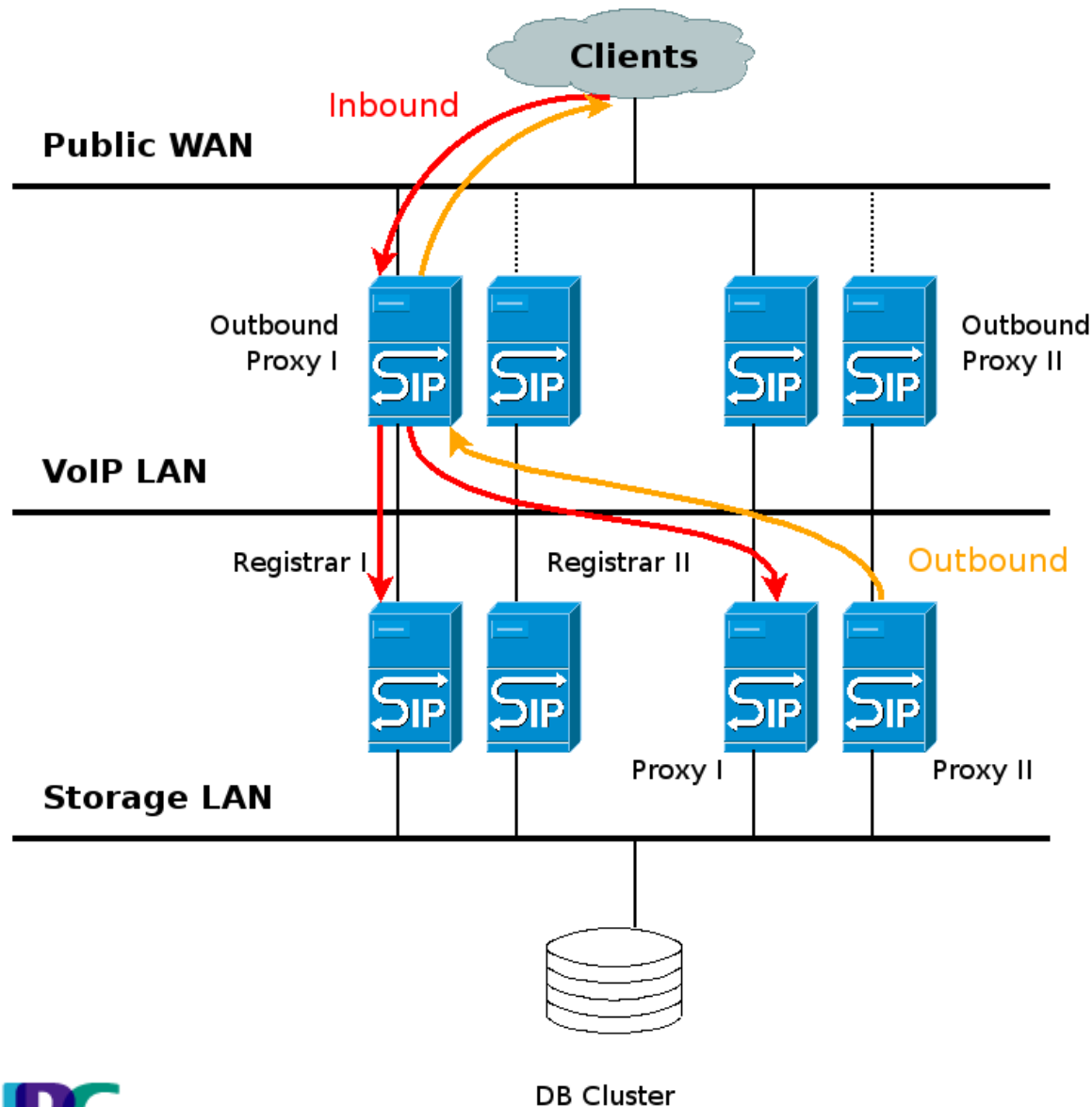


- Scalability?
- NAT?

OpenSER as Load-Balancer

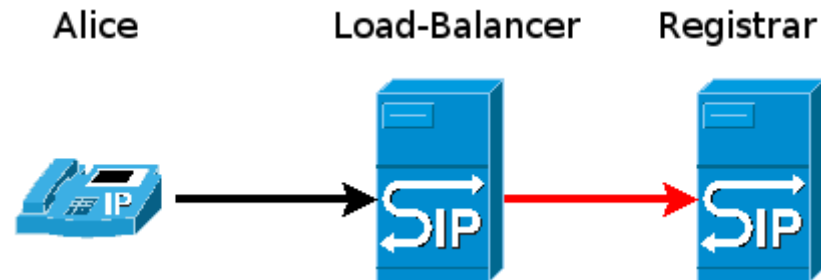


OpenSER as Load-Balancer



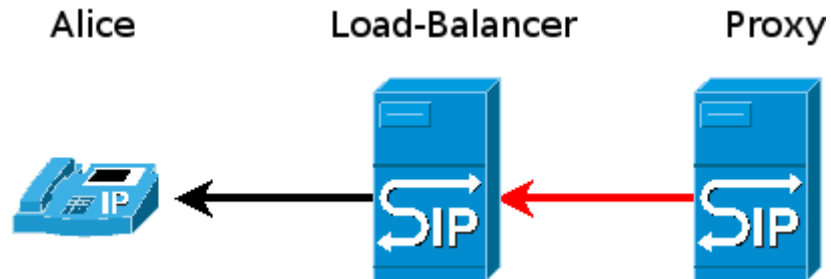
- One visible IP per LB-Pair
- Defined paths
- Scalable

Path-Header in a Nutshell



```
REGISTER sip:proxyl.voip.inode.at SIP/2.0
...
To: Alice <sip:alice@proxyl.voip.inode.at>
From: Alice <sip:alice@proxyl.voip.inode.at>;tag=4fed24366e56031
Contact: Alice <sip:alice@172.31.23.177>
...
Path: <sip:lb@192.168.1.5;lr;received=sip:172.31.23.177:5060>
```

Path-Header in a Nutshell



```
INVITE sip:alice@172.31.23.177:5060 SIP/2.0
...
To: sip:alice@proxy1.voip.inode.at
From: sip:bob@proxy1.voip.inode.at;tag=bd995782dcfef08
Contact: sip:bob@213.229.17.18:5060
...
Route: <sip:lb@192.168.1.5;lr;received=sip:172.31.23.177:5060>
...
```

Summary

- Simplicity
- Modularity

Thank you.