Scale that SIP Out

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About Corvisa

- Based in Milwaukee
- Carrier-class network
- Enterprise telephony software
  - PBX
  - Inbound and Outbound Contact Center
  - Softphone
  - Smart phone apps
- Summit PaaS
  - Powered by FreeSWITCH
  - We handle config, maintenance, hosting, scaling
  - Tools for testing, debugging, simulating apps
  - Stop by our table for a demo!

Goals

- Ability to add capacity quickly
- Scale out instead of up
- Multiple data centers
- Redundancy within/between data centers
- Global view of call state
- Run our SIP stack the same as our other applications

Mesos

http://mesos.apache.org/

- Basis of our application infrastructure
- Pools multiple servers into a single resource pool
- Docker containers can be schedule to run using some of the pooled resources

Kamailio

http://www.kamailio.org

- FAST!
- Active developer community
- Very configurable
- Modular for adding features

Cassandra

http://cassandra.apache.org

- Subscriber data
- Registration data
- Channel history

Logstash

http://www.logstash.net

- Runtime logging

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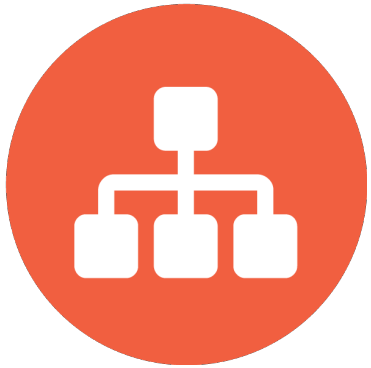
Node Types

Load Balancer

- Edge layer of the topology
- Uses a static IP for SBC to connect to
- Lightweight, does limited processing
- No access to Cassandra

Dispatcher

- Workhorse node
- Receives traffic from Load Balancer nodes
- Sends traffic to other nodes based on SIP method and other factors
- Authenticates INVITEs
- Logs SIP dialogs



Registrar

- Authenticates REGISTER requests
- Saves location information on successful REGISTER

Media

- Handles media streams
- FreeSWITCH node

Outbound

- Uses registration data to determine destination for outgoing INVITEs
- Exists so internal infrastructure doesn't need to know where subscribers are registered from

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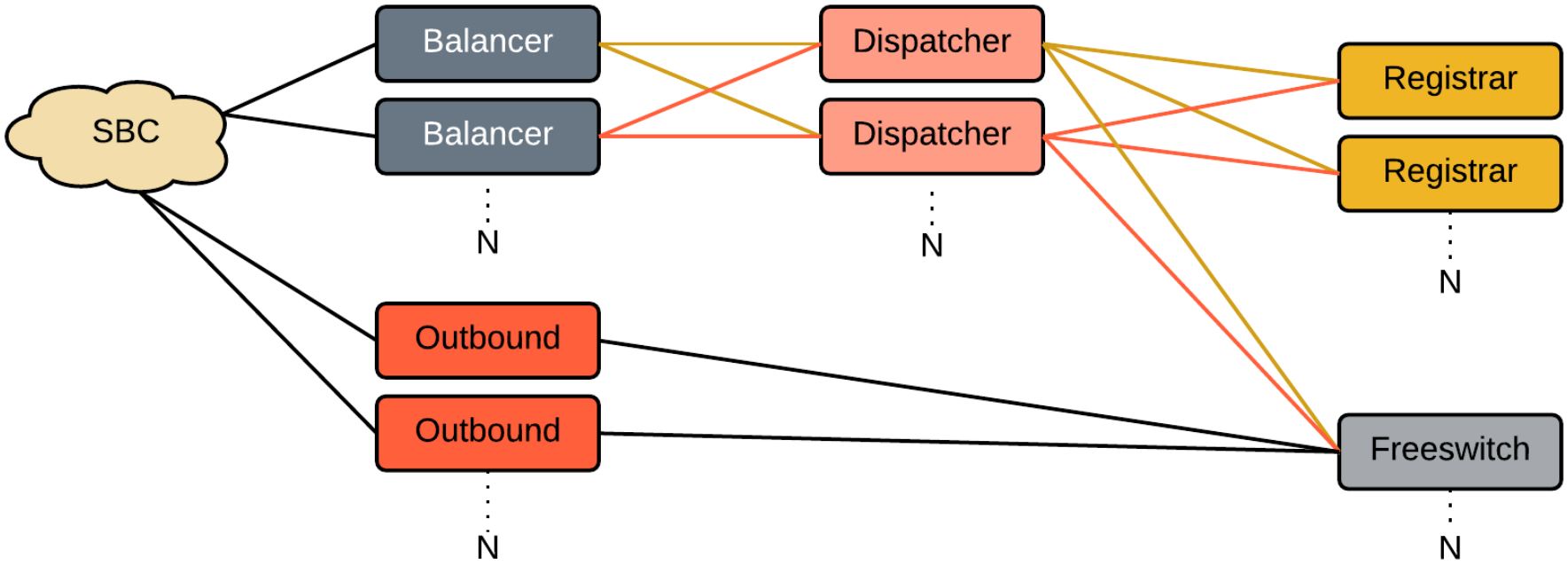
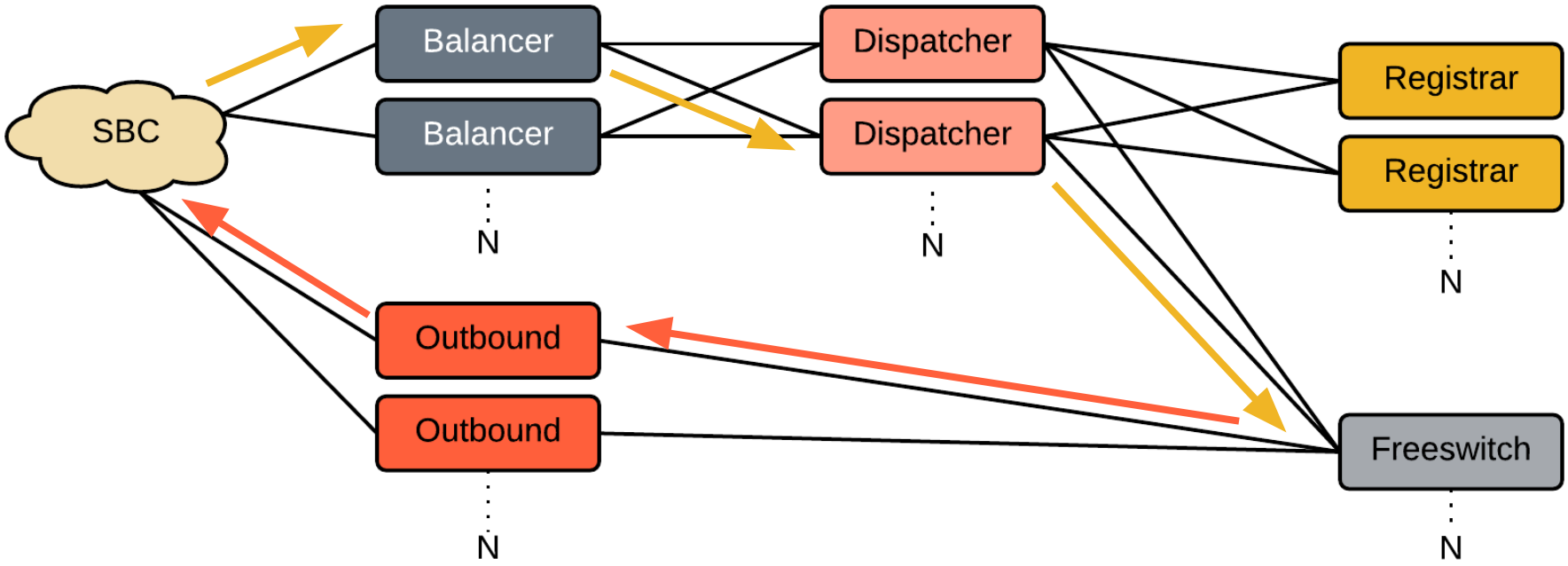
How does it all fit together?

Data Center


SBC
Balancer
Balancer
N
Dispatcher
Dispatcher
N
Registrar
Registrar
N
Outbound
Outbound
N
Freeswitch
N

INVITE Flow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Service Discovery

Deploying Nodes

- Manual time consuming process
- Ties up many resources
- Requires address management
- Requires monitoring

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What if we could make it easier...

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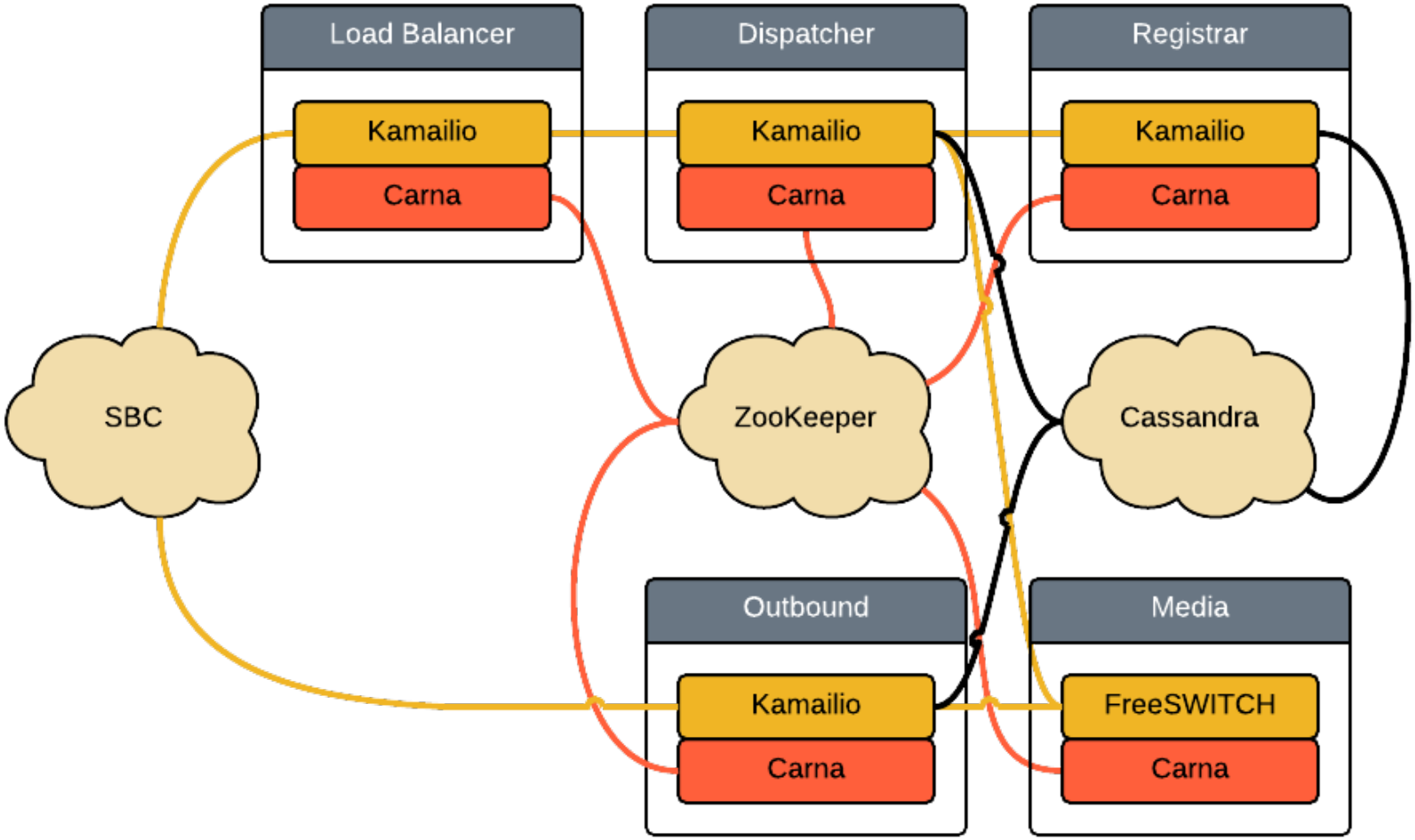
What the heck just happened?!?!

Carna

- Supervises Kamailio and Freeswitch
- Publishes connection details to ZooKeeper
- Updates the Kamailio Dispatcher database with the details in ZooKeeper

Carna Wiring / Flow



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Questions?