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# Формат DHCP Option 82

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## 1. DHCP Option 82 сводная таблица

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В следующей таблице приведены типы опций 82, которые уже определены:

Type	Vendor
default	D-Link
vendor1	Alcatel-Lucent
vendor2	Huawei
vendor3	Qtech
vendor4	Alcatel-Lucent
vendor5	Edge Core and Huawei
vendor6	Huawei

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## 2. DHCP Option 82 формат пакета

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### 2.1 D-Link default value

#### 2.1.1 Стандартный формат пакета

- Circuit ID:

a.	b.	c.	d.	e.	f.	g.
1	6	0	4	VLAN	Module	Port
1 byte	1 byte	1 byte	1 byte	2 bytes	1 byte	1 byte

- a. Sub-option type: 1 ( means circuit ID)
- b. Length: total length (from field c to field g)
- c. Circuit ID type: 0
- d. Length: length of VLAN + Module + Port (from filed e to field g)
- e. VLAN: the incoming VLAN ID of DHCP client packet
- f. Module: For a standalone switch, the Module is always 0; for a stackable switch, the Module is the box ID that is assigned by stacking module.
- g. Port: The incoming port number of DHCP client packet, port number starts from 1.

- Remote ID:

a.	b.	c.	d.	e.
2	8	0	6	MAC address
1 byte	1 byte	1 byte	1 byte	6 bytes

- a. Sub-option type: 2 (indicates this is the remote ID).
- b. Length: total length
- c. Remote ID type: 0
- d. Length: length of MAC address
- e. MAC address: The Switch's system MAC address.

#### 2.1.2 Пользовательский формат пакета

- Circuit ID:

a.	b.	c.	d.	e.
1	n+2	1	n	User defined
1 byte	1 byte	1 byte	1 byte	Max 32 bytes

- a. Sub-option type: 1 (circuit ID)
- b. Length
- c. Circuit ID type: 1

- d. Length: Total length of user-defined string.
- e. User defined: user-defined string. The maximum length of user-defined sting is 32.

- Remote ID:

a.	b.	c.	d.	e.
2	n+2	1	n	User defined
1 byte	1 byte	1 byte	1 byte	Max 32 bytes

- a. Sub-option type: 2 (remote ID).
- b. Length
- c. Remote ID type: 1
- d. Length: Total length of user-defined string.
- e. User defined: user-defined string. The maximum length of user-defined sting is 32.

## 2.2 vendor1

- Circuit ID: sub-option 0 for default format.

a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
1	0x10	0	6	VLAN	Slot ID	Port ID	1	6	MAC

1 byte   1 byte   1 byte   1 byte   2 byte   2 byte   2 byte   1 byte   1 byte   6 bytes

- a. Sub-option type (1 means circuit ID)
- b. Length
- c. Circuit ID's sub-option's first tag, it should be 0.
- d. First tag's length, it should be 6
- e. VLAN ID
- f. Slot ID, for standalone switch, it is **1**; for stacking switch, it is the **box ID** that assigned by stacking.
- g. Port ID: port number
- h. Circuit ID's sub-option's second tag, it should be 1.
- i. Second tag's length, it should be 6.
- j. MAC address: System's MAC address

## 2.3 vendor2

- Circuit ID:

a.	b.	c.
1	n	Port number

1 byte      1 byte      N bytes

- a. Sub-option type, 1 indicates this is the Circuit ID.
- b. Length: length of value
- c. Value: Character string. The incoming port number of DHCP client packet, start with character "p".  
Ex: p02 means port 2. (No Circuit ID sub-option type, directly fill the value.); for port 12, the format is p12; For stacking port (1~768), The format of port 129(port 1 of box3) is p129.

- Remote ID:

a.	b.	c.
2	n	System name

1 byte      1 byte      N bytes

- a. Sub-option type, 2 indicates this is the remote ID.
- b. Length: length of value
- c. Value: Character string. System name of the switch.

## 2.4 vendor3

- Circuit ID

a.	b.	c.
1	n	User defined

1 byte      1 byte      Max 32 bytes

- a. Sub-option type (1 means circuit ID)
- b. Length: Total length of user-defined string.
- c. Value: user-defined string. The maximum length of user-defined sting is 32.

- Remote ID

a.	b.	c.
2	n	User defined

1 byte    1 byte    Max 32 bytes

- a. Sub-option type (2 means remote ID)
- b. Length: Total length of user-defined string. **By default, Length is 0 and no Value field.**
- c. Value: user-defined **string that configured through “config dhcp\_relay port\_option\_82”command.** The maximum length of user-defined sting is 32. (No Remote ID sub-option type, directly fill the value.)

## 2.5 vendor4

- Circuit ID

[Switch name]-[module]/[port]-[cvlan tag]

1 bytes	1 bytes		1 bytes	1 bytes	1 bytes	1 bytes	1 bytes	
Sub-op	length	Switch name		module		port		
1	XX	Switch name	-	Module ID	/	Port number	-	cvlan tag

[NOTE] If the system name exceeds 128 bytes, the circuit id will only use the first 128 bytes.

## 2.6 vendor5

- Circuit ID

a.	b.	c.	d.	e.	f.	g.	h.	i.	J
1	length	System name	space (0x20)	e (0x65)	t (0x74)	h (0x68)	space (0x20)	Chassis ID	/ (0x2F)

1 byte    1 byte    1~128 byte    1 byte    1 byte    1 byte    1 byte    1 byte    1~2 byte    1 byte

k.	l.	m.	n.	o.
Slot ID	/ (0x2F)	Port number	: (0x3A)	VLAN ID

1~2 byte    1 byte    1~2 byte    1 byte    1~4 byte

- a. Sub-option type (1 means circuit ID)
- b. Length
- c. System name of the switch  
[NOTE] If the system name exceeds 128 bytes, it will only use the first 128 bytes.
- d. Space
- e. Character “e”.

- f. Character “t”.
- g. Character “h”.
- h. space
- i. Chassis ID, the number of the chassis.
  - For standalone device, the chassis id always displays 0
  - For stacking device, the chassis id is the unit id
- j. Slash (/)
- k. Slot ID, the number of the slot of the chassis. **For non-chassis device**, the slot id is the module id of the device, **start from 0**.
- l. Slash (/)
- m. Port number, the number of the client's port
- n. Colon (:)
- o. VLAN ID, ID of client's VLAN

## 2.7 vendor6

Use vendor6 to support Huawei DHCP option82's circuit ID field format (%portname:%svlan.0%sysname/0/0/%slot/%subslot/%port).

- Circuit ID:

F01	F02	F03	F04	F05	F06	F07	F08	F09	F10
1	Length	E (0x45)	t (0x74)	h (0x68)	e (0x65)	r (0x72)	n (0x6E)	e (0x65)	t (0x74)
1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1 byte

F11	F12	F13	F14	F15	F16	F17	F18	F19	F20
Chassis ID	/ (0x2F)	0 (0x30)	/ (0x2F)	Port number	: (0x3A)	cvlan	. (0x2E)	0 (0x30)	Space (0x20)
1~2 byte	1 byte	1 byte	1 byte	1~2 byte	1 byte	1~4 byte	1 byte	1 byte	1 byte

F21	F22	F23	F24	F25	F26	F27	F28	F29	F30
System name	/ (0x2F)	0 (0x30)	/ (0x2F)	0 (0x30)	/ (0x2F)	Chassis ID	/ (0x2F)	0 (0x30)	/ (0x2F)
1~128 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1~2 byte	1 byte	1 byte	1 byte

F31
Port number
1~2 byte

- F01: Sub-option type (1 means circuit ID)
- F02: Length
- F03: Character “E”
- F04: Character “t”
- F05: Character “h”
- F06: Character “e”

F07: Character "r"  
F08: Character "n"  
F09: Character "e"  
F10: Character "t"  
F11: Chassis ID, the number of the chassis. The format is ASCII string.  
● For standalone device, always displays 1. Including stacking device when disable stacking.  
● For stacking device, the chassis id is the unit id  
F12: Slash (/)  
F13: ASCII format string "0"  
F14: Slash (/)  
F15: Port number, The incoming port number of DHCP client packet. ASCII format string.  
F16: Colon (:)  
F17: cvlan is the client's VLAN ID. The value ranges from 1 to 4094. ASCII format string.  
F18: dot (.)  
F19: ASCII format string "0"  
F20: Space  
F21: System name of the switch  
[NOTE] If the system name exceeds 128 bytes, it will only use the first 128 bytes.  
F22: Slash (/)  
F23: ASCII format string "0"  
F24: Slash (/)  
F25: ASCII format string "0"  
F26: Slash (/)  
F27: Chassis ID like as F11  
F28: Slash (/)  
F29: ASCII format string "0"  
F30: Slash (/)  
F31: Port number, The incoming port number of DHCP client packet. ASCII format string

## Vendor7

CircuitID/VendorID:

01	02	03	04	05	06	07	08	09	10
1	Length	L	2	S	W	I	T	C	H
1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1 byte

11	12	13	14	15	16	17	18	19	20
Space	e	t	h	Chassis ID	/	SlotID	/	SubslotID	:
1 byte	1 byte	1 byte	1 byte	1~2 byte	1 byte	1~2 byte	1 byte	1~2 byte	1 byte

21	22	23	24	25	26	27
PortID	_	cvlan	:	svlan	/	MAC Address
1~2 byte	1 byte	1~4 bytes	1 byte	1~4 byte	1 byte	17 bytes

F01: suboption type (1 — circuit ID, 2 — remote ID)

F02: length

F03: Character «L»

F04: Character «2»

F05: Character «S»

F06: Character «W»

F07: Character «I»

F08: Character «T»

F09: Character «C»

F10: Character «H»

F11: Space

F12: Character «e»

F13: Character «t»

F14: Character «h»

F15: ChassisID (0)

F16: Character «/»

F17: SlotID (0)

F18: Character «/»

F19: Subslot ID (0)

F20: Character «:»

F21: Port number. The incoming port number of DHCP client packet. ASCII format string.

F22: Character «\_»

F23: CVLAN ID. ASCII format string

F24: Character «:»

F25: SP-VLAN ID. ASCII format string

F26: Character «/»

F27: Switch MAC address. ASCII format string, dash as octet delimiter