



Database output for Freimap

Google Summer of Code 2010
WCW 2010 - Berlin



Who am I

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Name: Stefano Pilla

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Degree in Computer Science

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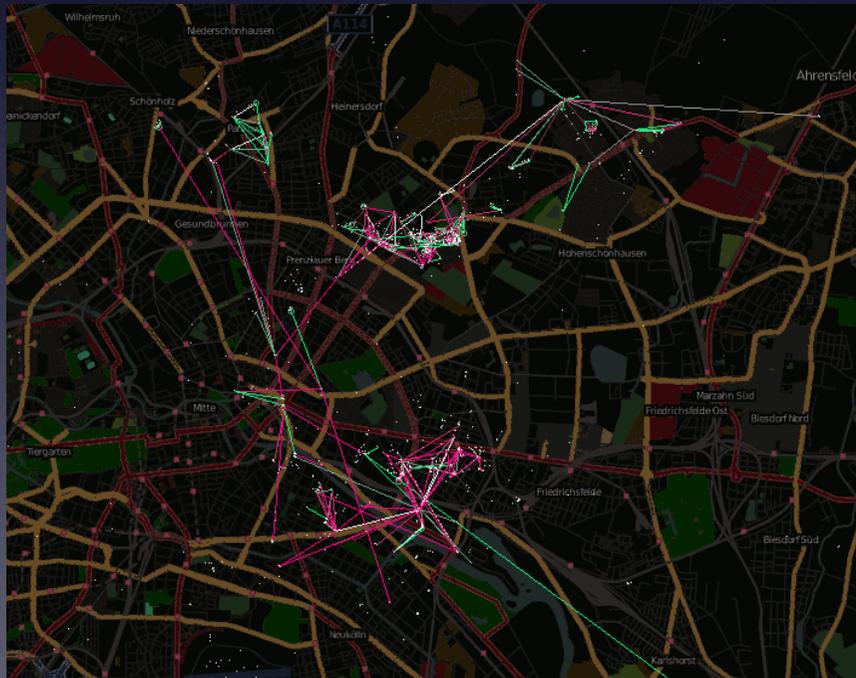
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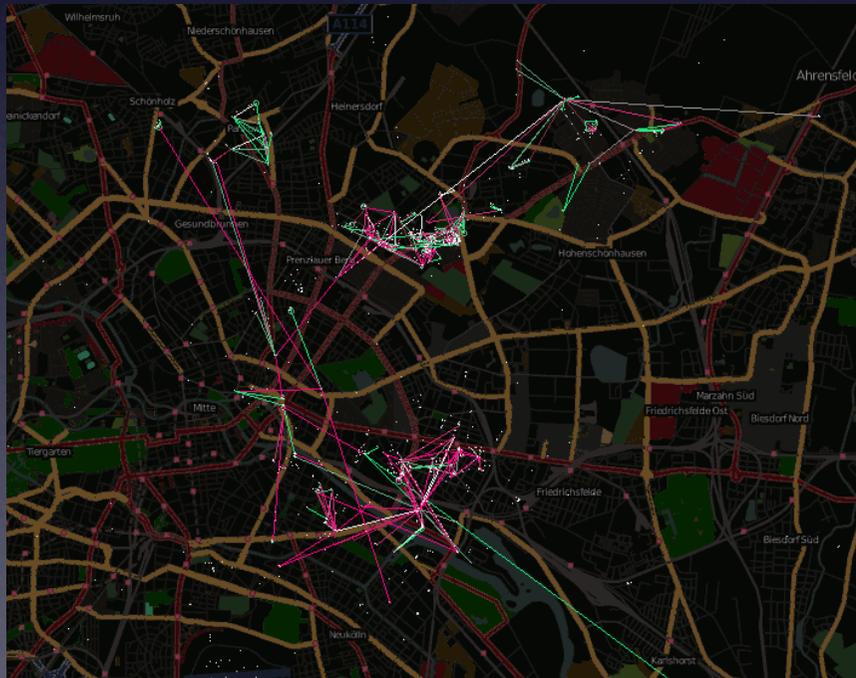
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Is a Java based application

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Completely manually coded

“New” Freimap

GSoC2009/2010

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Created with Netbeans IDE

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Interaction with nodes
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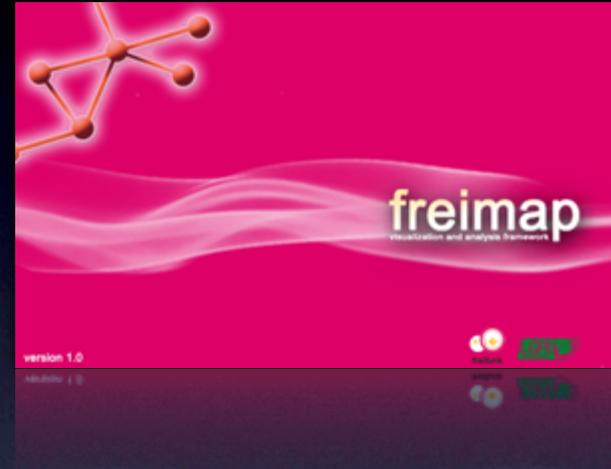
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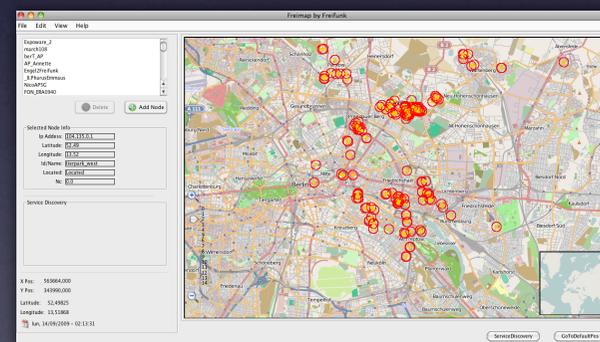
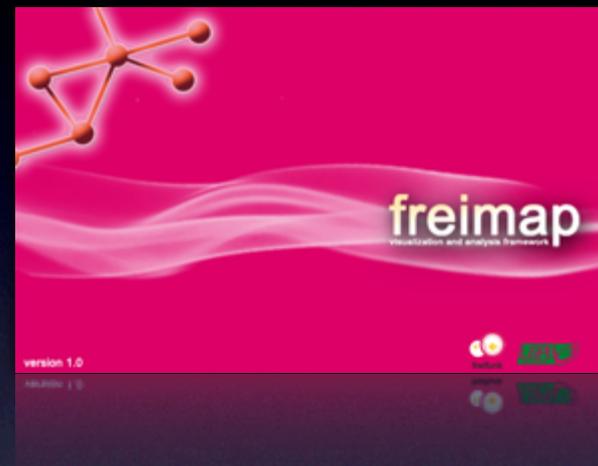
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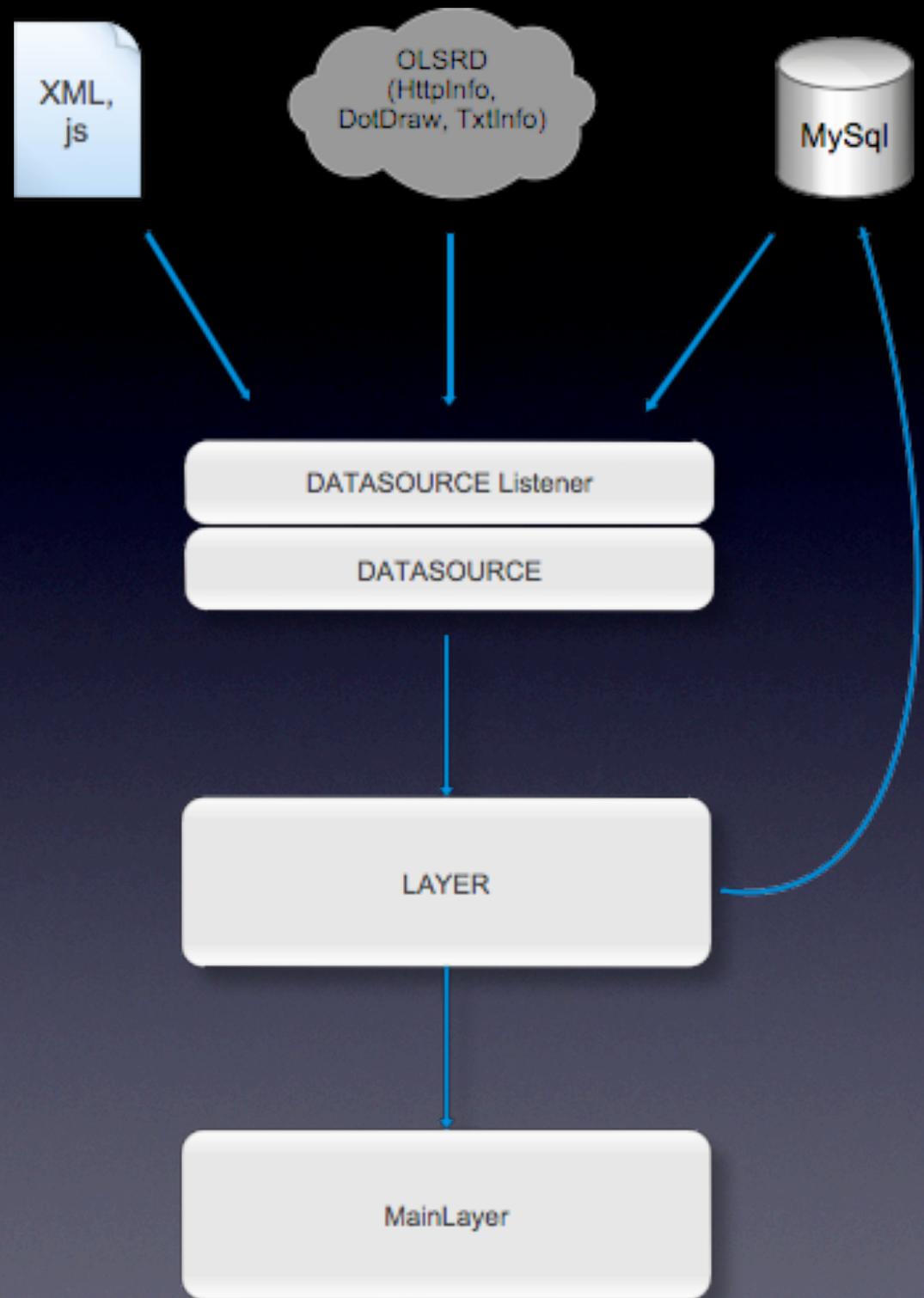
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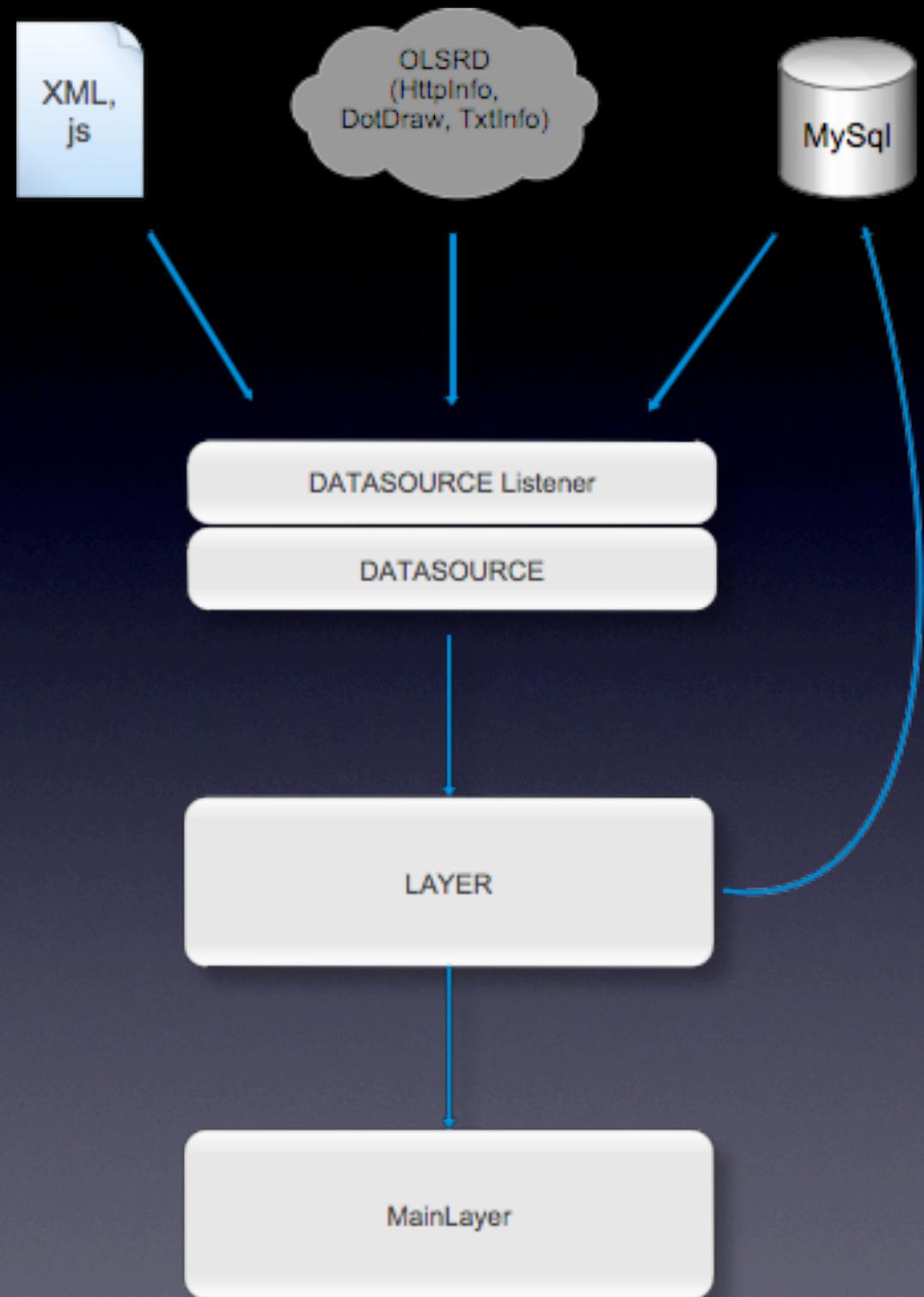


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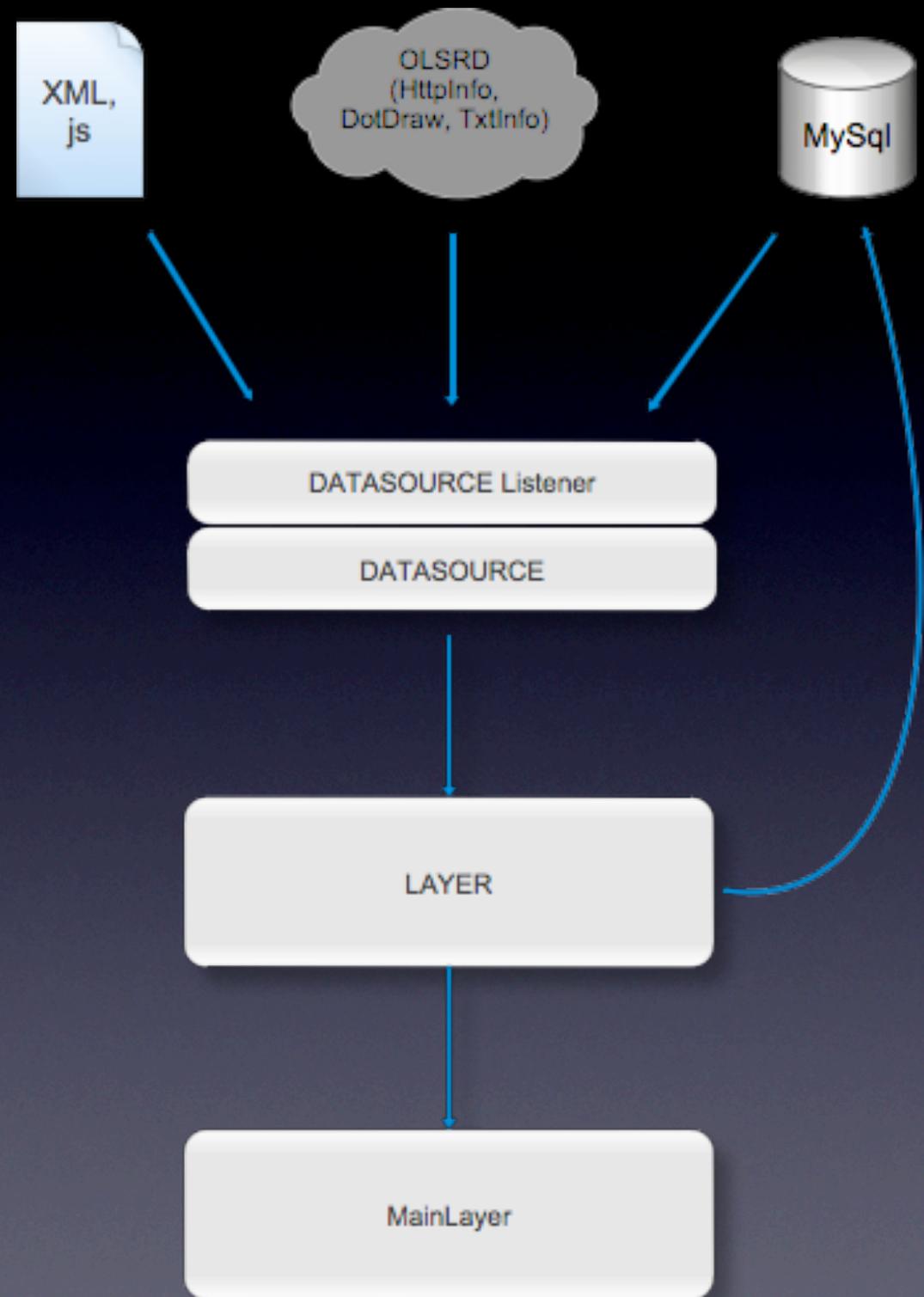
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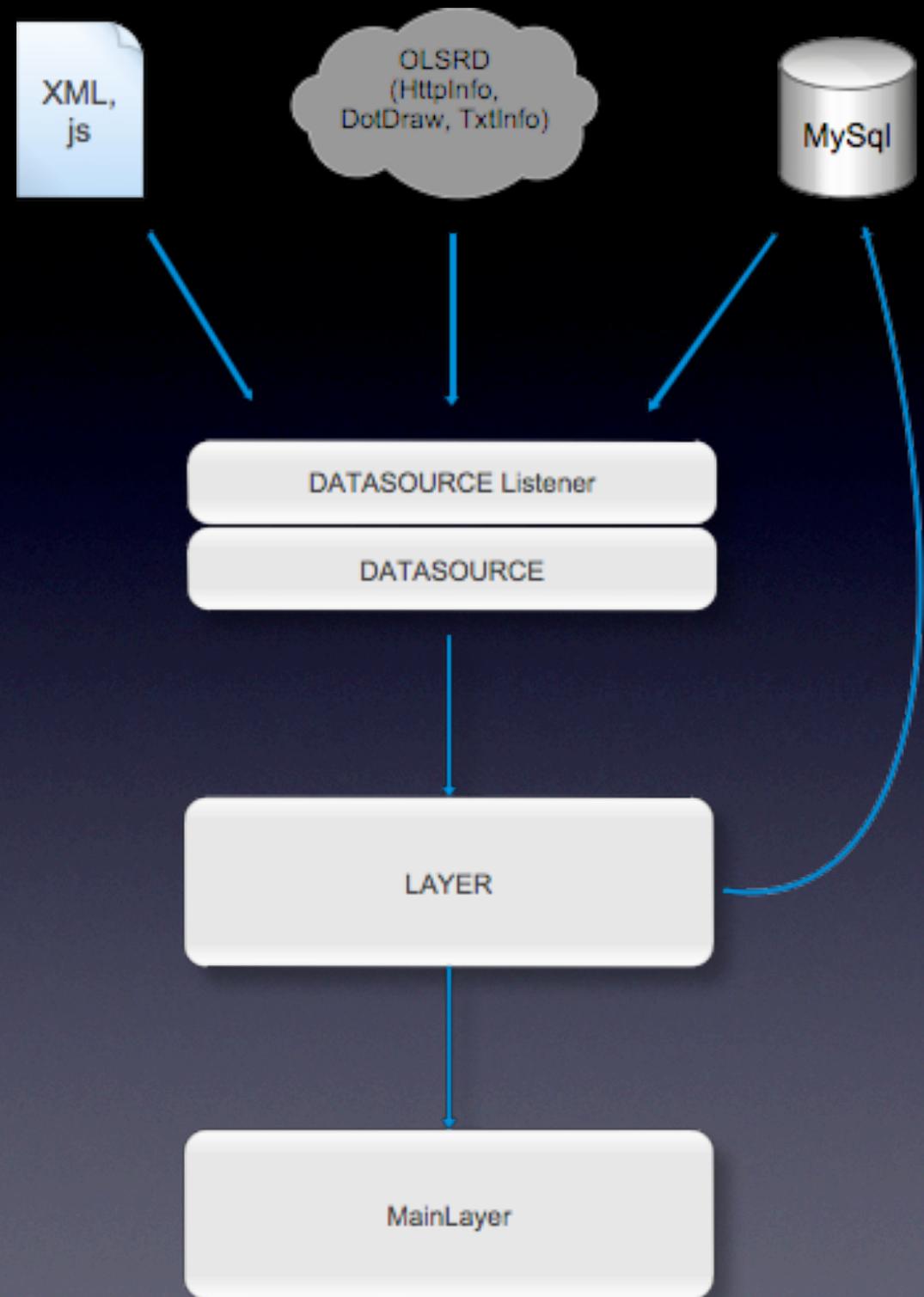


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There are 3 main
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Datasource Listener

Central Layer



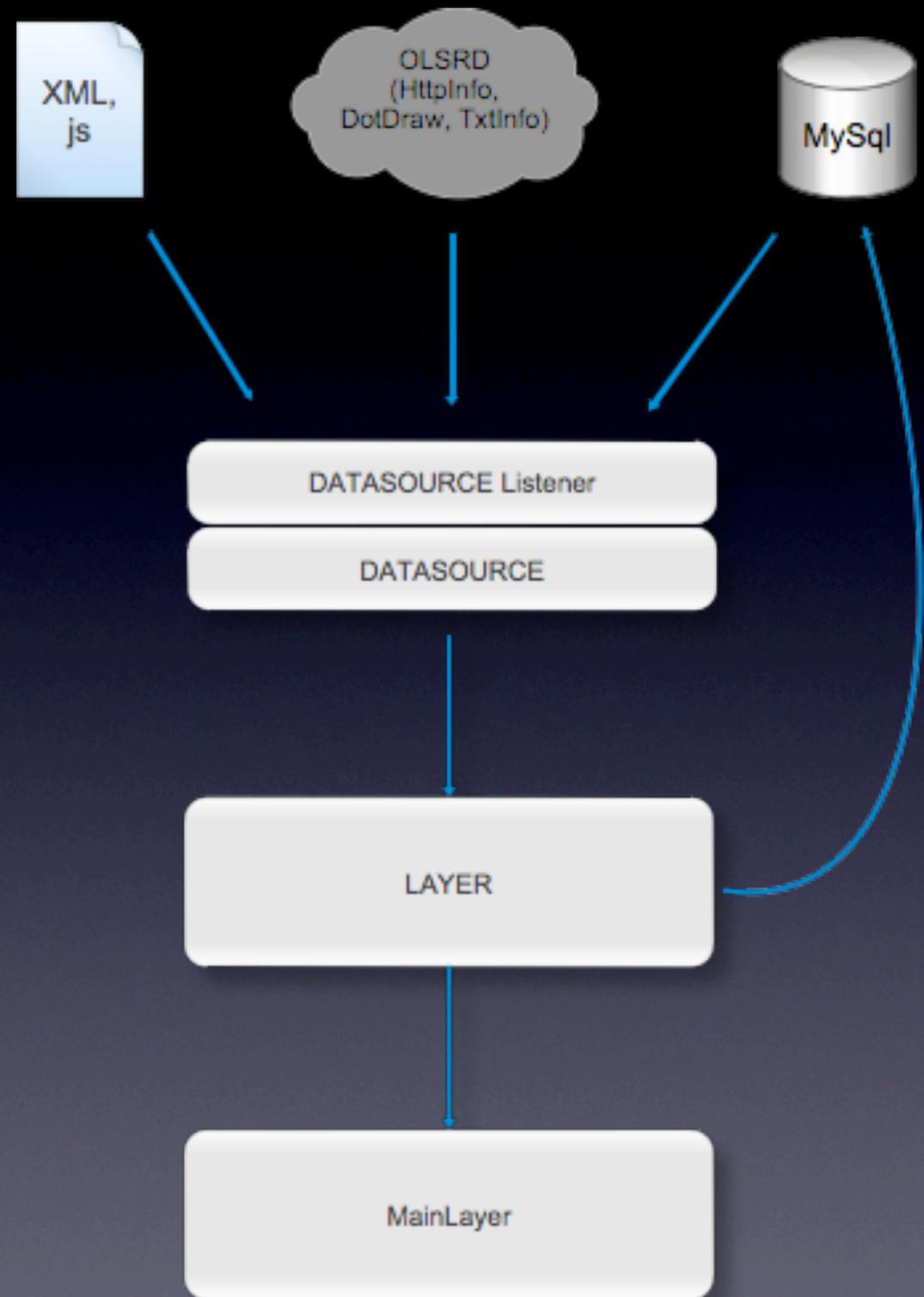
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Central Layer

Main Layer



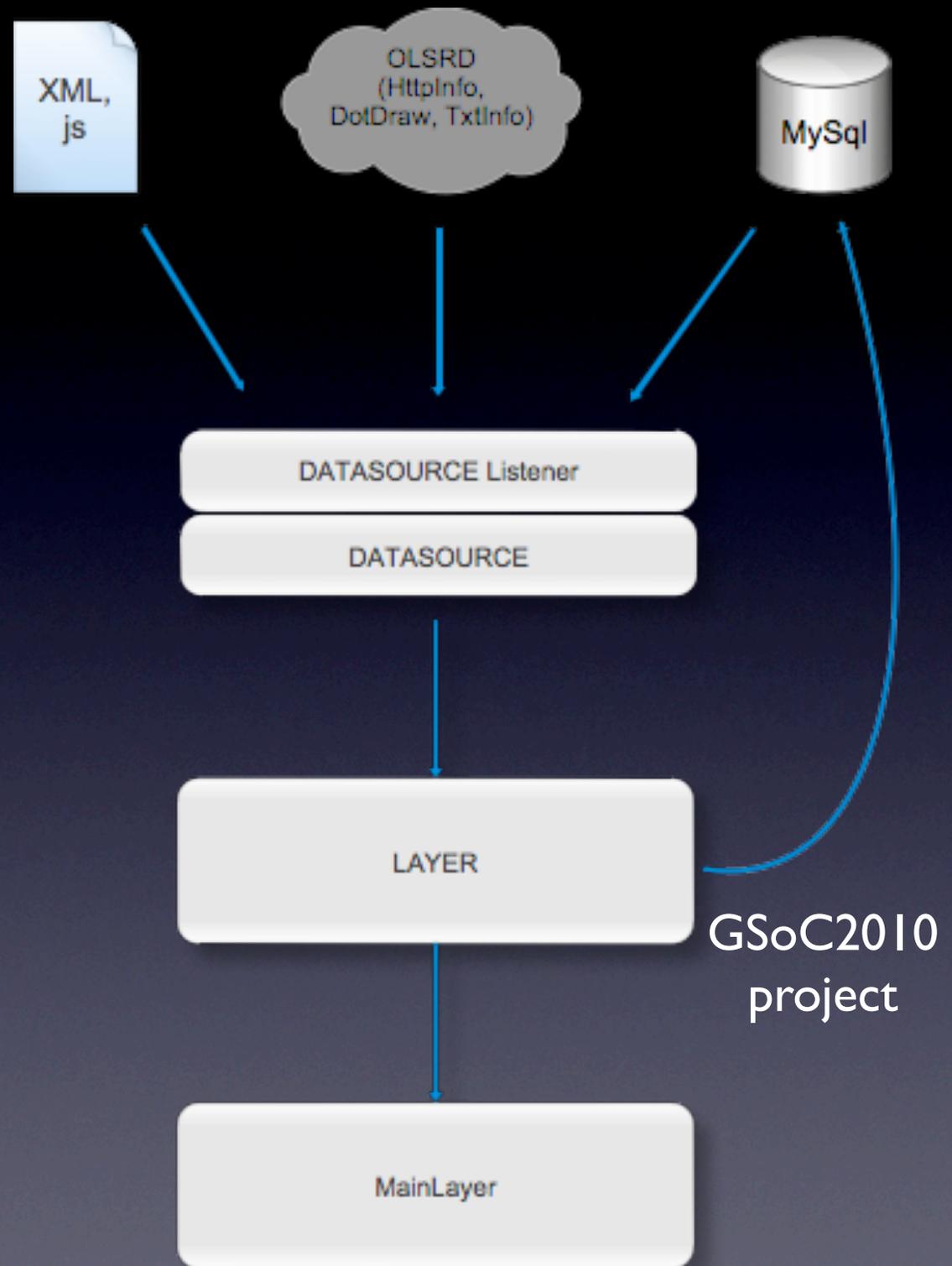
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Central Layer

Main Layer



Layer

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The goal is to find a simple way to store
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Create a method to quickly find these data in the database
and draw it on the map

How Database is structured

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Interfaces

Nodes Table

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FQID - IP - Lat - Lon - isGw - GwIP - Uptime - (etc..)

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boolean



(NodeID, MainAddress(bool), ip)

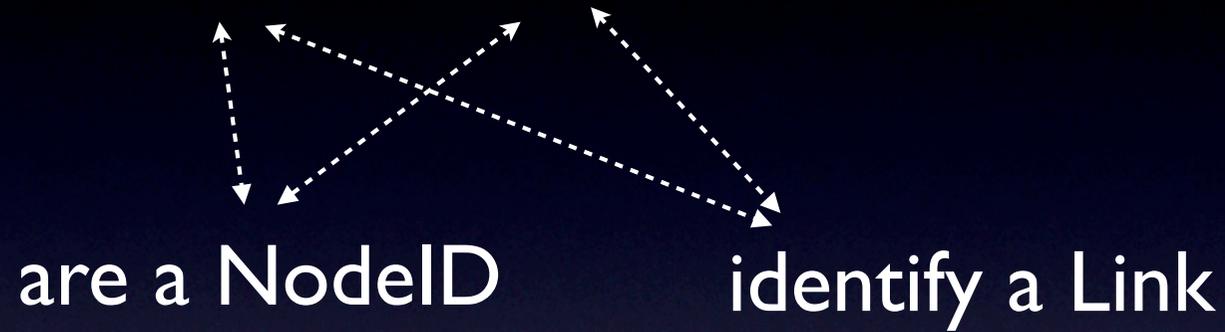
Layer Table

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ID - NodeS - NodeD - FirstTimeSt - LastTimeSt - ...

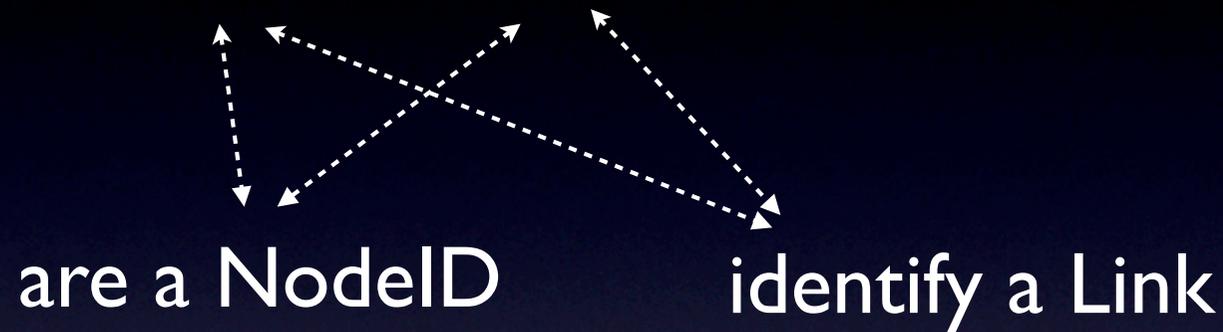
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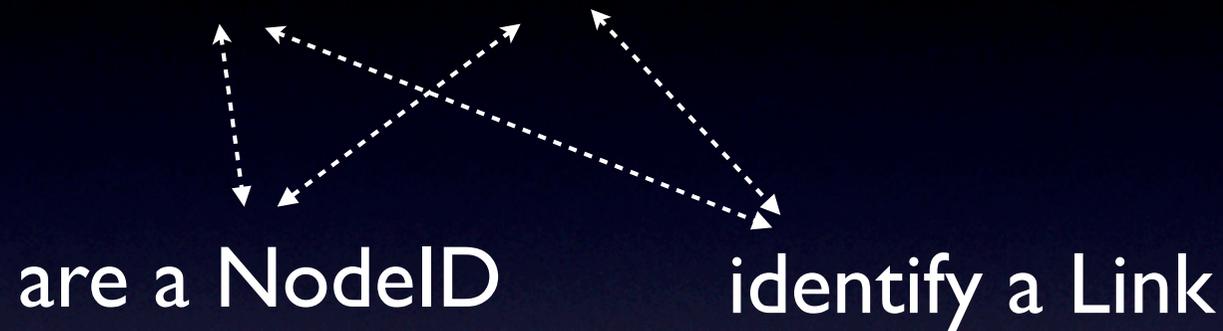
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If two or more layers have the same information I update
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Layer Table

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If two or more layers have the same information I update only LastTimeSt

In this way if the network does not change, then for a period of time I can use a single record only

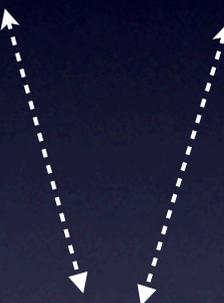
Links Table

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Src - Dest - FirstTimeSt - LastTimeSt - Etx - Lq - nlq

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is a NodeID

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This info are in sync with the routing protocol updates

Freimap Requirements

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MySQL Server

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OLSR Network

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Java Enviroment

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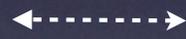


People won't install a
DB

OLSR Network



Java Enviroment



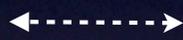
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If I'm not connected
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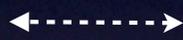
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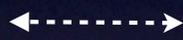
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Solution: Port Freimap as a javascript WebApp in a central
Server

Freimap WebApp - Conclusions

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I Step - Define a common node database schema

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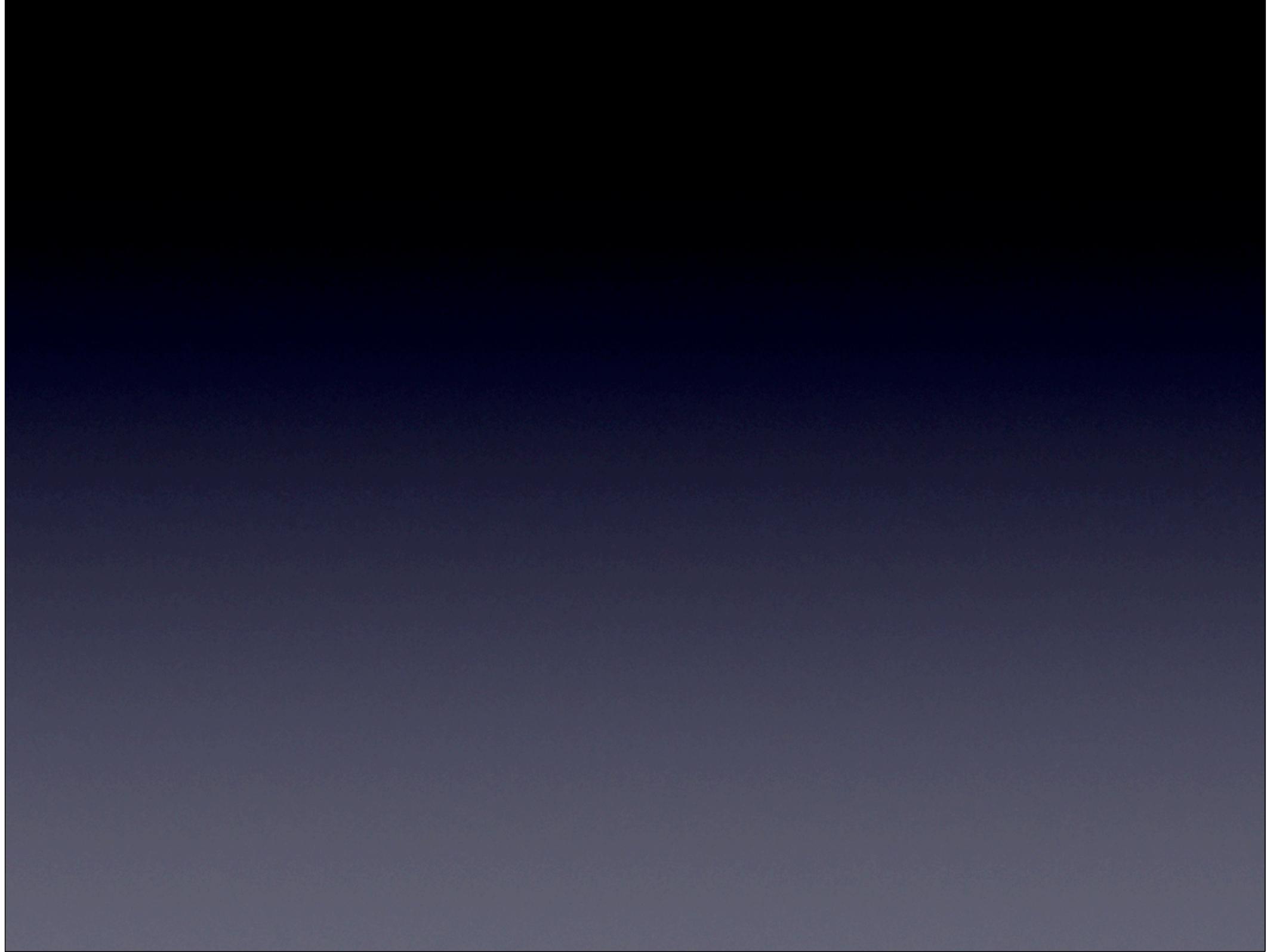
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In this way the WabApp could be used by all Wireless Communities



Suggestions?

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Q&A



Service Discovery in Freimap

Google Summer of Code 2009



Freimap

Gsoc project

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Service Discovery with DNS query

Freimap

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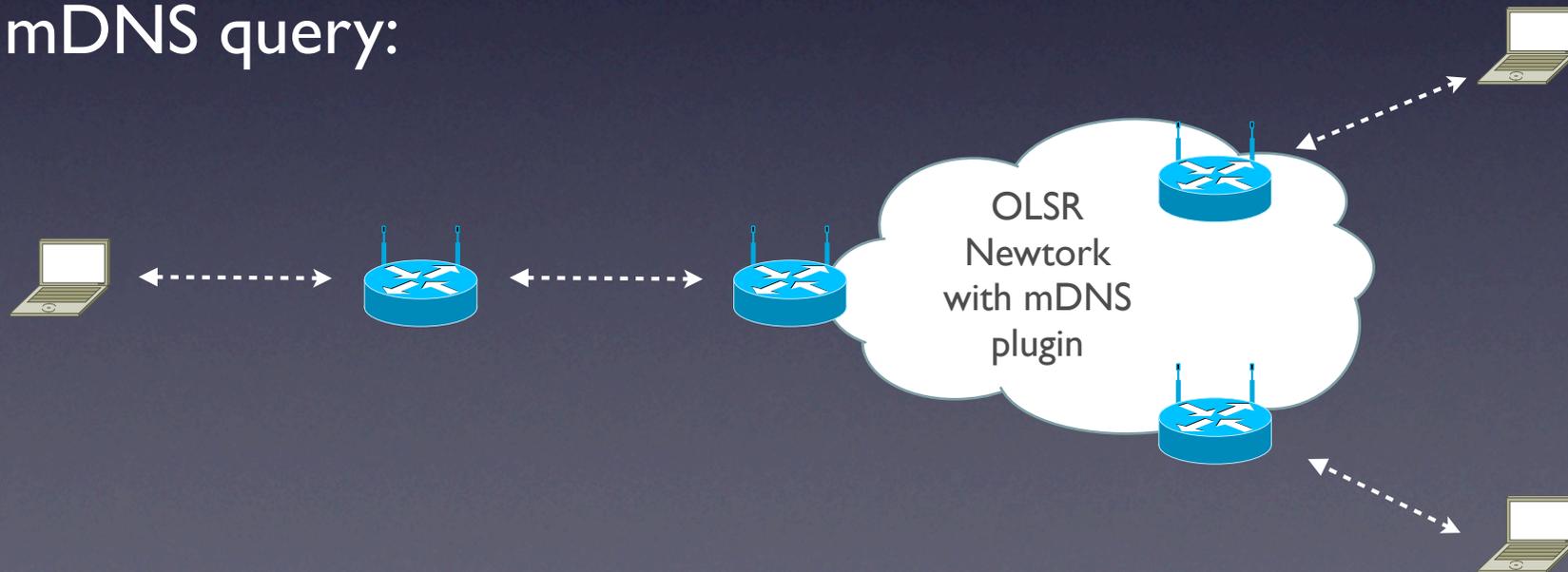
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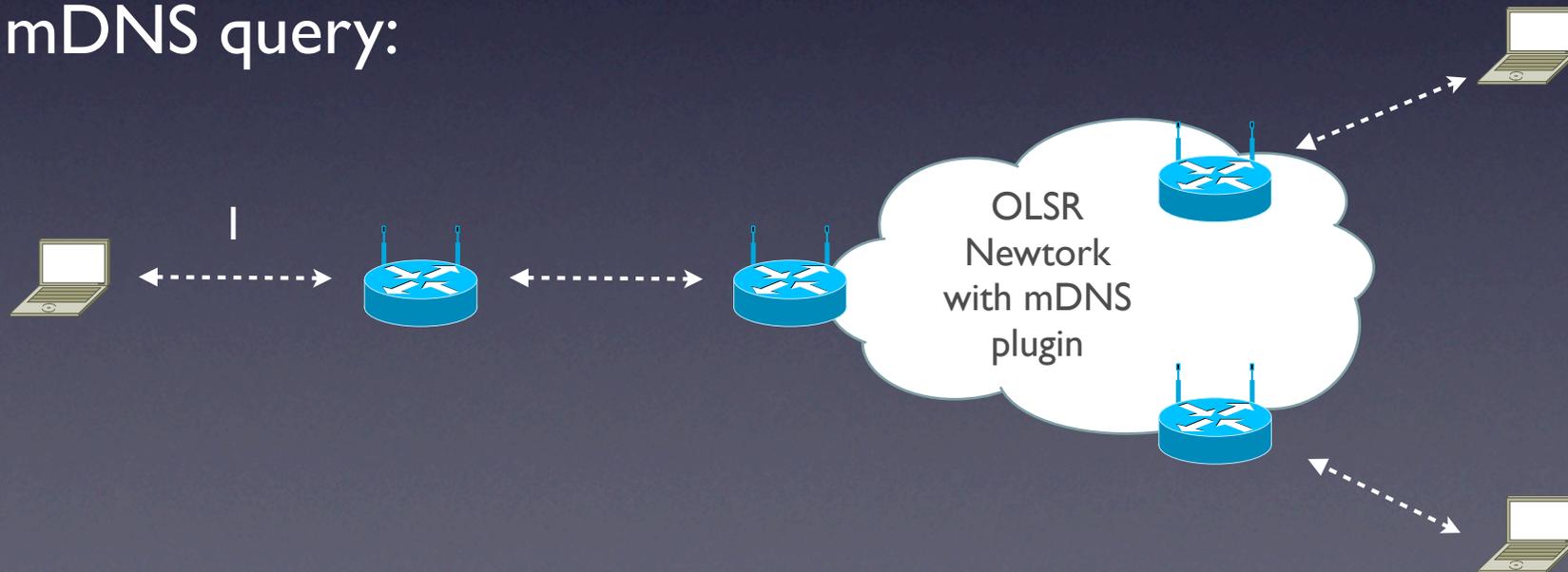
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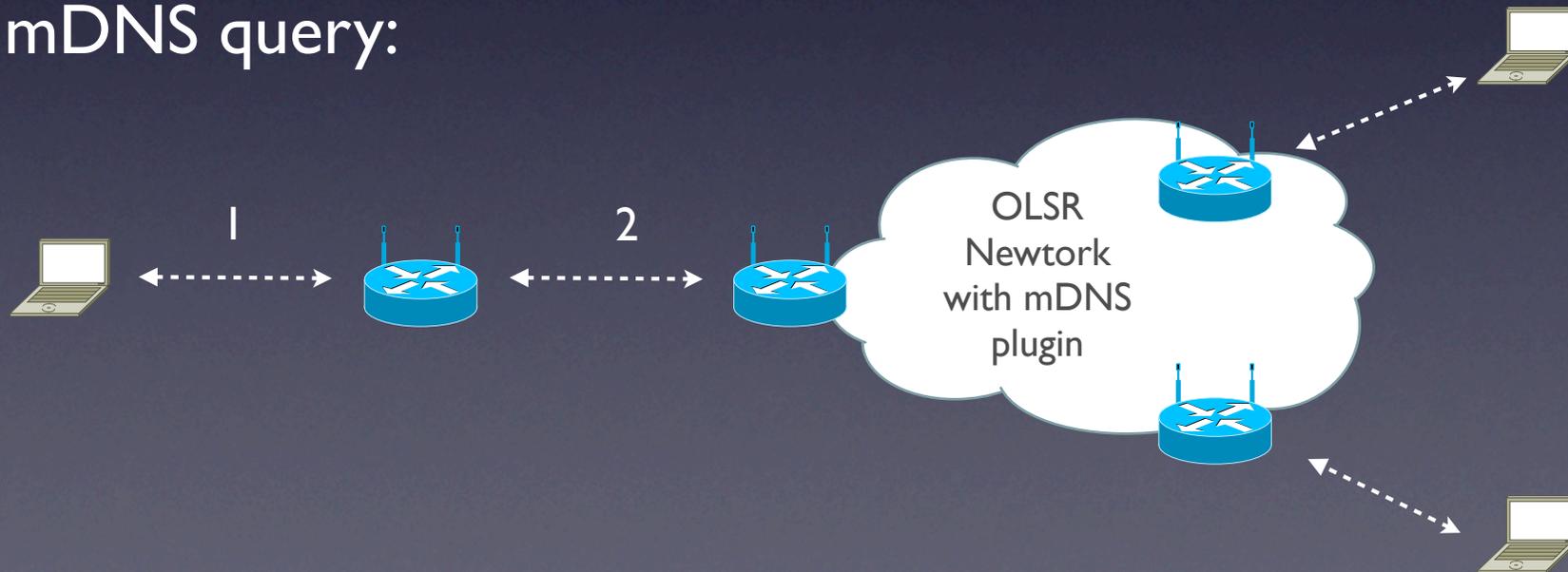
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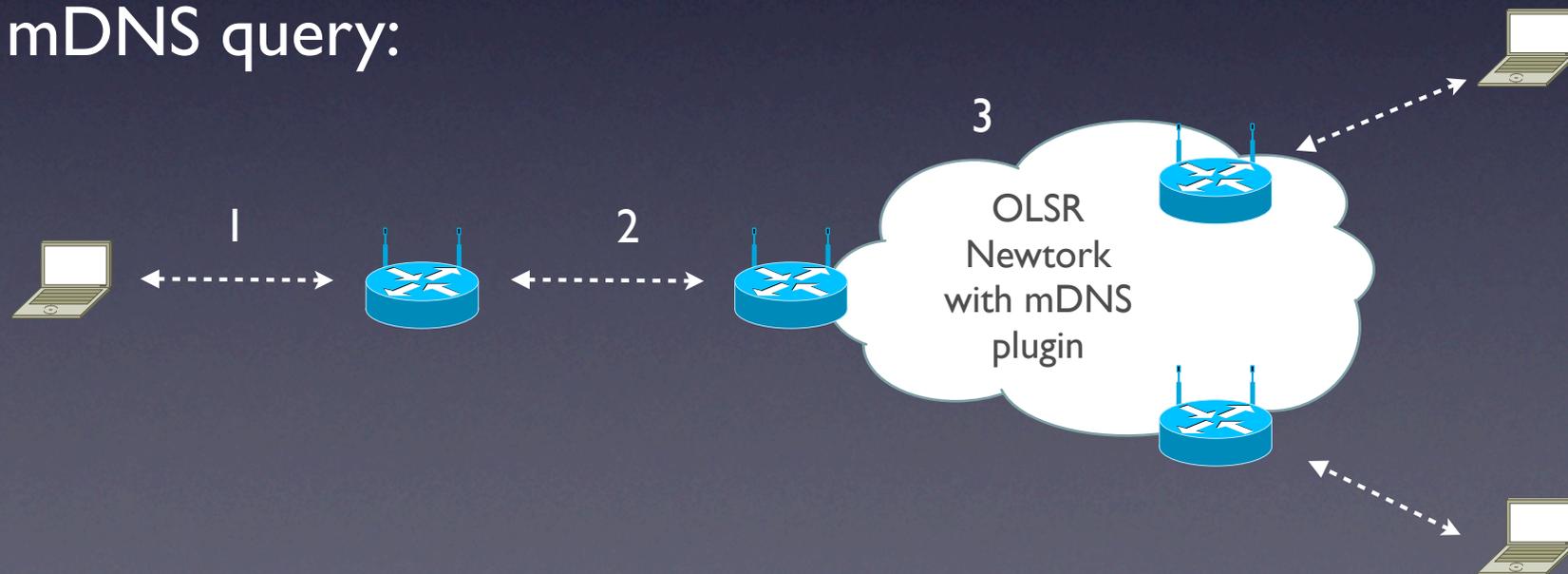
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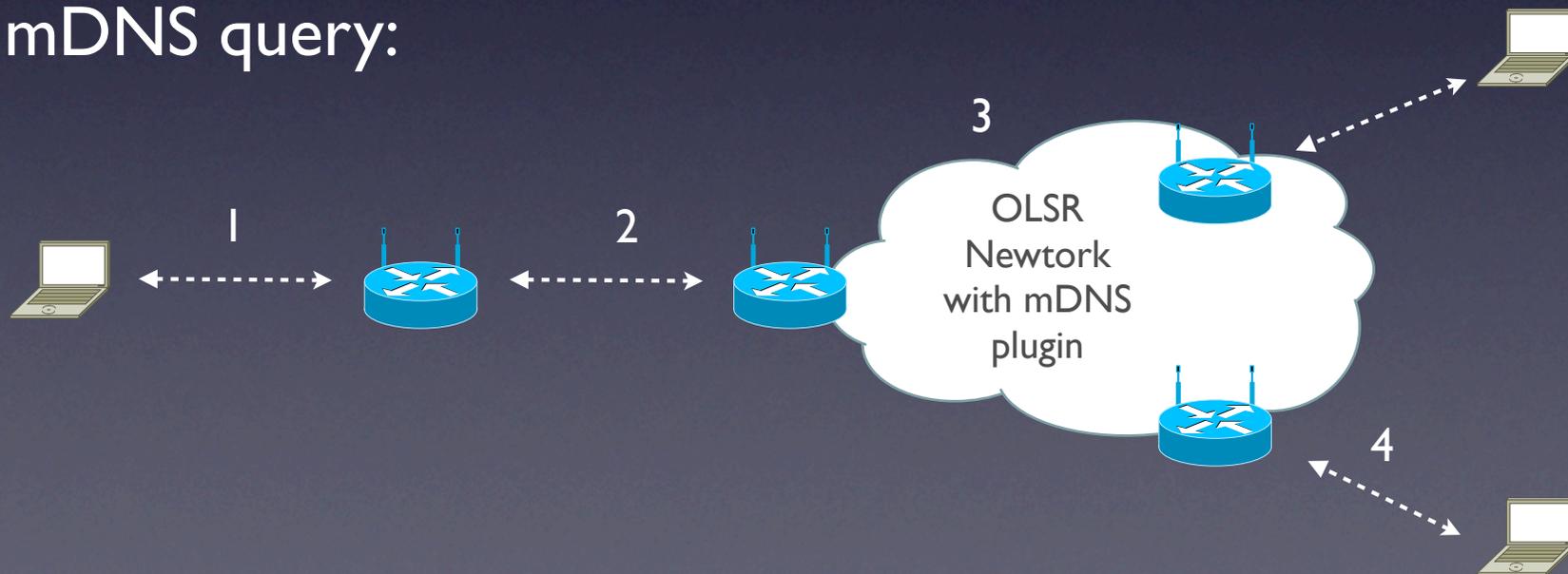
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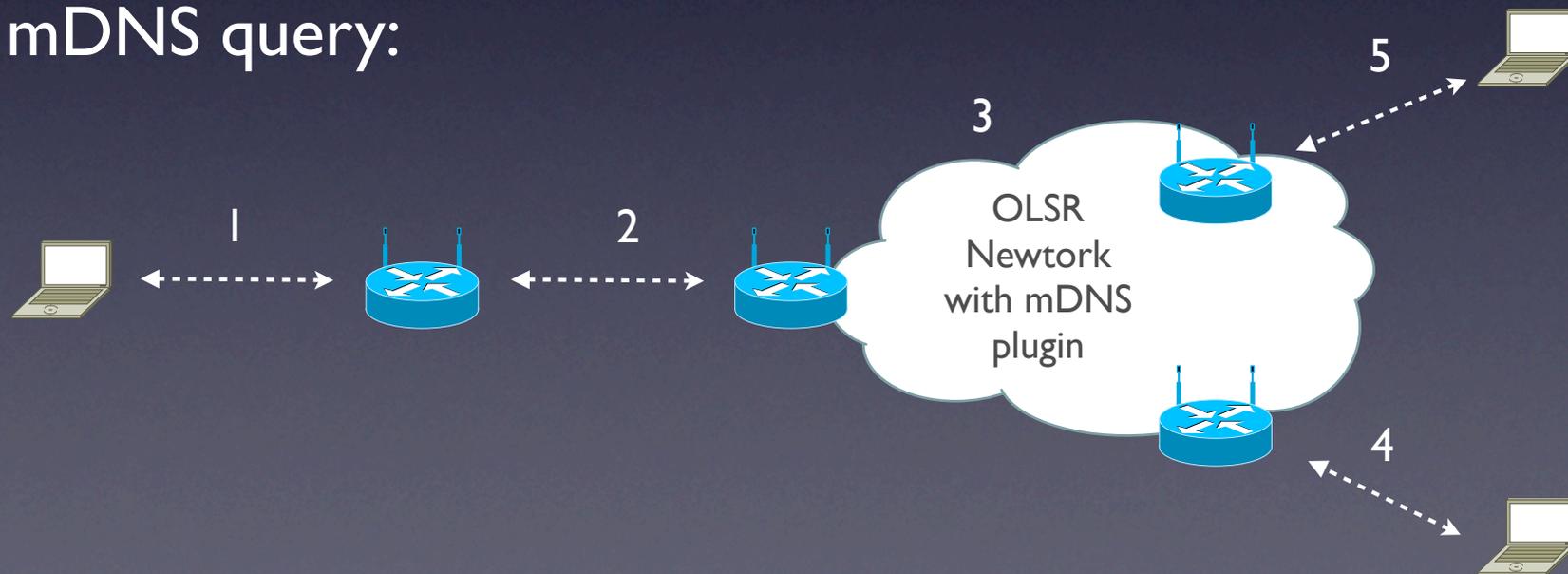
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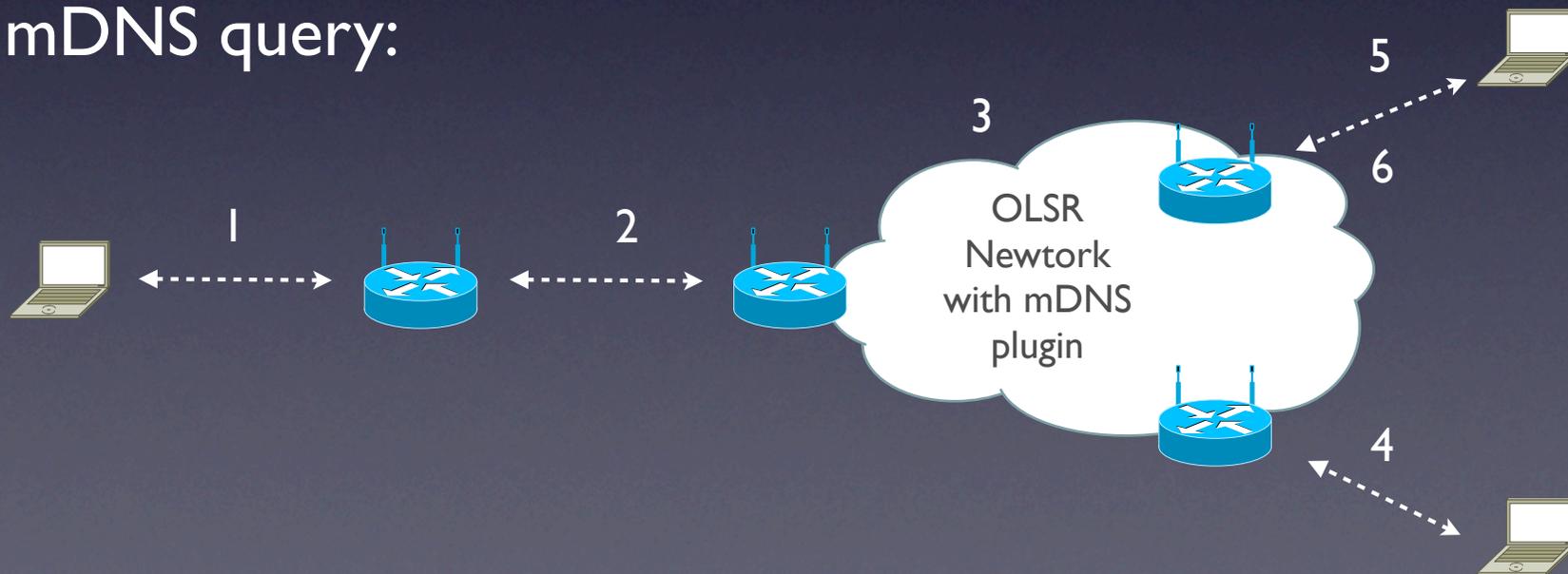
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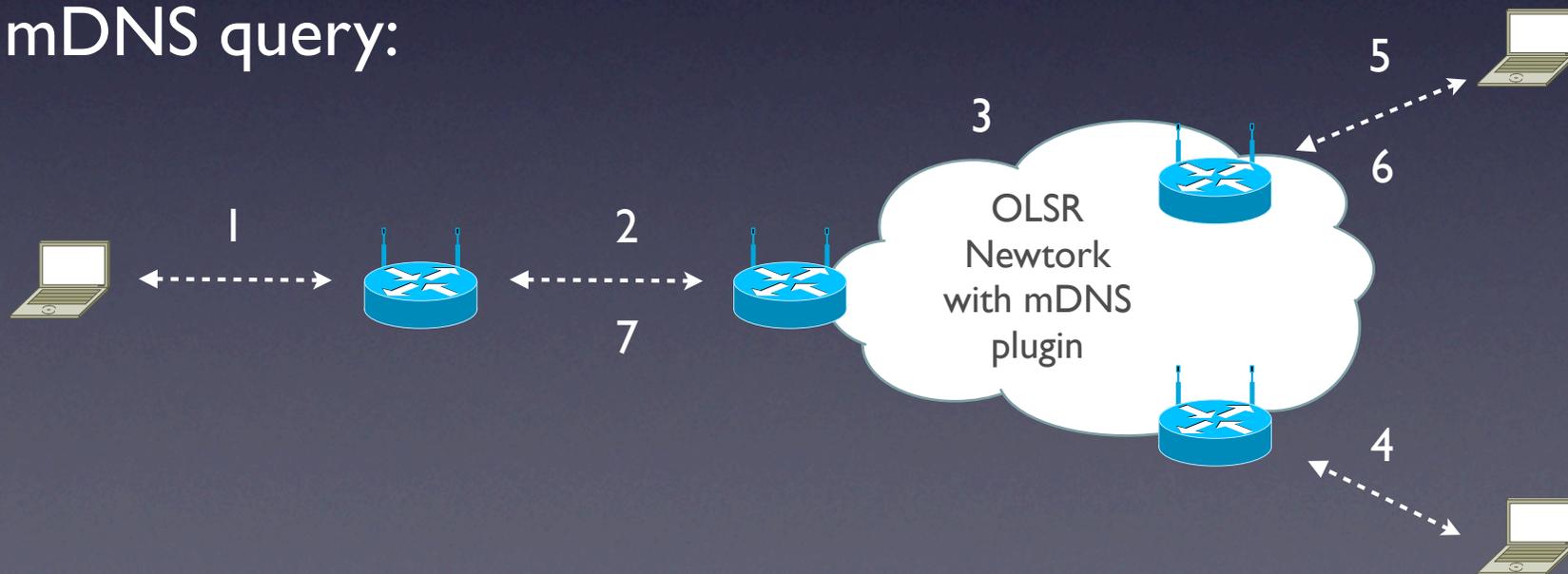
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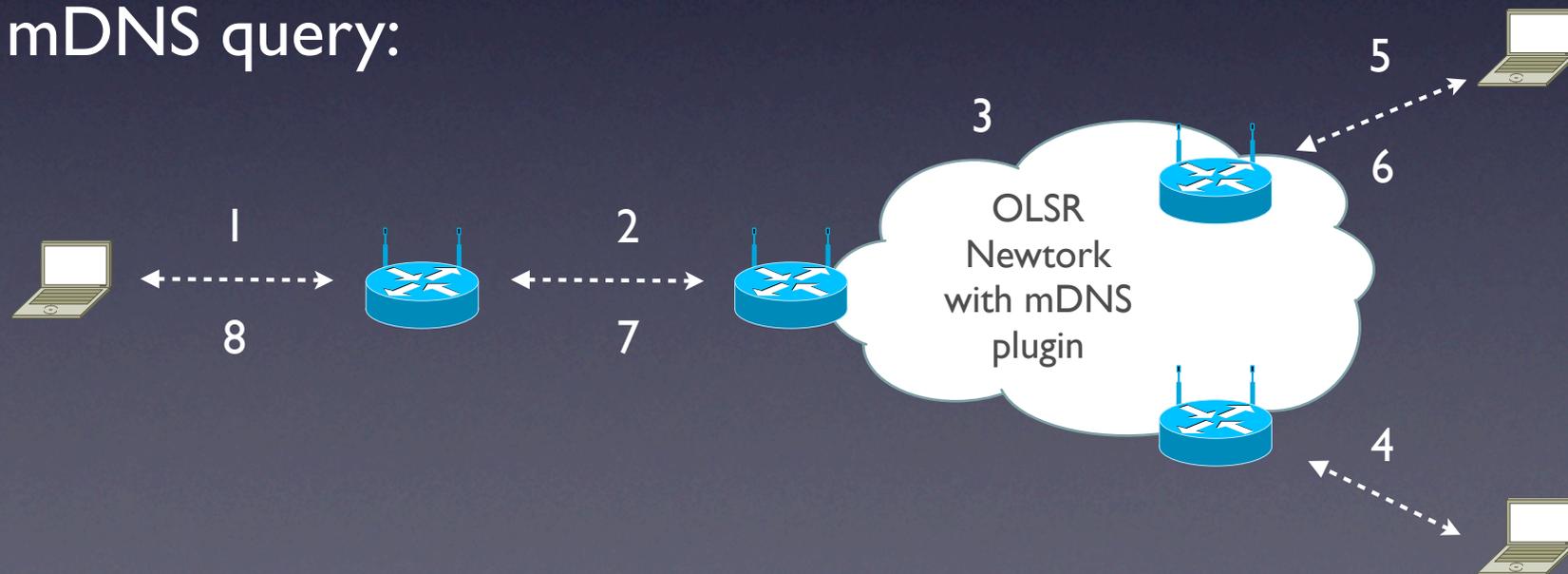
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Discover all service on the network

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Discover all service on the network

Answer could be to the multicast
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Unicast Query:

Address: Main address of the node

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Unicast Query:

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Discover only services of one node

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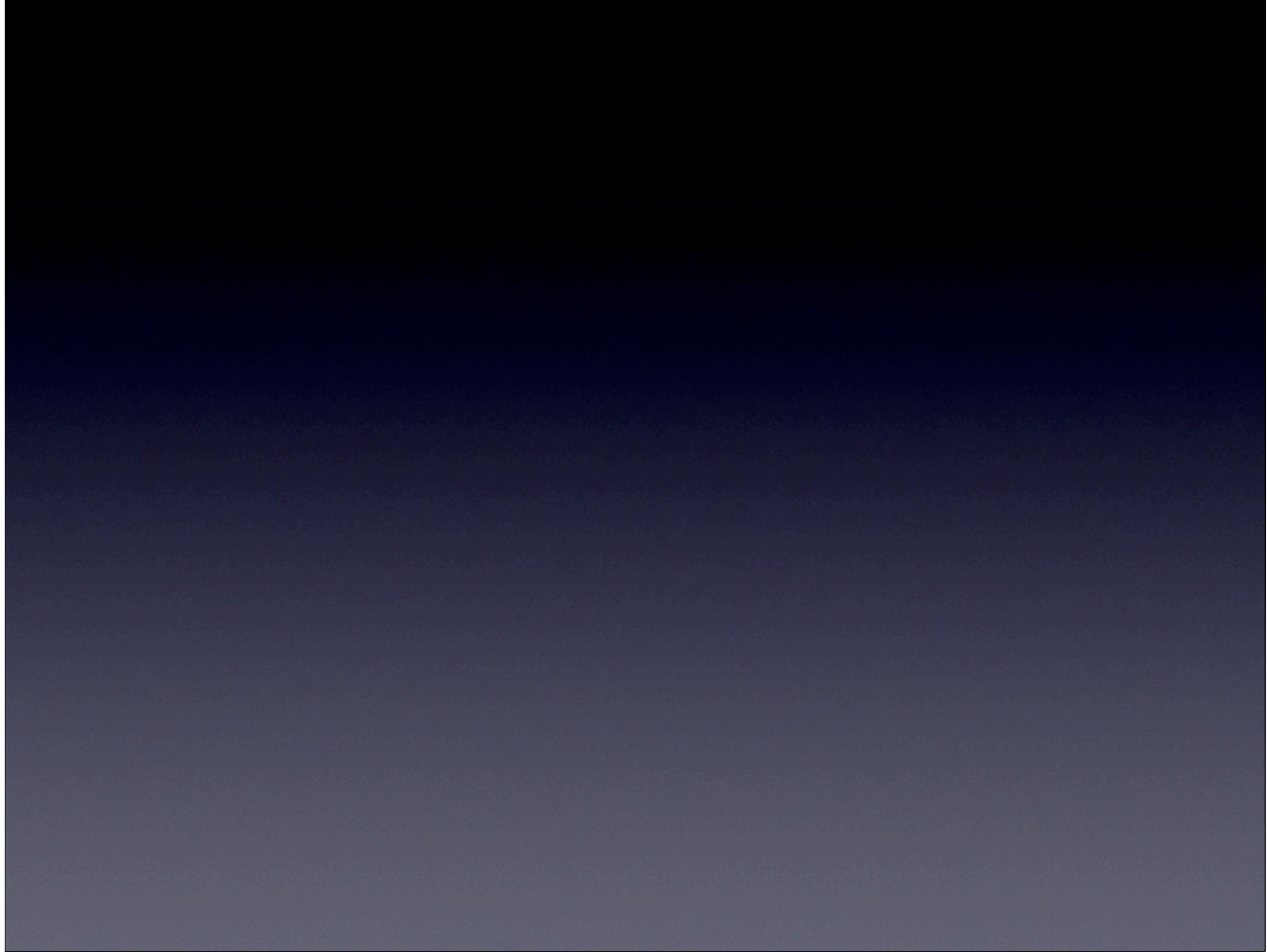
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Unicast Query:

Address: Main address of the node

Discover only services of one node

Answer to the originator of the
request



Service Discovery

Service Discovery

_afpovertcp._tcp.local.
_airport._tcp.local.
daap._tcp.local.
_distcc._tcp.local.
_eppc._tcp.local.
_ftp._tcp.local.
_h323._tcp.local.
_http._tcp.local.
_ipp._tcp.local.
_net-assistant._tcp.local.
_nfs._tcp.local.
_pdl-datastream._tcp.local.
_presence._tcp.local.
_printer._tcp.local.
_raop._tcp.local.
_riousbprint._tcp.local.
_sftp._tcp.local.
_sip._udp.local.
_smb._tcp.local.
_ssh._tcp.local.
_telnet._tcp.local.
_tftp._tcp.local.
_webdav._tcp.local.
_workstation._tcp.local.
_xserveraid._tcp.local.

Libreria di Stefano Pilla

Libreria di Stefano Pilla
_daap._tcp.local.
MacBook-Pro-di-Stefano-Pilla.local.:3689
192.168.1.103:3689
Version=196616
Database ID=A6745260B09E13F4
txtvers=1
Machine ID=E93E3D9DEA87

ServiceType added: _printer._tcp.local.
ServiceType added: _airport._tcp.local.
ServiceType added: _afpovertcp._tcp.local.
ServiceType added: _nfs._tcp.local.
ServiceType added: _webdav._tcp.local.
ServiceType added: _presence._tcp.local.
ServiceType added: _eppc._tcp.local.
ServiceType added: _telnet._tcp.local.
ServiceType added: _raop._tcp.local.
ServiceType added: _ipp._tcp.local.
ServiceType added: _pdl-datastream._tcp.local.
ServiceType added: _riousbprint._tcp.local.
ServiceType added: _daap._tcp.local.
ServiceType added: _distcc._tcp.local.
ServiceType added: _xserveraid._tcp.local.
ServiceType added: _net-assistant._tcp.local.
ServiceType added: _workstation._tcp.local.
ServiceType added: _h323._tcp.local.
ServiceType added: _sip._udp.local.
Service added: Libreria di Stefano Pilla

Add Type

Remove Selected Item

Reload Default Services

Make Super Query



About Node

Node Name: StefanoP
Lat/Lon: 41.8637595/12.5535823
UpTime: 4 days 3h 2m

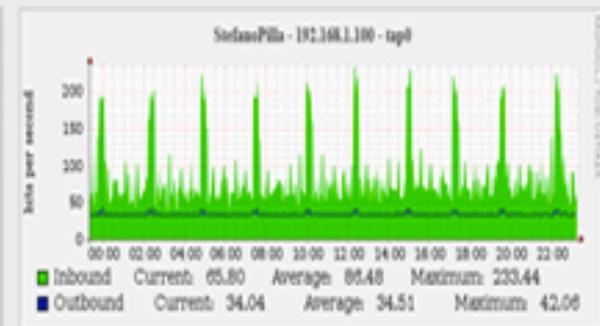
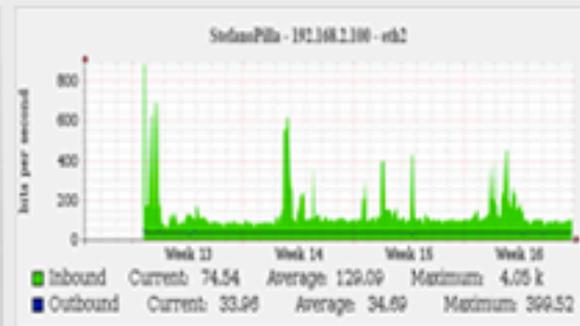
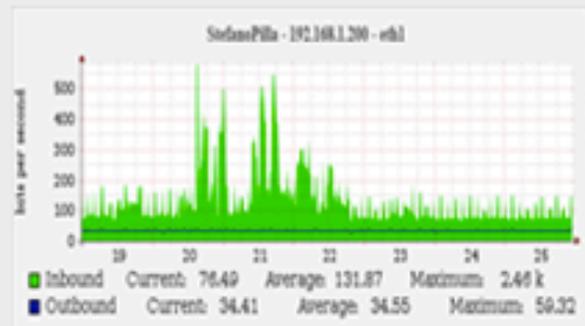
IP: 192.168.1.103

Plugins: mDNS

Attributes: Gateway - 192.168.1.1

See Fresnel Zone

SNMP Graphs



Service Discovery

Type:

_http._tcp.local.
_skype._tcp.local.
_daap._tcp.local.
_presence._tcp.local.

Services:

Libreria di Stefano Pilla

Detail:

Libreria di Stefano Pilla
_daap._tcp.local.
MacBook-Pro-di-Stefano-Pilla.local.:3689
192.168.1.103:3689
Version=196616
Database ID=A6745260B09E13F4
txtvers=1
Machine ID=E93E3D9DEA87

Conclusion

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Freimap is a really potential software but there are some things that must be improved.

Service Discovery and Database output is only a part of Freimap.

Weakness:

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Weakness:

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Use

Solution: Porting Java Freimap as a Webservice with a PHP Framework

Info/Updates



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<http://wiki.freifunk.net/Freimap>



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We waiting you in Rome at the WBMv3 / 2 - 6 June
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More info: <http://battlemesh.org> - contatti@ninux.org

Q&A