

MEDIATEK

INTERNAL USE

mDNS introduction

By YF



Guild Line

- 1. what's mDNS
- 2. How to get it
- 3. mdns module structure
- 4. mdns work flow

What's mDNS

- mDNS: multicast Domain Name System

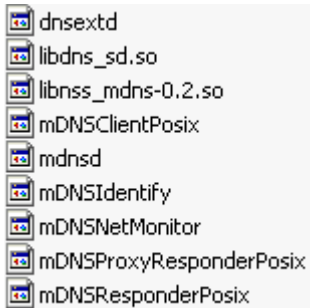
Multicast DNS (mDNS) is a protocol that uses packets similar to unicast DNS except sent over a multicast link to resolve hostnames. Each host listens on the mDNS port, 5353, and resolves requests for the DNS record of its .local hostname to its IP address. When an mDNS client needs to resolve a local hostname to an IP address, it sends a DNS request for that name to a well-known multicast address; the computer with the corresponding record replies with its IP address. The mDNS multicast address is 224.0.0.251 for IPv4 and ff02::fb for IPv6 link-local addressing.

- It's a zero configuration service.

Zero-configuration networking (zeroconf) is a set of technologies that automatically creates a usable computer network based on the Internet Protocol Suite (TCP/IP) when computers or network peripherals are interconnected. It does not require manual operator intervention or special configuration servers.

How to get it?

1. Download mdns code from web server
2. According your configuration, modify some files, like toolchain and so on
3. Compile this library, and you will get some binary, like this



4. Also you will get an test tool: dns-sd at \$(MDNS_ROOT_DIR)/clients/build/
5. Install these libraries to specific directory, like this

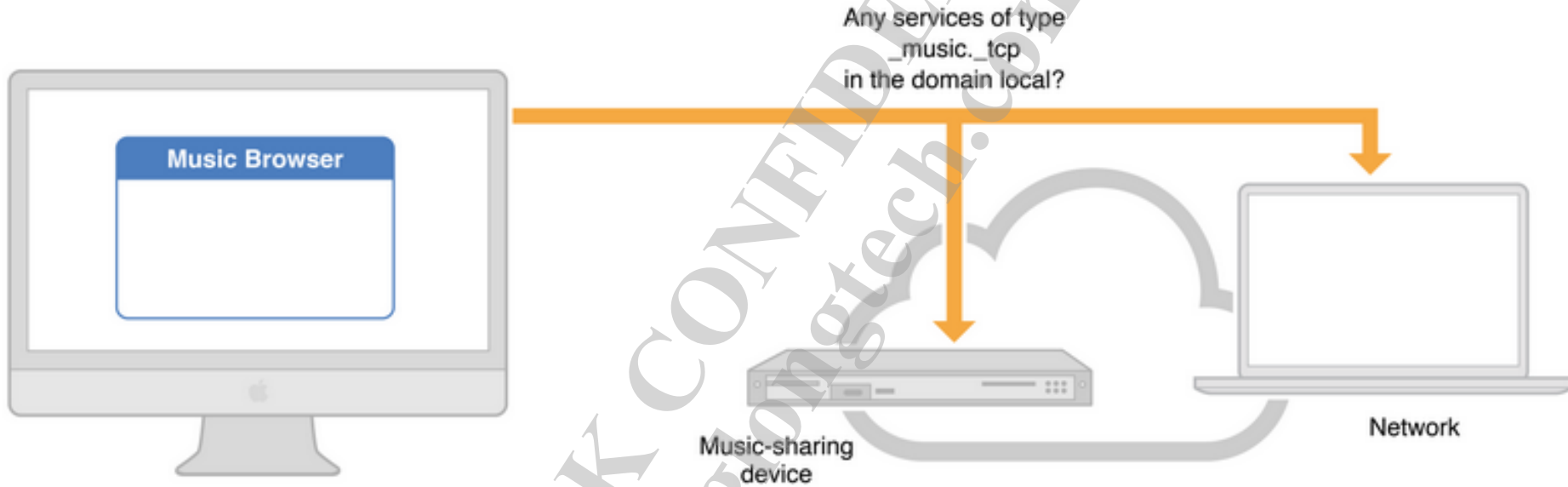
```
mdnsd                (usually in /usr/sbin)
libmdns              (usually in /usr/lib)
dns_sd.h             (usually in /usr/include)
startup scripts     (e.g. in /etc/rc.d)
manual pages        (usually in /usr/share/man)
dns-sd tool         (usually in /usr/bin)
nss_mdns            (usually in /lib)
nss configuration files (usually in /etc)
```

What's these libraries

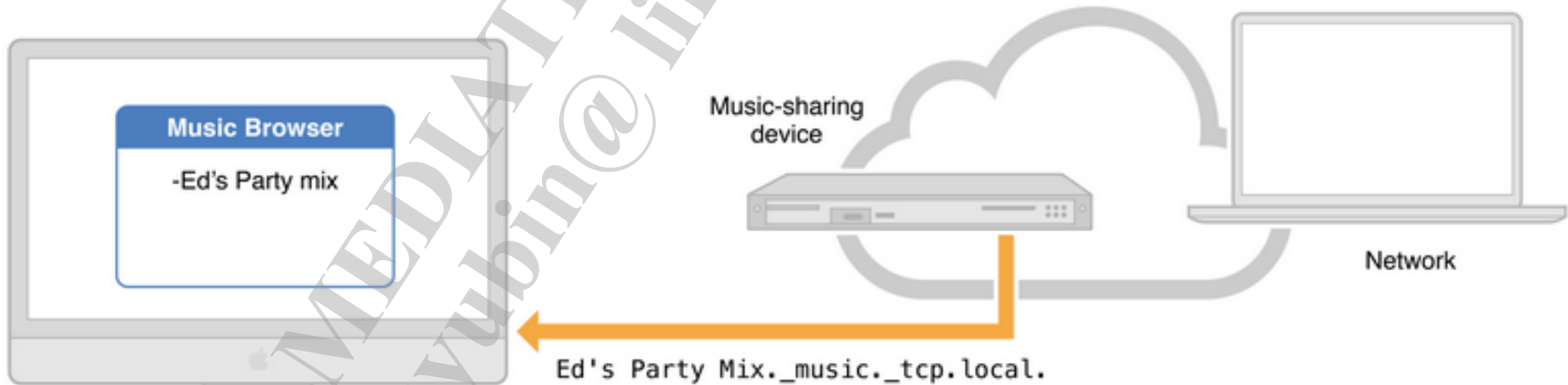
- **Mdnsd**: multicast dns and service discover daemon program, should start at first
- **Libmdnsd**: Provide APIs of mdnsd to other module
- **dns-sd**: Test tool for mDNS and DNS Service Discovery which can use to test whether mdnsd works well
- **nss_mdns**: it's library , which provide to WAC module
- **mDNSClientPosix**: an executable file which use to test service discovery
- **mDNSResponderPosix**: an executable file which use to test service publish

mDNS flow(1)

1. Query by service type

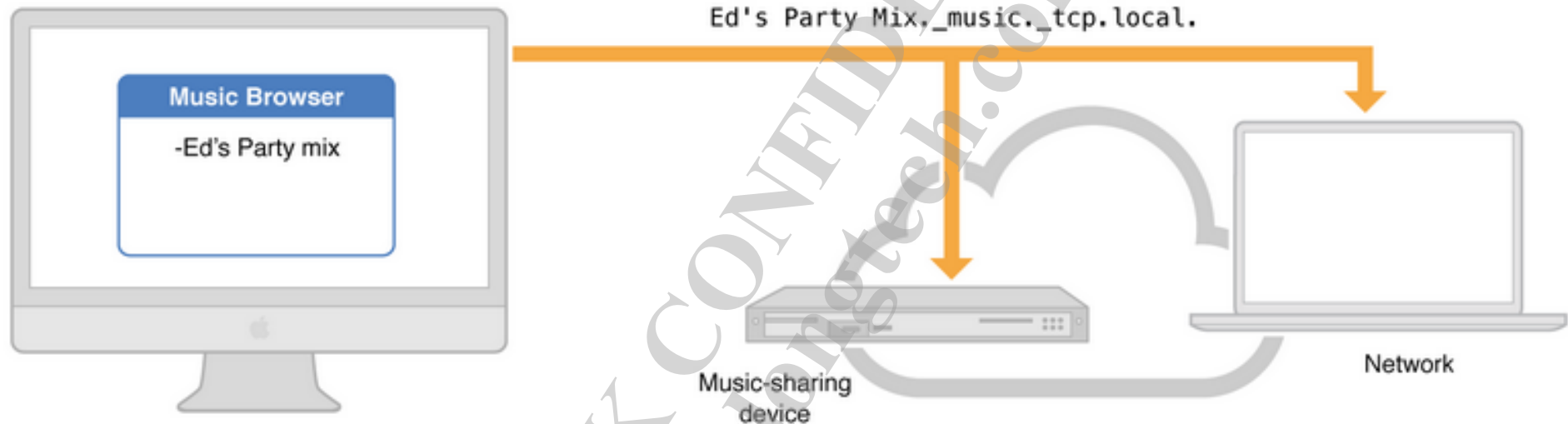


2. Response

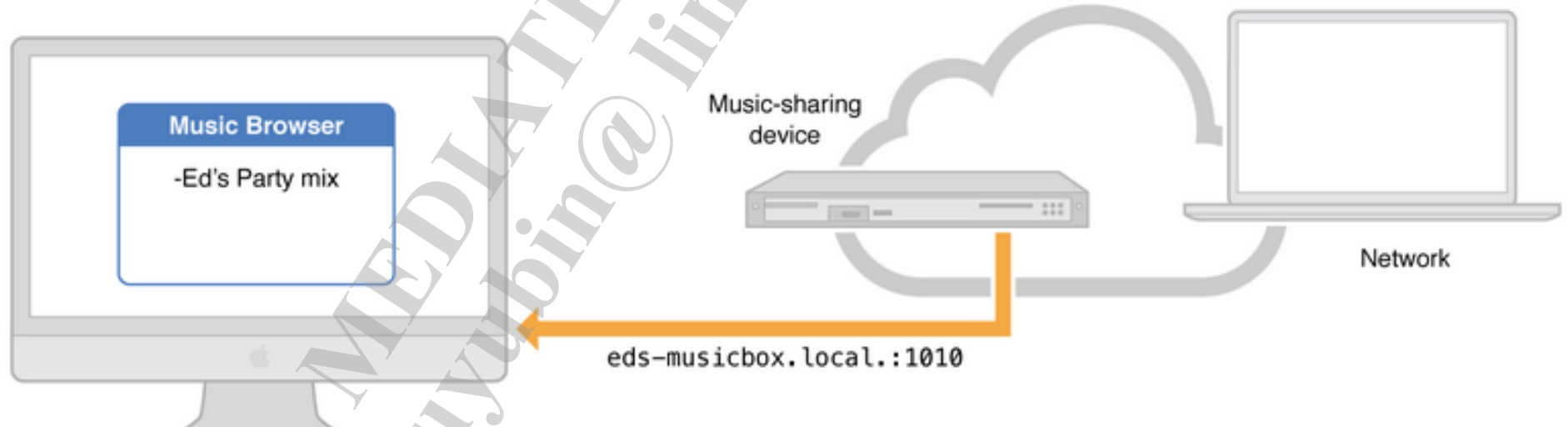


mDNS flow(2)

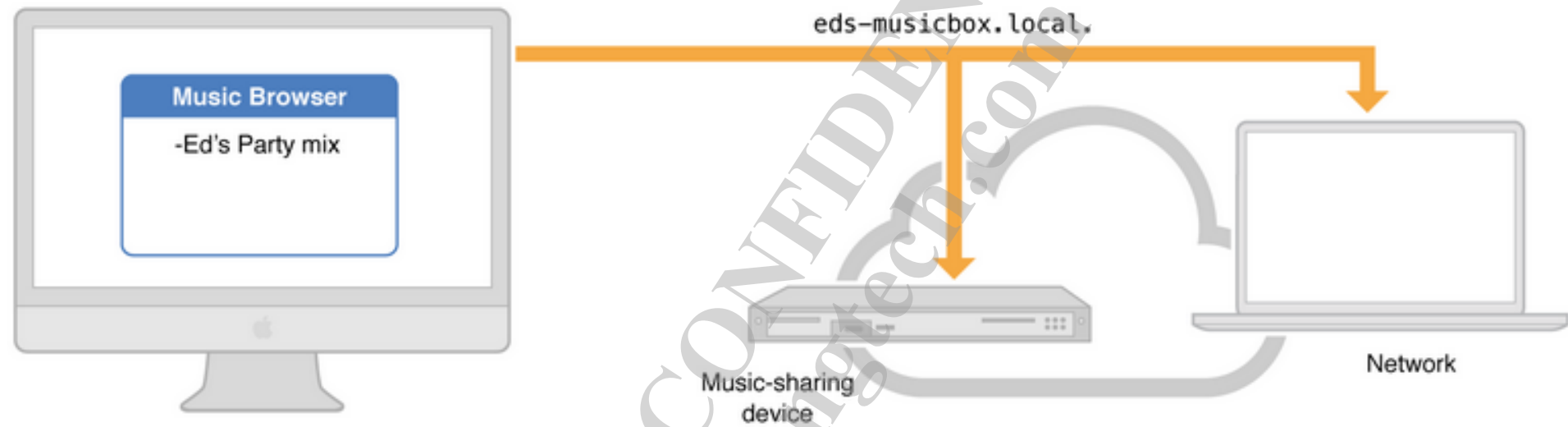
1. Request domain name and port for instance name



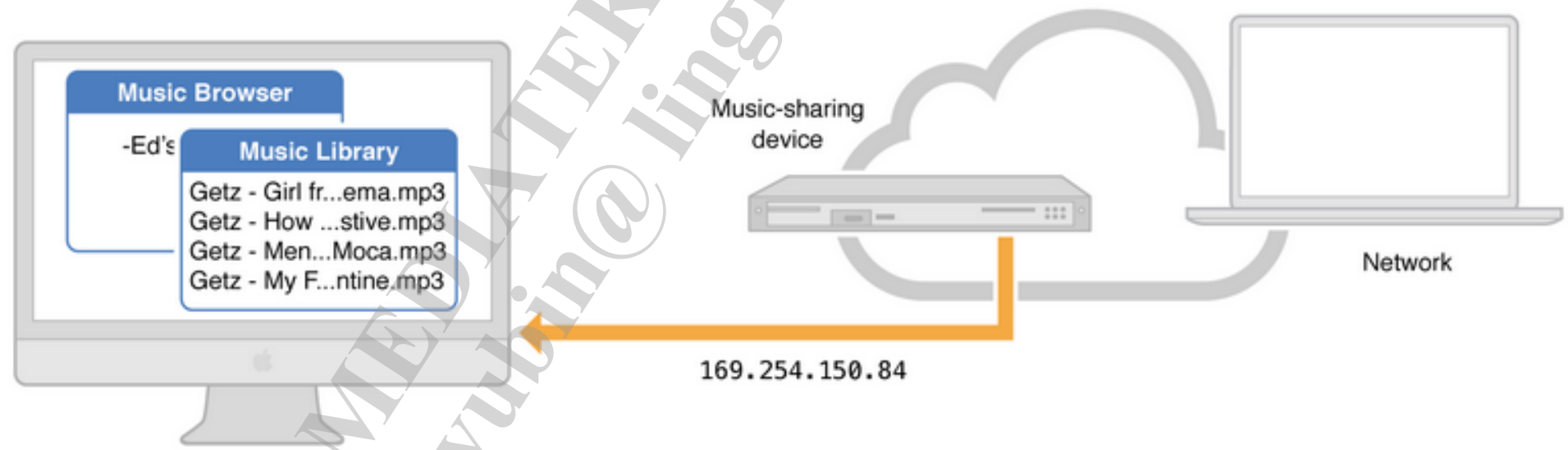
2. Receive domain name and port



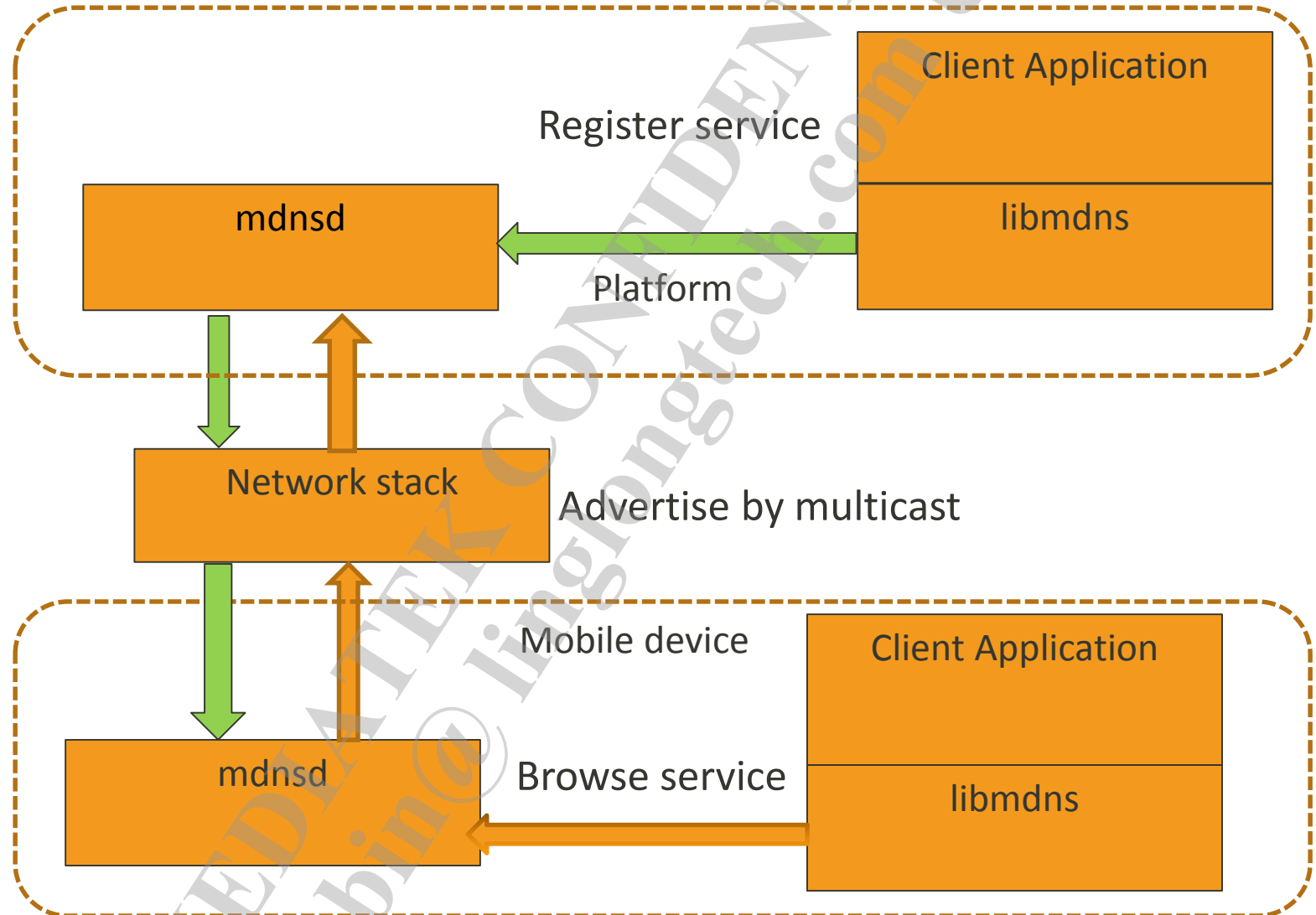
mDNS flow(3)



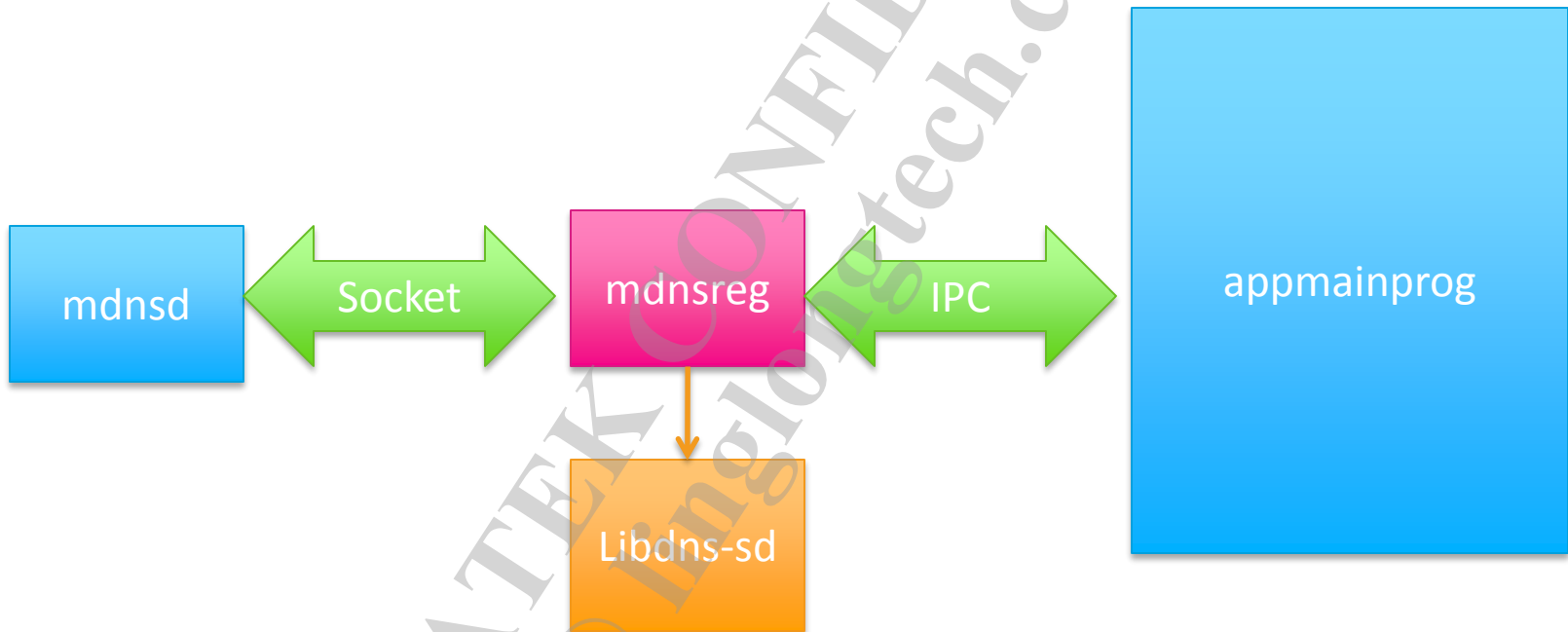
4. Receive IP address



Mdns module structure

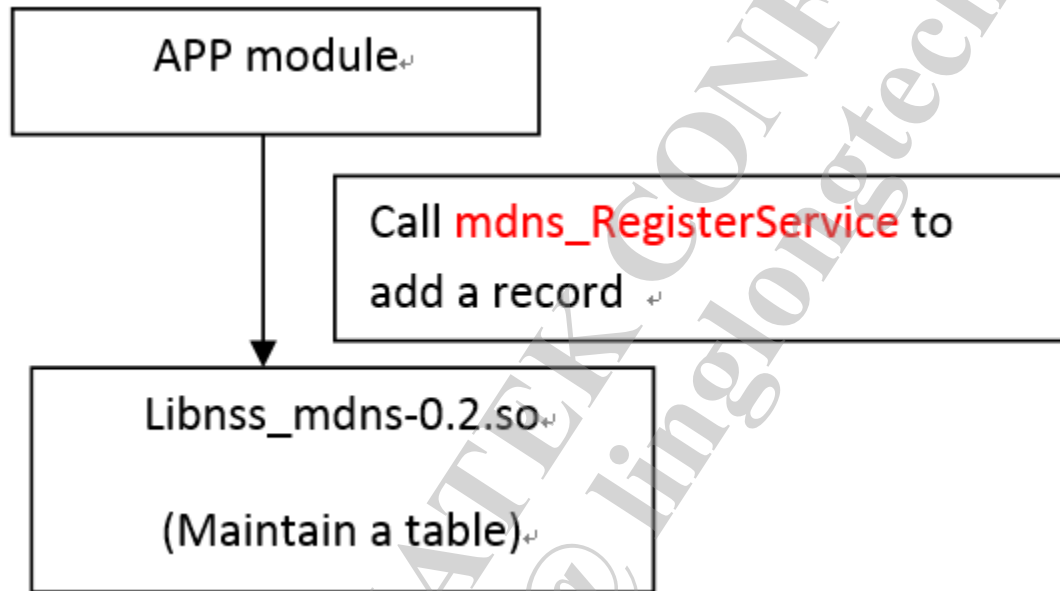


Mdns SW block



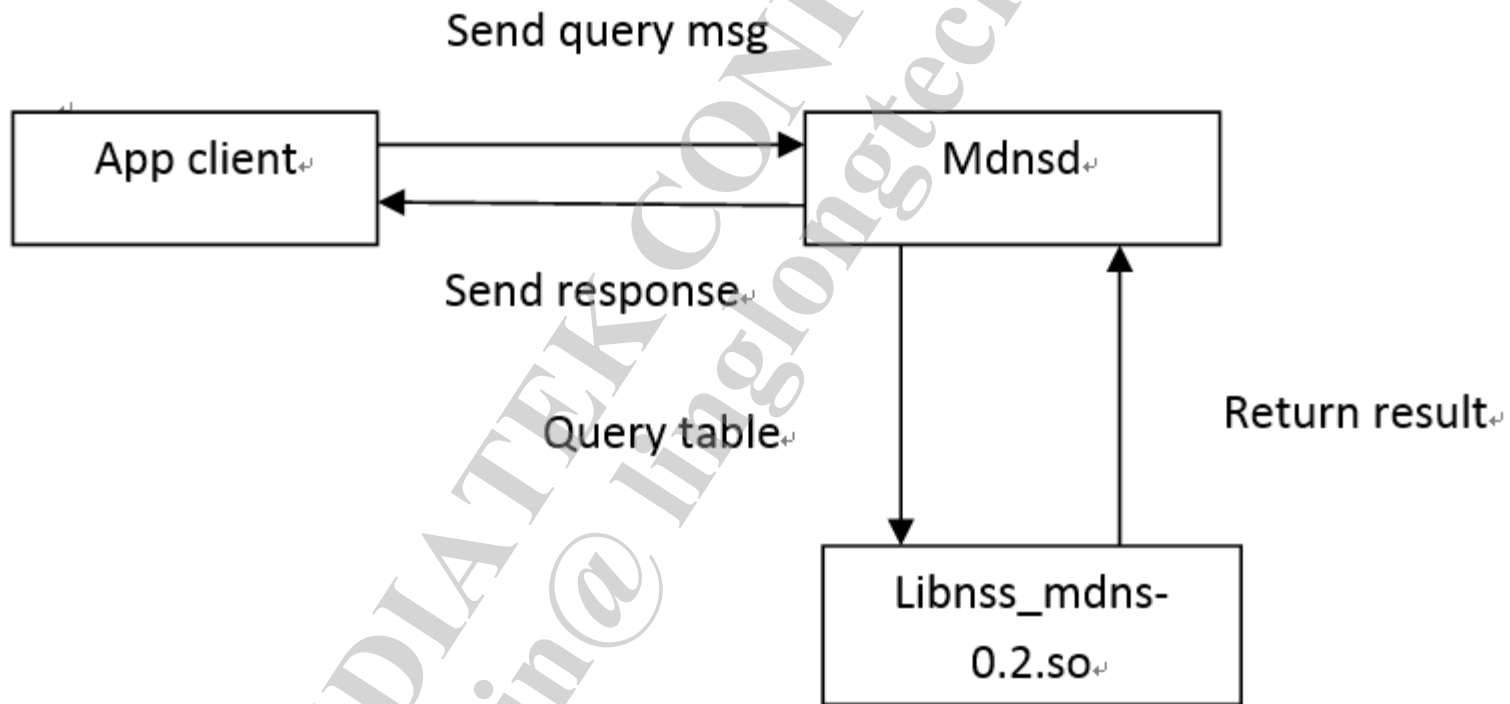
Work flow (1/3)

1. Register service



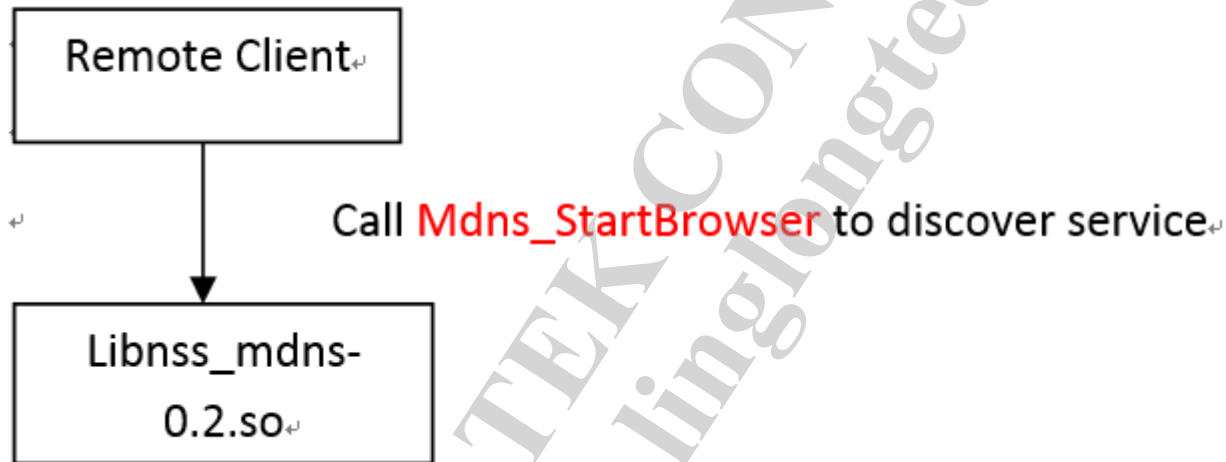
Work flow (2/3)

2. Query service



Work flow (3/3)

3. Service discovery



Q & A

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