



## Realtek mDNS User Guide

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This document provides guideline to use mDNS module in SDK.

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**Parameters**

None.

**Return Value**

If the function succeeds the return value is 0.

**Remarks**

None.

## 3.2 mDNSResponderDeinit

This function triggers to stop mDNS responder.

**Syntax**

```
void mDNSResponderDeinit(  
    void  
)
```

**Parameters**

None.

**Return Value**

None.

**Remarks**

When mDNS responder is deinitialized all registered services will also be deregistered.

## 3.3 mDNSRegisterService

This function triggers to register service to mDNS.

**Syntax**

```
DNSServiceRef mDNSRegisterService(  
    char *name  
    char *serviceType  
    char *domain  
    unsigned short port  
    TRecord *record)
```

**Parameters**

*name*

Service name to register.

---

*service\_type*

Service type to register.

*domain*

Service domain to register.

*port*

Service port information for the service to register.

*txtRecord*

Text record information for the service to register.

#### ***Return Value***

Return pointer to the registered service resource if success; otherwise return null.

#### ***Remarks***

None.

### **3.4 mDNSDeregisterService**

This function triggers to unregister service from mDNS.

#### ***Syntax***

```
void mDNSDeregisterService(  
    DNSService *service)  
;
```

#### ***Parameters***

*serviceRef*

Pointer to the registered service resource.

#### ***Return Value***

None.

#### ***Remarks***

None.

### **3.5 mDNSUpdateService**

This function triggers to update the text record in service resource.

---

**Syntax**

```
void mDNS(pd_t service ?
    DNSService"e# service"e#5
    T$t"ecord"e# 7t)t"ecord5
    unsigned int ttl
```

**Parameters****serviceRef**

Pointer to service resource.

**txtRecord**

Pointer to record to update.

**ttl**

Time-to-live of this record. Set 0 to use default TTL setting.

**Return Value**

None.

**Remarks**

None.

## 4 Text Record API

mDNS services maintain only one text record. This subsection lists the provided text record API.

### 4.1 TXTRecordCreate

This function triggers to create text record.

**Syntax**

```
void T$t"ecord+re te ?
    T$t"ecord"e# 7t)t"ecord5
    uint16_t len
    void *data
```

**Parameters****txtRecord**

Pointer to text record resource.

---

*bufferLen*

Default 3u#er length.

*buffer*

Default 3u#er assigned to save te)t record d t .

### ***Return Value***

None.

### ***Remarks***

Default 3u#er is not necessary!

## **4.2 TXTRecordSetValue**

This function triggers to add 4e!-v lue p ir to te)t record.

### ***Syntax***

```
int T$T"ecordSet, lue ?
    T$T"ecord"e# 7t)t"ecord5
    const ch r 74e!5
    uint. 9t v lueSiBe5
    const void 7v lue
```



### ***Parameters***

*txtRecord*

&ointer to te)t record resource.

*key*

+h r cter string o# the 4e! #or p ir

*valueSize*

SiBe o# 3in r! d t v lue.

*value*

Cin r! d t v lue #or p ir.

### ***Return Value***

None.

### ***Remarks***

When 3u#er in te)t record resource to save te)t record d t is not enough, it will be allocated dynamically.

---

## 4.3 TXTRecordDeallocate

This function triggers to release text record resource.

### Syntax

```
void TXTRecordDeallocate(  
    TXTRecord *pRecord  
);
```

### Parameters

*txtRecord*

Pointer to text record resource.

### Return Value

None.

### Remarks

None.

## 5 Platform Mandatory Implementation

This section lists the mandatory functions that developers need to implement. The example is provided in `mDNSPlatform.c`. The `mDNSPlatform.h` and `mDNSPlatform.h` functions are used for `Android` and `inet9` functions. Set 6 different versions.

### 5.1 mDNSPlatformCustomInit

This mandatory function is invoked for custom initialization when mDNS initialization

### Syntax

```
void mDNSPlatformCustomInit(  
    void  
);
```

### Parameters

None.

### Return Value

None.



### Remarks

None.

## 5.2 mDNSPlatformHostname

This mDNSPlatformHostname function is invoked to get hostname when mDNS initialization

### Syntax

```
char *mDNSPlatformHostname(void)
```

### Parameters

None.

### Return Value

Device hostname in net6or4.

### Remarks

This hostname will be used in mDNS service host information.

## 6 mDNS Example

The example to use the APIs defined in previous sections is provided in example\_mdns.c. To execute this example automatically when booting the +DNEIF91\$/&219/DNS in platform9opts.h must be enabled so the #include6s. 2A1& IF/& should also be enabled to support multi-socket.

```
#include ipopts.h
#define 2A1&91F/& 1

#include platform9opts.h
#define +DNEIF91$/&219/DNS 1
```

In example5 operations on mDNS responder and service are presented. If device Ai-Ei connection is setup so that it reconnects and refer to remote of that reconnect example the mDNS responder could be started after the address is available. The example service is registered and updated. Finally the mDNS responder is stopped.

To discover service in net6or45 the Idns-sdJ comm nd provided in ConKour SDK c n 3e used. ConKour SDK is v il 3le on %pple developer support site5 nd c n 3e do6nlo ded 3! %pple developer. In the #ollo6ing5 Idns-sd -CJ comm nd is used to 3ro6se #or service inst nce o# t!pe 19service1J5 nd service o# l me3 .9service1.9tcp.loc l.J is #ound. Idns-sd -2J comm nd is used to loo4 up this service inst nce5 nd the content o# service te)t record is sho6n. %#ter service upd te oper tion5 the origin l content o# lte)t1Lte)t19cotent5 te)t2Lte)t29contentJ is upd ted to lte)t1Lte)t19content9ne6J.

```
C:\Windows\System32>dns-sd -B _service1
Browsing for _service1._tcp
Timestamp      A/R Flags  if Domain                      Service Type                Instance
15:24:18.331   Add     3 10 local.                        _service1._tcp.            ameba
15:24:18.331   Add     2 49 local.                        _service1._tcp.            ameba
^C
C:\Windows\System32>dns-sd -L ameba._service1 local
Lookup ameba._service1._tcp.local
15:24:21.750   ameba._service1._tcp.local. can be reached at lwip0.local.:5000 <interf
text1=text1_content text2=text2_content
15:24:21.754   ameba._service1._tcp.local. can be reached at lwip0.local.:5000 <interf
text1=text1_content text2=text2_content
15:24:50.071   ameba._service1._tcp.local. can be reached at lwip0.local.:5000 <interf
text1=text1_content_new
15:24:50.075   ameba._service1._tcp.local. can be reached at lwip0.local.:5000 <interf
text1=text1_content new
```

The `te) t nd d t o# mDNS li3r r!` in `%me3` SDK is built in `.mdns.te) t nd .mdns.d t` sections. The `lin4ing o# this li3r r! c n 3e ch nged #or re>uirement 3! modi#ing the im ge2.ic# #ile. %s the #ollo6ing e) mple #or im ge2.ic#5 dding .mdns.te) t section to .r m9im ge2.te) t 3loc4 nd .mdns.d t section to .r m.d t` is `#or lin4ing to S'%/. %dding .mdns.te) t nd .mdns.d t`

sections to SD""/ 3loc4 is #or lin4ing to SD""/. The de# ult setting in im ge2.ic# o# %me3  
SDK #or mDNS li3 r r! is lin4ing to SD""/.

```
G7 2in4 mDNS to S""/ 7G
de#ine 3loc4 .ram_image2.text 6ith #i)ed order: section .in#r .r m.st rt75
    section .rod t 75
    3loc4 +&&9INIT5
    section .mon.r m.te)t75
    section .h l.#l sh.te)t75
    section .h l.gpio.te)t75
    section .te)t75
    section +DD15
    section .otg.rom.te)t5
    section , eneer o3lect st rtup.o5
    section 99D2IC9&1"TO"1%D5
    section .mdns.text
    =8

de#ine 3loc4 .ram.data 6ith #i)ed order: section .d t 75
    section D%T%5
    section .r m.otg.d t . 5
    section .i r.init9t 3le5
    section .mdns.data
    =8
```

```
G7 2in4 mDNS to SD""/ 7G
de#ine 3loc4 SDRAM 6ith #i)ed order: section .sdr m.te)t75
    section .sdr m.d t 75
    section .mdns.text*,
    section .mdns.data*
    =8
```